THE MILAM STREET BRIDGE ARTIFACT ASSEMBLAGE:

HOUSTONIANS JOINED BY THE COMMON THREAD OF ARTIFACTS

– A STORY SPANNING FROM THE CIVIL WAR TO MODERN DAY

A Dissertation

by

JOSHUA ROBERT FARRAR

Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Chair of Committee,	Luis F. M. Vieira De Castro
Committee Members,	Donny L. Hamilton
	Christopher M. Dostal
	Joseph G. Dawson III
	Anthony M. Filippi
Head of Department,	Darryl J. De Ruiter

May 2020

Major Subject: Anthropology

ABSTRACT

Buffalo Bayou has connected Houston, Texas to Galveston Bay and the Gulf of Mexico since Houston's founding in 1837. During the American Civil War of 1861-65, Houston served as a storehouse for weapons, ammunition, food, clothing, and other supplies destined for the war effort in Galveston and the rest of the Confederacy. Near the end or soon after the Civil War ended, Confederate material supplies were lost or abandoned in Buffalo Bayou under the Milam Street Bridge in Houston. In 1968, the Southwestern Historical Exploration Society (SHES) recovered around 1000 artifacts with an 80-ton dragline crane operated off the Milam Street Bridge. About 650 artifacts from this collection were rediscovered by the Houston Archeological Society in 2015, stored in filing boxes at the Heritage Society at Sam Houston Park.

This dissertation serves as an artifact and document-based study using newspaper accounts, sworn statements, and archaeological reports to assemble and detail the history of the Milam Street Artifact Assemblage – from abandonment in the bayou to rediscovery at the Heritage Society. In many ways it is a personal account that aims at connecting the author to the place and circumstances that led to the loss and rediscovery of this artifact collection. Through document, artifact, and map analysis, three theories are proposed and critically analyzed concerning how and why these artifacts were lost in Buffalo Bayou. Finally, a relevant subset of the artifacts have been conserved for museum exhibits including at the Heritage Society at Sam Houston Park in Houston and the Bullock Texas State History Museum in Austin. Issues and ethical stances

surrounding documenting, preserving, conserving, and curating historical artifacts are presented based on lessons-learned creating these museum exhibits and the mismanaging of this artifact assemblage since its discovery in 1968.

DEDICATION

This dissertation is dedicated to my loving wife and children. Y'all stuck with me to the end and supported me the whole way. Thanks be to God that we have finally reached the end of this project.

ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Castro, and my committee members, Dr. Hamilton, Dr. Dostal, Dr. Dawson, and Dr. Filippi, for their guidance and support throughout the course of this research.

Thanks also go to my friends and colleagues in the Houston Archeological Society. Special thanks to Linda Gorski and Bob Sewell. Without them this project would never have happened.

Thanks goes to Amy Borgens and the Texas Historical Commission for placing their archives, photos, and immense knowledge at my disposal.

Finally, thanks to the Heritage Society at Sam Houston Park for their generous loan of the artifacts and their logistical support of my museum exhibit work. Special thanks to Ginger Berni, you were terrific!

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supervised by a dissertation committee consisting of Professors Luis F. M. Vieira de Castro (advisor), Donny L. Hamilton, and Christopher M. Dostal of the Department of Anthropology, Professor Joseph G. Dawson III of the Department of History, and Professor Anthony M. Filippi of the Department of Geography.

Historical document analysis in chapter 2 was conducted in part by the Texas Historical Commission and the Houston Archeological Society. Artifact identification and museum curation research in chapters 3-5 were conducted with the assistance of and in conjunction with the Houston Archeological Society and the Heritage Society at Sam Houston Park. All other work conducted for the dissertation was completed by the student independently.

Funding Sources

Graduate study was supported by fellowships from Texas A&M University – specifically by the Office of Graduate and Professional Studies and the Department of Anthropology. Dissertation research fellowships were awarded by the College of Liberal Arts and the Department of Anthropology.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Page

CHAPTER I

INTRODUCTION*

Study Introduction

The Milam Street Artifacts Reveal a Human Story

In 1865, Civil War materials intended for the war effort were lost or discarded in Buffalo Bayou in Houston, Texas. In 1968, the Southwestern Historical Exploration Society (SHES) recovered around 1000 artifacts from Buffalo Bayou with an 80-ton dragline crane operated off the Milam Street Bridge. This location was retroactively assigned the Texas Historical Commission Site Number 41HR1190 (Berni, 2018). As will be detailed later, about 650 artifacts from this collection were rediscovered in 2015 in file boxes at the Heritage Society at Sam Houston Park.

This dissertation serves as an artifact and document-based study using newspaper accounts, sworn statements, and archaeological reports to analyze the history of the Milam Street Artifact Assemblage. Drawing upon this analysis, three theories are proposed and critically discussed concerning how and why these artifacts ended up in Buffalo Bayou. A relevant subset of the artifacts has been conserved for museum exhibits including at the Heritage Society at Sam Houston Park in Houston and the

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Bullock Texas State History Museum in Austin. Issues and ethical stances surrounding documenting, preserving, conserving, and curating historical artifacts are presented based on lessons-learned during the creation of these museum exhibits and the mismanagement of this artifact assemblage since their initial discovery.

In summary, this dissertation is a study of this cache of artifacts retrieved from Buffalo Bayou and serves as an attempt to explain their provenance and role in the Civil War, and what they mean to 21st-century Americans. While the artifacts themselves are the main focus of this study, the intent here is to use them as a vehicle of discovery in order to flesh out the circumstances surrounding artifact assemblages – those personages affected by the artifacts while in use, the artifacts once abandoned, and the artifacts once rediscovered. The artifacts serve as a common thread in a human story spanning from before the Civil War to modern day.

Background Overview

This chapter uses a top-down approach – moving from general to specific background information on the regional, technological, and historical context surrounding the Milam Street Artifacts.

The Region

Buffalo Bayou was once a narrow, swampy, waterway full of snags and natural debris (Sipes & Zeve, 2012, pp. 13-16). Buffalo Bayou has connected Houston to Galveston Bay and the Gulf of Mexico since the city's founding in 1837 (Hall, 2012, pp.

11-122). During the American Civil War, Houston served as the Confederate regional quartermaster storehouse for weapons, ammunition, food, gunpowder, and clothing (Wilson, 2002, p. 145; Johnston, 1991, p. 66). Houston was a minor, yet vital hub for the transport of men and supplies to the eastern Confederacy, and to the multiple battles that took place in Galveston (Hall, 2014, pp. 15, 38, 42-45; Jones, 2006; Cotham Jr., 1998, pp. 35, 50-51, 67, 99, 103, 107).

Only one direct railroad line was completed between downtown Houston and Galveston by the time of the Civil War. While other roundabout rail transport did exist, it consisted of travel on various rail gauges owned by multiple companies (Hall, 2012, pp. 67, 89). Though construction of this single rail line – the Galveston, Houston, and Henderson Railroad (GH&H) – had been completed in 1860, just before the war began, it only connected Galveston to Rusk Avenue, at the corner of Main and McKinney, on the eastern side of Houston. The line's terminus still lay two miles from connecting to the Houston and Texas Central Railway (H&T). The H&T was the main railroad in Houston, located on the north side of Buffalo Bayou. It linked Houston to the other cities within Texas, including Cypress and Millican, but was unconnected to any rail line outside of the state. Not until after the war in 1865 was the Galveston and Houston Junction Railroad built to connect the GH&H to the H&T through the first railroad bridge over Buffalo Bayou (Aulbach, 2012, pp. 327, 400-401, 428-429, 459).

The haphazard rail lines connecting Houston and Galveston made little impact during the Civil War. The GH&H rail connection was less than a year old when Texas seceded in February 1861 (Hall, 2012, p. 89). This gave the industry little time to build

up assets, and rolling stock and replacement parts soon became scarce throughout the Confederacy (Dew, 1966, pp. 14, 19, 68-81, 86, 126-128, 176, 182-196, 269-272, 286-290). The rail line was basically unproven when the war began and, with an overabundance of steamship owners chartering or selling their Galveston-Houston packets to the Confederacy, there was little need for investment (Hall, 2012, pp. 65-68, 89). Buffalo Bayou stood as the main connection between Galveston and Houston throughout the Civil War (Hall, 2012, pp. 12-62).

This was a time when stagecoaches ruled. For example, the *Brown and Tarbox* set a record by making the run from Houston to Austin in *only* 36 hours (Johnston, 1991, p. 53). In 1851, Houstonian Thomas W. House organized the Galveston Navigation Company. Originally a baker and businessman, House had made a fortune as a commission merchant, wholesale grocer, cotton and wool merchant, hardware and dry goods dealer, and banker. His company's purpose was "to navigate steamboats between Houston and Galveston" carrying passengers, freight, and mail (Johnston, 1991, p. 53).

Packet steamboat lines made daily connections between Houston and Galveston – their shallow draughts allowing them to cross the numerous sandbars in Galveston Bay (Hall, 2012, pp. 63-82). Barges brought supplies and trade goods up and down the bayou (Hall, 2012, pp. 63-82). With the Union blockade, trade between Galveston and other river systems such as the Brazos became ever more restricted (Hall, 2014, pp. 14-15, 38, 79, 91, 112). Moreover, with the fall of New Orleans in 1862, Galveston was left as the last major Confederate port in the Gulf of Mexico (Hall, 2014, pp. 14-15; McPherson, 1988, pp. 313-316, 369-373, 378-388).

As a minor railroad hub, Houston became evermore important to the continued functioning of the western Confederacy (Hall, 2014, pp. 15, 38, 42-45; Jones, 2006; Cotham Jr., 1998, p. 99). Blockade runners were loaded with cotton that was stockpiled in Houston before being transferred to Galveston. When blockade runners returned from their expeditions, their cargos containing weapons, munitions, medicine, clothes, and other supplies were transferred to Houston before being shipped out to the rest of the state and to the greater Trans-Mississippi Department under the command of General Edmund Kirby Smith and affectionately named "Kirby Smithdom" (Wooster, 1995; Hall, 2014, pp. 32-40, 76-101; Wilson, 2002, p. 145). Again, this vital traffic between Galveston and Houston was primarily conducted by shallow-draught steamships and barges on Buffalo Bayou.

Contemporary Steamship Use

Since the greater region lacked interconnected, single-gauge railroads until after the Civil War, and only a single-track rail line connected the two cities, Buffalo Bayou stood as a lifeline between Houston and Galveston Island (Aulbach, 2012, pp. 327, 400-401, 428-429, 459). This lifeline required laborious attention to maintain steamship navigability, but the prewar federal river improvement budget that ensured bayou maintenance disappeared as soon as Texas seceded from the Union (Hall, 2012, pp. 11-82). Some context is necessary to understand the implications of this situation.

The steamship age in the United States began in the East in the 1790's and in Midwest in the 1810's (Corbin, 2000, pp. 2-3; Simmons III, 1988, pp. 189-190). With

the rise of steamship commerce, major rivers and cities became embroiled in trade, and the economy of the steamship emerged – both in terms of building steamships and defining typical steamship cargo (figure 1) (Simmons III, 1988, pp. 189-206).

Figure 1 A Civil War-era steamship engine (National Civil War Naval Museum, 2019). Photo courtesy the author.

The result of years of development, steamships were remarkable combinations of technology. In this birth of a new era, many design hazards inherent to steam technology became apparent, as did natural obstacles that steamships faced while conducting

riverine operations. American steamships encountered snagging, collisions, grounding, floundering, ice-crushing, fires, and boiler explosions. One wonders why any sane person would board a steamship during this period (Paskoff, 2007, pp. 1-39).

As steamship design evolved to face the American market, steamships became longer and wider, with a shallower draught. This combination allowed American steamships to carry more cargo as their dimensions created a larger cargo-hold volume. The shallower draught allowed steamships to navigate the sandbars, snags, and snares that defined Western American rivers at this time. Speed was sacrificed for maneuverability as the limiting factor was the river conditions, not the vessel itself (Paskoff, 2007, pp. 11-39, 138-152; Corbin, 2000, pp. 6-8).

As American steamships became more efficient and national river traffic increased, total deaths and accidents due to snagging and explosions increased up to 1860. But, conversely, as a percentage of total shipping, accidents due to natural and technological causes actually *decreased*, and the average lifespan of a steamship on the Western rivers increased (Paskoff, 2007, pp. 11-39, 146, 164-188). By the advent of the Civil War, the steamship was a mature technology throughout the Confederacy, including Texas (Hall, 2012, pp. 11-62).

With the emergence of steamship technology came evolving and debatable public policy. As more U.S. cities became economically tied to riverine trade, beginning in the 1830's a national debate raged over funding river improvement. According to historian Paul Paskoff (2007, pp. 40-108, 164-188), the debate over this funding was indicative of the greater public policy of various presidents and congresses throughout

the Antebellum Period. For example, President Andrew Jackson believed in funding large improvements only if they were interstate, not intrastate – which helps clarify what one might see as inconsistencies in his use of the presidential veto and a betrayal of his support for national investment (Paskoff, 2007, pp. 40-63).

The river improvements debate also illuminates the difference between Federalist, Republican-Democrat, Democrat, and Whig views during the Antebellum Period. Funding massive river improvements for steamships was seen as a betrayal of the fiscally conservative Whig party by President John Tyler and became the ultimate death knell to Henry Clay's American System vision (Paskoff, 2007, pp. 40-108).

Like the well-known slavery debate, steamboat and river improvement policy was one of the main items of congressional contention throughout the Antebellum Period. Eastern states, whose economies relied on coastal trade, did not want their tax money shipped to Western states in order to expand the riverine trade network. Just as North and South clashed on slavery policy, East and West differed in fiscal prerogatives (Paskoff, 2007, pp. 40-108).

While the state of Maine was created in 1820 as part of the Missouri Compromise to keep the balance of power in Congress between slave and free states, the annexation of Texas in 1845 also related to maintaining the balance of power between Eastern and Western fiscal policies pertaining to river improvements. Texas' annexation highlighted the discontinuity of federal, state, municipal, and private improvement investment throughout the nation. Even though the federal regulation of the steamship industry and river improvement policy ultimately led to positive results for shipping, the

river policy debate exacerbated already frail loyalties between the states and contributed to secession for some Western states of the Confederacy (Paskoff, 2007, pp. 40-108).

Viewing these claims critically, Paskoff applies greater significance for river improvement policy than the monetary value of investments supports (Hall, 2012, pp. 11-62). However it is clear that federal river improvement budgets were a market health indicator, as they fell sharply during recessions, depressions, and times of war (Paskoff, 2007, pp. 109-137). This is specifically important to Buffalo Bayou, as the federal river improvement budget for Texas was removed due to secession, just when the need for navigability reached its greatest point for the bayou in order maintain the connection between Houston and Galveston (Hall, 2012, pp. 11-82). But river improvements for steamship passage had greater implications to the Civil War as navigability of rivers such as the James River in Virginia or the Mississippi River in the West proved vital for logistical support to operations such as the siege of Petersburg, Virginia (figure 2) or the siege of Vicksburg, Mississippi.

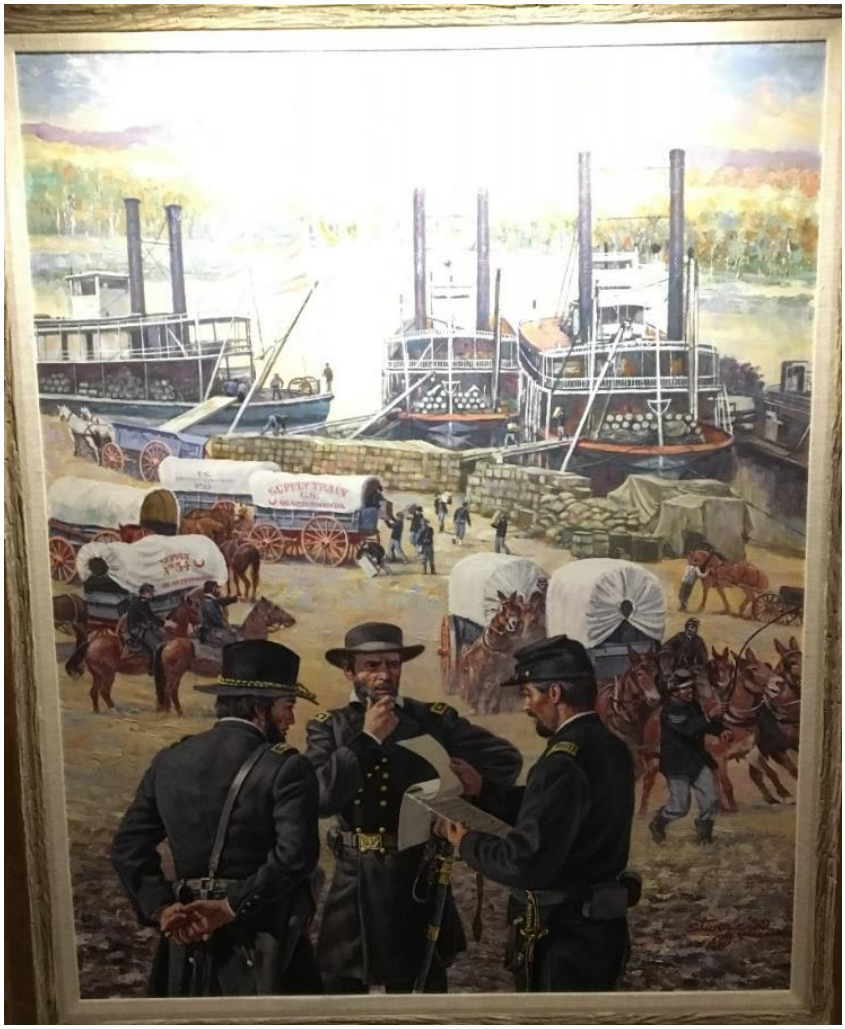


Figure 2 ***Gateway to Victory*** **by Don Stivers. Steamships deliver supplies to the Union Army at City Point during the siege of Petersburg, 1864-65 (U.S. Army Quartermaster Museum, 2019) Photo courtesy the author.**

The Union Blockade

Galveston, and thereby Houston through its connection by Galveston Bay and Buffalo Bayou, were blockaded throughout the Civil War. One of the stories surrounding the Milam Street Artifact Assemblage is that it was recovered from a

sunken blockade runner. The blockade is also romantically remembered through historical fiction characters such as Rhett Butler in *Gone with the Wind* who is a blockade runner ship captain. But though the blockade is ubiquitous with the Civil War mythos and intimately tied to the legends surrounding the Milam Street Artifacts, the effectiveness of the Union blockade has been the source of much historical debate.

In *The Battle Cry of Freedom,* James McPherson (1988, pp. 313-316, 369-373, 378-388) contends that the Union blockade of the Confederate states during the American Civil War was largely successful. He argues that the U.S. Navy was responsible for some of the most important achievements of the war and that the blockade was its principle task. While the Confederate coastline was enormous – totaling some 3,500 miles – McPherson asserts that the Union Navy eventually met the challenge through the seizure of many major Confederate ports, including New Orleans and, for a time, Galveston. And through a massive increase in naval ships and personnel necessary to combat not only the large numbers of blockade runners but also the Southern riverine and coastal vessels including Confederate Naval ironclad rams (figures 3-4) (McPherson, 1988, pp. 313-316, 369-373, 378-388).

Figure 3 The remains of the Confederate States Ironclad Ram *Jackson* located at the National Civil War Naval Museum, Columbus, Georgia. (National Civil War Naval Museum, 2019). Photo courtesy the author.

Figure 4 Top: Open ocean vessels of the Civil War including blockade runners and blockade ships. Middle: Coastal and harbor vessels of the Civil War including newly developed submarine technology. Bottom: Riverine Civil War vessels including gunboats and ironclads. Located at the National Civil War Naval Museum, Columbus, Georgia. (National Civil War Naval Museum, 2019). Murals by Richard W. DeRosset. Photos courtesy the author.

By 1862, federal forces had taken every major Confederate Atlantic harbor except for Charleston and Wilmington. These victories had mostly been won by the Union Navy under Admiral David G. Farragut (figure 5), though in some cases ports were seized by the Union Army (McPherson, 1988, pp. 313-316, 369-373, 378-388). In the Gulf of Mexico, only Galveston remained unoccupied, but even it was taken from October 4, 1862 to January 1, 1863 (Wooster, 1995, pp. 100, 121-122, 128; Cotham Jr., 1998, pp. 57-134; Block, 1997, pp. 29-89, 99-200, 242-246). While McPherson admits that at the beginning of the war the blockade resembled a ‘sieve’, he claims that by 1862 the captured Confederate ports began to serve a two-fold purpose. First, the blockade squadrons could focus on the few remaining Confederate ports. Second, the blockade ships could use the captured ports to shorten ship repair travel time and supply lines (McPherson, 1988, pp. 313-316, 369-373, 378-388).

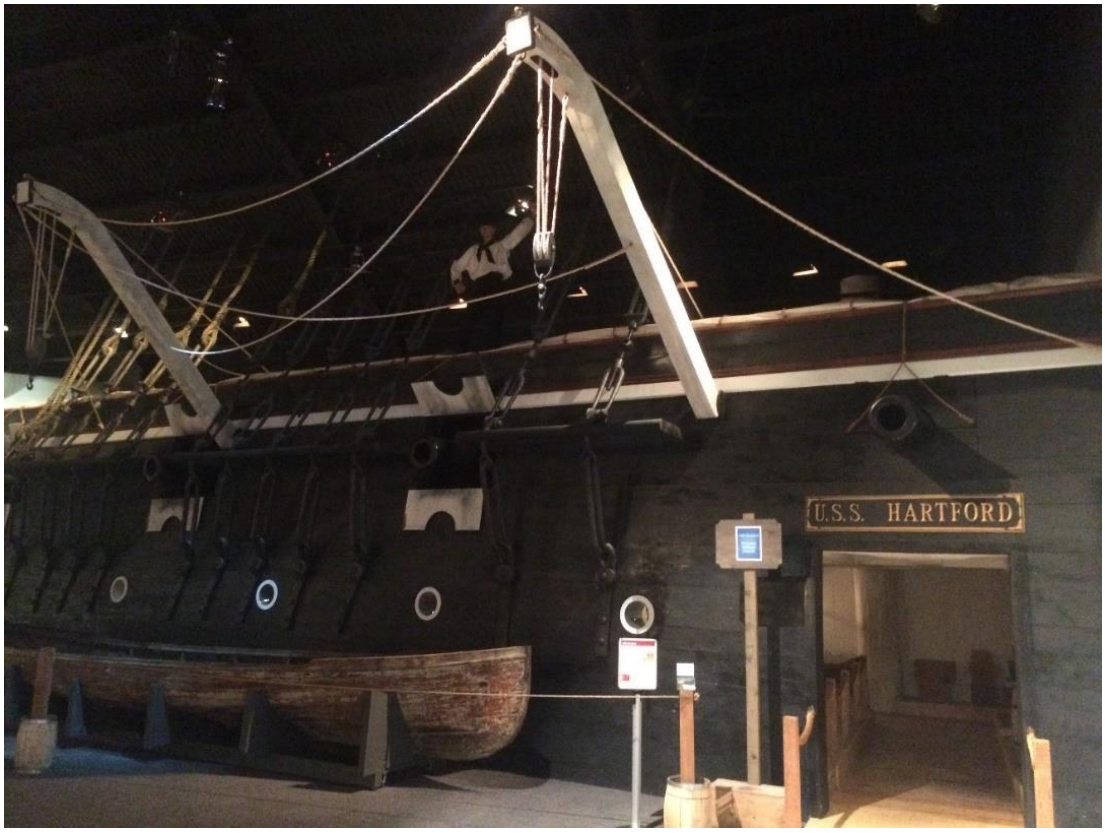


Figure 5 Full-scale replica of a portion of the sloop-of-war *Hartford*, flagship of the Commander of the Union blockade, Admiral David G. Farragut. (National Civil War Naval Museum, 2019). Photo courtesy the author.

Concerning the effectiveness of the blockade, McPherson admits that the Confederate government claimed the blockade to be 'a paper fancy,' and that some captured Union blockaders were even turned into blockade runners (figure 6), but he also quotes diary entries of suffering Southerners and rising costs of necessities as counterevidence (McPherson, 1988, pp. 378-388). Furthermore, he asserts that the important point is not what percentage of blockade runners got through, but how much freight "would have entered Southern ports if there was no blockade" (McPherson, 1988,

p. 381). Even taking into account the South's self-imposed cotton embargo in 1861-62 designed to force cotton-starved France and Britain into the war in support of the Southern cause, McPherson proposes that Southern trade was one-third that of peacetime and the blockade was therefore clearly effective. Moreover, since the blockade did not lead to foreign intervention, it had no major drawbacks limiting its effectiveness. Obviously the blockade tied up both federal men and resources, but the Union possessed both in abundance (McPherson, 1988, pp. 378-388).

Figure 6 Replica of the U.S.S./C.S.S. *Water Witch*, a blockader captured by the Confederacy and turned into a blockade runner. (National Civil War Naval Museum, 2019). Photo courtesy the author.

In contrast, William Still (1983, pp. 38-45), writing in the *Naval War College Review*, represents a significant counterargument that the Union naval blockade was mostly ineffective. Calling the blockade "a naval sieve," Still agrees with McPherson that the blockade was the Union navy's main task, but argues that a main task does not equal a successful task. He disputes that the blockade led to the collapse of the Southern economy and instead blames other factors including poor internal transportation and loss of manpower to the war effort (Still, 1983, pp. 38-45).

Concerning trade figures, though Still agrees with McPherson that the blockade disrupted Southern shipping, he does not think it fair to compare prewar trade figures to wartime trade figures as these were bound to be different due to the vastly different needs of total war compared to peacetime. Still proposes that blockade runner success rates were consistently over 60 percent, and most times were over 80 or even 90 percent (Still, 1983, pp. 38-45). Furthermore, Still contends that a lack of Confederate documents concerning anything other than the international implications of the blockade shows that the Confederate government did not see it as a credible threat worth discussing (Still, 1983, pp. 38-45).

Still chooses to look at evidence of Confederate blockade cargo in a different light than McPherson. He claims that since blockade runners usually filled up on luxury goods instead of wartime essentials, this shows that necessities were not in unnatural short supply. He proposes that if these items had been scarce, they would have been valuable and therefore profitable. Still argues that the Confederate army never lost a major battle due to inadequate supply, and that this is further proof of this contention

(Still, 1983, pp. 38-45), though this very argument itself is debatable (McPherson, 1988, pp. 313-316, 369-373, 378-388).

Confederate Arms, Artillery, Munitions, and Equipment

Since the Milam Street Artifacts come from Texas, a former Confederate state, and since they presumably date to the Civil War, it is useful to overview Confederate arms, artillery, munitions, and equipment in order to place the assemblage in its historical context.

The Confederate armies functioned by using an assortment of varying arms, artillery, ammunition and equipment (figure 7) (Ripley, 1970, pp. 7, 15-16). Such items included ones made in the United States, Europe, and the Confederacy itself (Ripley, 1970, pp. 13-348, 356-379). Sparse records were kept during the war on the specific equipment used by Confederate armies and many of the records that did exist were destroyed during or after the war (Ripley, 1970, pp. 13-16, 345-348). Due to these limitations, it is difficult to compile an exhaustive study of Confederate military equipment (Ripley, 1970, pp. 13-16, 345-348).

Figure 7 Inside a replica of the CSS *Albemarle*. Notice the Brooke gun made in Confederate iron foundries at Selma, Alabama (National Civil War Naval Museum, 2019). Photo courtesy the author.

Regarding study of Confederate artillery and ammunition, Warren Ripley compiled the standard publication on this topic through historical research and rediscovery of existing pieces found in museums, monuments, and city parks throughout the country (Ripley, 1970, pp. 7, 13-16). Ripley's work shows that contrary to the claim that the Confederacy lacked the ability to manufacture its own war goods (which I have found to be oft repeated in conversation with casual Civil War enthusiasts), the Confederates actually manufactured many of their own artillery pieces, carriages, and

munitions (figure 8). In the list of artillery manufacturers found in Ripley's appendices, one Confederate manufacturer stands out – Joseph R. Anderson, owner and manager of the Tredegar Iron Works (Ripley, 1970, pp. 359-361).

Figure 8 A sample collection of Civil War ordnance. (National Civil War Naval Museum, 2019). Photo courtesy the author.

Joseph R. Anderson and the Tredegar Iron Works

The Tredegar Iron Works (figure 9) was a major part of the Confederate war effort as pertains to material and logistical resupply. In order to understand the Milam Street Artifact Assemblage within the context of the Confederate supply system, it is important to cover the Tredegar Iron Works. The Tredegar serves as the best-researched case study on Confederate manufacturing and uniquely presents the energy-expenditure necessary to manufacture or acquire munitions and supplies for the South during the Civil War. Though later chapters will detail that proven connections between the Milam Street Artifacts and the Tredegar Iron Works are limited, understanding the Tredegar is vital to elucidating the effort that went into the creation of artifacts found in the Milam Street Artifact Assemblage, the magnitude of their loss below the waters of Buffalo Bayou, and their possible irreplaceability to the war effort.

Figure 9 A Brooke gun outside Tredegar Iron Works, fashioned at Tredegar in 1862 (Tredegar Iron Works, 2019). Photo courtesy the author.

Joseph R. Anderson was the son of Colonel William Anderson, who served in both the Revolutionary War and War of 1812 (Dew, 1966, p. 4). Following in his father's footsteps, Joseph Anderson applied to West Point and in 1837 was commissioned as a Brevet Second Lieutenant. He worked on engineering projects including roads and forts (Dew, 1966, pp. 6-8).

Anderson soon resigned his commission to start a family and go into business (Dew, 1966, pp. 8-9). He worked as Virginia Assistant State Engineer building toll

roads, before becoming involved with the Tredegar Iron Works in 1841. Anderson leased the Tredegar in 1843 and became owner in 1848. Anderson was a strong Southern supporter and was active in state government (Dew, 1966, pp. 9-37). He began as a Whig, but eventually became a Democrat in response to the growing abolitionism of Republicans (Dew, 1966, pp. 38-44).

During the Civil War, Anderson accepted a commission as a major in the Confederate Army in order to defend Tredegar Iron Works from arson and other sabotage attempts (Dew, 1966, p. 94). This post allowed him to continue managing the iron works as his commission was strictly an administrative one. More importantly, it provided him both more power to utilize Confederate resources in the defense of the Tredegar, given its priceless service to the Confederacy as the only major iron works in the South, and the ability to shield skilled workers from military duties by making them part of the Tredegar Battalion (Dew, 1966, pp. 94-95).

After petitioning the War Department, Anderson became a brigadier general in late 1861 and commanded shore defenses in North Carolina. He then fought during the Seven Days of 1862. Lightly wounded, he resigned his commission to concentrate on the Tredegar (Dew, 1966, pp. 95-96, 150-151).

Both Anderson and the Tredegar Iron Works were vital to the Confederate States of America (Dew, 1966, pp. 78, 86, 286-290; Tredegar Iron Works, 2019; Historic Tredegar, 2019). The Tredegar existed because of Anderson, and flourished when left to his management. The Tredegar started as a small forge and rolling mill in the 1830's, but by 1860, was the third largest foundry in the United States. Though the Tredegar faced

fierce English and Northern price competition, Anderson had become the leading industrialist in the South. He produced many products needed in wartime, including steam locomotives, railroad materials, boilers, cables, naval hardware, ordnance, and munitions. The Tredegar was one of only five iron works to be awarded U.S. government ordnance contracts before the Civil War (Dew, 1966, pp. 16-290).

Though the Tredegar suffered from high raw material and shipping costs due to its Southern location, by 1860, Anderson had gained a reputation for quality, justifying his 20 percent higher prices than Northern competitors (Dew, 1966, pp. 1-79). Once Anderson started using Cloverdale pig iron, a reliable raw material source, no Tredegar cannon failed a War Department or Navy Department inspection during the decade before the war (figure 10) (Dew, 1966, pp. 11, 48-49, 78).

Though Anderson was innovative, staying on the technological edge in most areas, his fierce competitive nature and lack of investment capital following the Panic of 1857 caused him to miss a major 1860 innovation that would hamstring Confederate ordnance during the war. Anderson resisted the faster, cheaper hollow casting technique invented by his hated competitor, Thomas Rodman, which created longer-lasting and stronger ordnance (Dew, 1966, pp. 45-50). If the Tredegar had changed to this method before the war, many of the ordnance weaknesses caused by low quality pig iron imported from the Shenandoah Valley may have been mitigated (Dew, 1966, pp. 78, 100-101, 104-107, 135-136, 175).

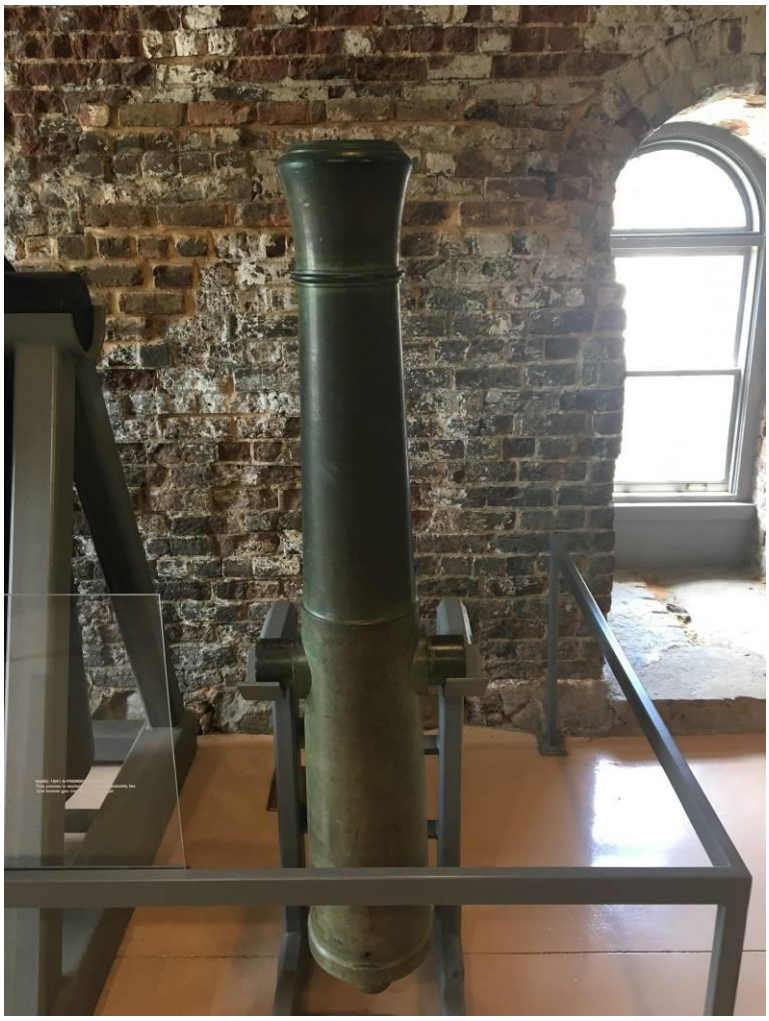


Figure 10 Example of workmanship at the Tredegar (Tredegar Iron Works, 2019). Photo courtesy the author.

Once the Civil War began, the Tredegar Iron Works was the industrial center of the Confederacy, and became the leading producer of munitions and ordnance. General Robert E. Lee's Army of Northern Virginian relied heavily on the Tredegar for its artillery, but Tredegar's products spread throughout the Confederacy. Furthermore, even the meager supply of railroad materials that the Tredegar was able to create made it the

leading provider of railroad replacement parts throughout the war (Dew, 1966, pp. 14, 19, 68-81, 86, 126-128, 176, 182-196, 269-272, 286-290). This fact alone should solidify why Buffalo Bayou was the main connection between Galveston and Houston during the war, and not the rail line.

The Tredegar (figure 11) was hamstrung by a lack of raw materials including pig iron, coal, copper, tin, and food. The Tredegar was never able to run over 35 percent capacity, even though Anderson supervised many expansions and improvements to the iron works during the war. Low quality iron caused the Tredegar guns to habitually burst. Though the Tredegar was essential to the survival of the Confederacy, its capture in 1865 was merely symbolic as major shipments of raw materials had ceased months earlier (Dew, 1966, pp. 179-182, 215-217, 223-226, 284-291, 294).

Figure 11 Tredegar Iron Works, Richmond, Virginia (Tredegar Iron Works, 2019). Photo courtesy the author.

Anderson politically defended the Tredegar from Union destruction in 1865, received it back from the U.S. government in 1867, and managed it until his death in 1892. A study of Confederate logistics and supplies would be woefully incomplete without knowledge of the Tredegar Iron Works (Dew, 1966, pp. 291-320).

Southern Antebellum Fiscal Policy

In order to understand the Milam Street Artifacts in their larger historical and logistical context, one must examine the economic system that the Confederacy inherited on the eve of the Civil War. Southern Antebellum fiscal policy influenced Confederate plans and ability to manufacture, trade, and, resupply throughout the war, and the Milam Street Artifacts were part of this larger national and international system.

Historians argue that the hallmark of the United States has always been growth. Under this viewpoint, Americans view growth as progress and lack of growth as stagnation. By 1860, in terms of growth, the South trailed the North in every measurement (McPherson, 1988, pp. 6-8, 33, 39, 91-102, 437-442).

If the South is viewed outside of a comparison with the North, during the Antebellum Period, it was extremely productive. The South supplied three-fourths of the world's cotton, three-fifths of American exports, and its yield of cotton doubled each decade after 1800 (McPherson, 1988, pp. 91-102).

On the other hand, when compared to the North, industrial aspects of the South's economy seemed to be stagnating. McPherson (1988) argues that the census of 1850 stunned the South. Population growth was 20 percent greater in free-states, and the

South only accounted for 42 percent of the national population. Three-times more people migrated from slave-states to free-states, and seven-eighths of all immigrants during the 1840's had settled in the North. Many German and Irish immigrants came to Northern states to find work in factories. While anti-Catholic sentiment drove many of them to the Democratic Party, they still lived and labored for Northern interests (McPherson, 1988, pp. 91-94).

Furthermore, even though Southern planters were making massive profits from raw cotton, Northerners were making even more money off the shipping, storing, and manufacturing of cotton and finished cotton goods. In 1850, only 14 percent of canals were in the South, and the South's percentage of the nation's railroads had declined from 44 percent in 1840 to 26 percent in 1850. The Southern percent of manufacturing had also declined from 20 percent to 18 percent. The South imported two-thirds of its manufactured goods and the majority of ships loaded with finished goods landed in Northern ports, making manufactured goods more expensive in the South. Northern bankers and businessmen owned majority shares of Southern stock and debt. Some Southern leaders began to see themselves as slaves of the North (McPherson, 1988, pp. 91-94; Foote, 1958, pp. 1-72).

Prominent Southerners and Southern newspapers attempted to spur industrialization during the 1850's. The 1860 census showed that Southern manufacturing rose 77 percent, textile production increased 44 percent, and per capita wealth increased 62 percent (McPherson, 1988, pp. 92-96).

While much had been accomplished economically during the decade, by 1860 the North had grown even more relative to the South. Though Southern percent of national railroad mileage had increased from 26 to 35 percent, manufacturing decreased from 18 to 16 percent, and the cotton textile industry was only 10 percent of the national total. Worryingly for secessionist Southerners, about 40 percent of manufacturing and industry in the South was clustered in the border states (McPherson, 1988, p. 95).

While the average white Southerner in 1860 was almost twice as wealthy as the average white Northerner, Southern wealth was tied up in land and slaves. The very idea of Southern wealth was connected to land and slaves, leading a few prominent Southerners to pursue reopening the slave trade. McPherson (1988, pp. 95-102) argues that industry, manufacturing, and big cities were seen as degrading of virtue, and land ownership was considered an honorable, healthy, and virile pursuit by the Southern gentry. Some historians even claim that Southern elites were more than happy to let the North and Europe engage in manufacturing for them (McPherson, 1988, pp. 95-102; Foote, 1958, pp. 1-72).

In 1860, Southerners were some of the least taxed people on earth, and, other than tariffs, almost all taxes went to state or local governments. A lack of liquid assets combined with little taxpaying tradition may very well have made the South incapable of funding its Confederate government, and fed runaway inflation throughout the war (McPherson, 1988, pp. 95-102, 437-442; Foote, 1958, pp. 1-72).

Economic Vision and Environmental Determinism of the Confederate Nation

Understanding the economics underlying the Confederacy itself is essential to contextualizing the Milam Street Artifacts. The Milam Street Artifacts were part of a larger war economy, and as such the economy itself must be introduced in order to answer why and how the Milam Street Artifacts came to be in Houston in 1865. Without this contextualization the artifacts become nothing more than an isolated tangential incident.

An oft overlooked portion of Southern economic study includes effects from the Southern environment and how the resulting patterns of land use, necessitated by the environs, helps to explain why the South fell behind the North in population, trade, and industry (Majewski, 2009, pp. 22-80, 163-180).

The South's reliance on shifting cultivation forced farmers to own large tracts of land, as they could only use about a third of it for agriculture at one time. The rest of the land would lay fallow on a twenty-year cycle, until it could once again be burned and replanted. The use of shifting cultivation led to low population densities, high transportation costs, and small markets for finished goods. Shifting cultivation was a natural adaption to the South's acidic soil and torrential, eroding rains – the soil was only useful for five or six years of planting, and, if left uncovered, the topsoil was easily eroded. Further evolution of this cultivation system was hampered by the high transportation costs of calcium-bearing fertilizers (Majewski, 2009, pp. 22-80, 163-180).

Following the scare of the 1850 census, the South attempted to lower transportation costs through railroad investment and the creation of a connected

Southern economy. The state governments in Virginia and South Carolina both invested significant amounts in railroads throughout the 1850's. Majewski (2009, pp. 81-107) asserts that some believed that railroads would serve as 'silver bullets' to facilitate growth of Southern cities, direct trade with Europe and the Midwest, and force the ideological expansion of slavery. Since Southern markets were lacking population density, Southern railroads did not have the freight or passenger traffic to be profitable without significant state government investment. This practice of state government investment in public works projects and industries created a tradition that the Confederacy was able to build upon during the Civil War, even accounting for disharmony between the states (Majewski, 2009, pp. 81-107).

As the 1850's came to a close, secessionists had rejected railroads as a panacea and refocused their attention on federal trade policy by the eve of the Civil War. Secessionists believed that federal tariffs and other subsidies transferred hundreds of millions of dollars from the South to the North each year. These same secessionists contended that an independent Southern confederacy would be able to lower the tariff with European trade partners, and introduce a relatively low tariff on Northern goods, sparking manufacturing competition. Secessionists also decided that this would protect Southern industry from cheap Northern goods, and would attract direct European trade with Southern ports (Majewski, 2009, pp. 108-139).

In some ways, Antebellum Period Southern economic theory resembles a classic anthropological analysis of agency, in which Confederate thinkers reduced policies on economics and political theory to mere 'interests.' Majewski (2009, p. 21) calls this line

of thinking "a design for mastery." Southern planters, politicians, and industrialists consistently failed to lend agency to slaves, Northerners, or Europeans in their political imaginings. Southerners failed to realize that slaves would struggle for freedom, the North would fight to keep the Union, and that Europe would adapt to the loss of Southern cotton through investment in new markets such as Egypt and India (Majewski, 2009, pp. 21, 140-162).

Majewski's conclusions are different than those of McPherson and debate about Southern economic theory and policy continues among historians. McPherson maintains that Southerners' ideas of wealth were connected to land and slaves; that industry, manufacturing, and big cities were seen as degrading of virtue; and that Southerners were more than happy to let the North and Europe engage in manufacturing for them (McPherson, 1988, pp. 6-8, 33, 39, 91-102, 437-442). Majewski presents the South as desperately attempting to modernize, but endeavoring to complete modernization within the confines of a Southern culture that had chosen slaves, not free labor, as its work force (Majewski, 2009, pp. 1-52, 81-107). Whatever the best interpretation may be, during Reconstruction and the Gilded Age, the South came to view the 'Old South' as a bittersweet memory – a quieter, more virtuous time, doomed to fail because its foundation was stagnation through slavery. By the 20th-century the 'Old South' had become ingrained as a way of life, worthy of remembrance, yet *gone with the wind*, never to return. This allure of the 'Old South' is important to understand as it appears throughout the newspaper accounts surrounding the initial discovery of the Milam Street Artifacts.

Texas in the Civil War

As the Milam Street Artifacts were intended to be used as supplies and munitions during the Civil War, and as the artifact assemblage was found in Texas, it logically follows that the most likely use of the Milam Street Artifacts was to resupply the Confederate War effort in and around Texas. But what part did Texas play during the Civil War (figure 12) and what major campaigns took place on the Texas homefront? What pattern of conflict necessitated that Houston contain war-effort supplies in the first place? This and the following section will answer these overarching questions.

While a definitive and clear overview of Texas' Civil War involvement has yet to be written, six conflicts serve as a rough summation of the Civil War on the Texas homefront including the New Mexico Campaign, the Battles for Galveston, Brownsville, Sabine Pass, the Red River Campaign, and the Battle of Palmito Ranch.

Figure 12 The Texas Civil War Monument at Chickamauga (Chickamauga & Chattanooga National Military Park, 2017). Photo courtesy the author.

New Mexico Campaign

The New Mexico Campaign lasted from February to April 1862 and proved a disaster for Confederate forces. Under the command of Brigadier General Henry Hopkins Sibley, over 2000 men set out from Fort Bliss, Texas, in an attempt to capture

the Southwest – including the prospect of gaining gold and silver mines in Colorado and California. At the Battles of Valverde and Glorietta Pass, the Confederate forces defeated larger Union armies, but were unable to force the surrender of the Union armies nor take the Union forts. During the Battle of Glorietta Pass, New Mexico, the Union destroyed many of the Confederate supply wagons (figure 13), forcing the Confederates to abandon the campaign (Foote, 1958, pp. 13, 26, 293, 304-305).

Figure 13 Though not specifically a Confederate supply wagon, this typical Model 1862 Rucker Ambulance and Supply Wagon is one of the last remaining examples of a Civil War supply wagon. It served as General Ulysses S. Grant's personal wagon (U.S. Army Quartermaster Museum, 2019). Photo courtesy the author.

Battles for Galveston

The First Battle of Galveston consisted of a short naval engagement on October 4th, 1862. Union forces had begun a blockade of Galveston in July 1861. Forces from this blockade moved in towards the city and sent a dispatch to the municipal leadership threatening to bombard the downtown. Colonel Joseph J. Cook commanded the Confederate forces and refused to surrender. A short return of fire took place as two small Confederate gun boats and a land battery fired on the Union ships. The Confederate defense was entirely ineffective and the Confederates eventually agreed to a truce. Over four days they removed their forces, along with many of the townspeople, abandoning the largest city in Texas and last Confederate port in the Gulf of Mexico, after mounting only the most meager of defenses (Foote, 1958, pp. 277-278, 745-746, 796; Foote, 1963, pp. 19-20, 57-59, 124-125, 127, 871-872; Cotham Jr., 1998, pp. 50-86; Ladras, 2016, pp. 49-64).

On January 1st, 1863 the Second Battle of Galveston took place. Major General John Magruder led Confederate forces to retake the city. His two cottonclad gunboats caught the six Union ironclad gunboats by surprise. One of the Confederate gunboats was damaged and sank, but the other captured a Union gunboat and caused another Union gunboat to run aground on a sandbar. The Union forces then attempted to destroy the gunboat that was stuck on the sandbar in order to keep it out of Confederate hands. The ensuing explosion convinced the Union infantry that the navy was surrendering, so they laid down their arms with barely a shot fired. Magruder promptly retook Galveston, capturing around 420 men and a gunboat while only losing 26 men and one cottonclad.

By the end of the war, Galveston was the only major port that remained in Confederate hands (Foote, 1963, pp. 19-20, 57-59, 124-125, 127, 871-872; Foote, 1974, pp. 26, 53, 1013, 1021-1022, 1027, 1040; Cotham Jr., 1998, pp. 105-134; Ladras, 2016, pp. 49-64).

Sabine Pass

Twenty-five-year-old Houstonian Richard Dowling left his wife and two children to join his fellow Irishmen in the Davis Guards, made up of men from Houston. Stationed at Fort Griffin, Sabine Pass, Texas, Dowling commanded a company of only 42 men, four smooth-bore cannon, and two howitzers. On September 8th, 1863 a Union landing force consisting of transports and escort ships for 5000 men attacked Fort Griffin. Four Union gunboats pummeled the fort for hours, but Dowling held his fire. Thinking the fort must be close to surrendering, the Union gunboats came within 1,200 yards and Dowling opened fire. Dowling and his 42 fellow Houstonians successfully repulsed the attack without losing a man. The Union lost two ships, 100 men killed, 350 men prisoner, and the rest of the fleet fled back to New Orleans never to return (Johnston, 1991, p. 66; Ladras, 2016, pp. 49-64).

Brownsville

Brownsville, Texas, lies across the Rio Grande from Matamoros, Mexico. Brownsville had become an economic center as Confederate trade attempted to bypass the Union blockade. Cotton and cattle, along with other items, were brought to Brownsville from throughout Texas so that they could be transferred into Mexico and

then exported through neutral Mexican ports. The Union was anxious to stop up this hole in the blockade and also wanted to drive a wedge between Texas and the French government. The forces of French Emperor Napoleon III had invaded and conquered Mexico, propping up the puppet-leader Emperor Maximillian, and the French government was sympathetic to the Confederate cause (Foote, 1963, p. 871).

From November 2nd to 6th, 1863, Union forces under Nathaniel Banks attacked and captured the town of Brownsville. Banks commanded 6,000 men, opposed by only 150 men as most Texas soldiers had been transferred to Sabine Pass to counter the Union landing attempt in September. The battle was short, but ended with the town looted by both forces and in flames. A group of exiled Mexican soldiers led by Mexican General José Maria Cobos actually rallied against retreating Confederate looters in order to save the town from destruction. These Mexican forces then fled the Union army by crossing the Rio Grande to Matamoros and retook it for Mexico from French occupation. Brownsville was eventually retaken by Confederate forces on July 30th, 1864 without a fight (Foote, 1963, p. 871).

Red River Campaign

The Red River Campaign was an unsuccessful attempt by Union forces in Louisiana to capture the Confederate Trans-Mississippi Department headquarters at Shreveport and enter east Texas by way of the Red River. Consisting of multiple battles fought between March 10th and May 22nd, 1864, Confederate Lieutenant General Richard Taylor's force of 6,000-15,000 depending on the battle, was able to defeat

Union Major General Nathaniel Banks' force of 30,000. The campaign was a complete failure by the Union. Banks' forces were only able to escape complete annihilation because General Kirby Smith needed to send half of Taylor's troops to Arkansas, diverting them from chasing down Banks' retreating soldiers (Foote, 1974, pp. 25-77, 98, 126, 264, 320, 340, 374, 376, 450, 790, 848; Davis, George B.; Perry, Leslie J.; Kirkley, Joseph W.; Cowles, Calvin D., 1891).

Palmito Ranch

The Battle of Palmito Ranch from May 12th-13th, 1865, was the last battle of the Civil War (Wooster, 1995, pp. 180-181). One can argue that since Confederate President Jefferson Davis was captured on May 10th, the Confederate government ceased to exist and thus the war was ended. This would make Palmito Ranch a postwar action much like Andrew Jackson's defense of New Orleans in 1814 which took place after the treaty negotiated to end the War of 1812 (Foote, 1974, pp. 1019-1020).

Whether fought to end or fought after the Civil War, Palmito Ranch took place just to the east of Brownsville, Texas. Over two days 500 Union soldiers faced around 300 Confederates with the Confederates ultimately claiming victory after capturing over 100 of the Union soldiers. The war that ended with the Confederacy's defeat actually concluded with a Confederate battle victory (Foote, 1974, pp. 1019-1020; Wooster, 1995, pp. 180-181).

Why Texans Fought in the Civil War

Equally important in the quest to supply historical context to the Milam Street Artifact Assemblage is not only what Texans did in the Civil War, but why Texans did it. Civil War motivations of Texans, including white native Texans, white immigrants from the rest of the United States, German immigrants, and Tejanos, results in a very complex study. One not only must unravel the motivations that led men to initially fight, but also the impetus that kept them fighting for four years. This naturally includes the events that most-negatively affected morale and the ultimate reasons that men deserted. Conversely, an equally important question is why some Texans chose *not* to fight, and looking deeper, why others chose to fight on the frontiers for the State of Texas, but not for the Confederacy, and still others fought for the Union cause. Regrettably, the most careful inquiry into the motivations of Texans during the Civil War is limited to a single book by Charles Grear (2010). Fortunately, many of the inherent shortcomings of relying on a single volume are mitigated by Grear's copious statistical analysis and use of thousands of letters and first-hand troop accounts, thereby creating a seemingly exhaustive work.

Specifically examining the main reasons white Texans fought for the Confederacy, the length of time a person had lived in Texas seems to have influenced their motivation to fight, and where they wanted to fight. On the eve of the Civil War, Texas had the second-highest foreign immigrant population after Louisiana, the highest population of residents born outside the state, and the youngest population of any state in the Confederacy (Grear, 2010, pp. 73-75, 135-162). Since most white Texans had not

been born in Texas, they still maintained strong ties to their former homes. Numerous Texans were not born in Texas and had emigrated from other Southern states (Grear, 2010, pp. 72-98). When the Civil War began, many of these individuals originating from outside Texas were motivated to defend their former hometowns and relatives in other parts of the Confederacy or even within the Union (Grear, 2010, pp. 29-32, 72-98). Through statistical analysis of Texas units, Grear (2010, pp. 42-43) contends that the longer a person had resided in Texas, the less motivated they were to defend the rest of the South, and the more motivated they were to fight for Texas through the defense of the Trans-Mississippi or Texas itself.

Since most Texans had immigrated from elsewhere in the South, they brought their Southern culture with them. For many, the institution of slavery was included within this cultural package (Grear, 2010, pp. 10-40). Though the majority of Texans did *not* own slaves, many Anglo Texans were willing to fight to maintain slavery because they saw it as part of the larger Southern social order built on the superiority of the Anglo-Saxon. Additionally, Grear states that Southern culture's honor system compelled Anglo men to fight to "prove their manhood and…maintain their honor" (Grear, 2010, pp. 3-4, 40).

Texans who had emigrated from other countries instead of from the South tended to hold slavery and Southern culture in lower esteem. These tended to be newer immigrants. The majority of them came from Germany and settled around New Braunfels, and in the northeastern counties bordering Oklahoma (Grear, 2010, pp. 10-40, 135-162). While some immigrants had lived in Texas the majority of their lives and had

conformed to the Texas ways of thinking, the newer German immigrants were mostly anti-slavery and anti-war (Grear, 2010, pp. 135-162). While 104 of 122 counties voted for secession, with Harris County (Houston) voting over 80 percent for secession and Galveston County (Galveston) voting over 90 percent, most counties with majority German immigrant populations voted against secession. They were joined by Travis County, which held the state capital, Austin, led by the staunch Unionist Governor Sam Houston, and seven counties along the Red River who feared secession would leave them exposed to Indian attacks (Grear, 2010, pp. 28-30, 43; Wooster, 1995, pp. 1-24).

Texas had been part of an expansionist tradition dating back to the end of the War for Independence from Mexico in 1836 (Grear, 2010, pp. 61-63, 69-71; Wooster, 1995, pp. 36-38, 41-42; McPherson, 1988, pp. 3-5). After victory over Santa Anna at San Jacinto, Texas claimed all land to the Rio Grande River for the fledgling nation even though this area was only sparsely populated by those who named themselves *Texians* (Wooster, 1995, pp. 30, 34-42, 65, 172; Hall, 2012, p. 18). Within ten years Texas was once again fighting for land – this time as part of the United States in the Mexican-American War of 1846-48. The treaty ending this war included the Mexican Cession of 1848 which saw the United States annexing modern California, Nevada, and Utah and significant portions of Arizona, New Mexico, Colorado, and Wyoming. In light of these past expansionist campaigns, that Texas led the New Mexico campaign of 1862 can be viewed as a continuation of an expansionist tradition existing since the initial formation of Texas itself (Grear, 2010, pp. 68-71; Wooster, 1995, pp. 30, 34-42, 65, 172; McPherson, 1988, pp. 3-5).

Transcending warfare, expansionism, and honor, religion and family ties were other main foundations of Southern culture within Texas (Grear, 2010, pp. 20-28, 35-38). Religion dominated the lives of Texans, and therefore Texans came to see the war as a just war (Grear, 2010, p. 25). Just war theory was prominent in the Baptist tradition which was the majority religion of white Texans, and therefore religion provided Texans an outlet to join the fight, and then to endure future stress and hardship (Grear, 2010, pp. 20-28).

On a fundamental level, fighting was primarily portrayed as defending one's family (Grear, 2010, pp. 35-40). Those Texans who had family ties in other parts of the South, habitually chose to join Texas units headed toward those theaters (see appendix 2) (Grear, 2010, pp. 1-134). A few Texans with family residing in Northern states even chose to fight for the Union (Grear, 2010, pp. 28-30). Texans with weaker family ties in Texas, but strong regional family ties, mostly chose to fight in units defending Texas and the Trans-Mississippi (Grear, 2010, pp. 41-71). As the war continued, hardships befell family members in Texas and Texas itself was threatened. Upon hearing news of warfare on the homefront, Texans who had left to fight in theaters east of the Mississippi River sometimes deserted *en masse*, not necessarily to permanently abandon the cause, but to check on loved ones in Texas and join a different unit fighting to defend Texas soil (Grear, 2010, pp. 99-134).

Why One Texan Fought in the Civil War: An Intimate Example

As clearly stated in the foreword, the main intent of this dissertation is to contextualize the Milam Street Artifact Assemblage within its past and continuing effects on humanity. Artifacts were once objects meant to be used by people. While many of the stories of past peoples that specifically interacted with the Milam Street Artifacts are now lost (see chapter 2), one can still glean a small knowledge of the personal nature of the Civil War in Texas through study of *The Ragged Rebel: A Common Soldier in Parsons' Texas Cavalry* by B. P. Gallaway. In my opinion, no other work illustrates the plight and reasons for fighting of the common Texas soldier better than this book which details the war experience of Private David Nance.

Well-researched personal narratives of the experiences of common soldiers during the Civil War are rare and give insight into individuals like those who were intended to use the Milam Street Artifacts when they were war materials and not artifacts. While narratives based on letters and recorded anecdotes must be weighed carefully, they are still an important tool for contextualizing, and are especially important when trying to infuse human interest into study of an artifact assemblage.

Channeling *1984* and an Orwellian view on history, sometimes what actually happened is less important than what people think happened. In other words, it is important not only to look at why Texans fought in the Civil War, but why they *thought* that they fought in the Civil War. These two lines of reasoning do not necessarily align and this friction is important to capture.

The Ragged Rebel

David Carey Nance was born in Illinois, but moved fifteen miles south of Dallas as a young child. According to Gallaway (1988, pp. 1-4, 12), Nance was from the middle levels of society. His father, Quill, owned over 500 acres of fertile, well-watered land which he used for farming and raising livestock, including sheep and cattle (Gallaway, 1988, pp. 2-4, 7, 10, 12). Quill was morally opposed to slavery and with the help of his wife, children, and occasionally his brother, was able to keep the land profitable (Gallaway, 1988, pp. 2-12).

When Nance set off to war, he was armed with a shotgun and a new revolver (Gallaway, 1988, p. 15). Nance's Morgan horse was the pride of his brigade and was valued at $225 (compared to the average horse being valued at $75-$100) (Gallaway, 1988, p. 19). Nance also had a new poncho, extra clothing, ample food, and $105 in his pocket (Gallaway, 1988, p. 15). Even after Nance lost most of his belongings during a skirmish at Cache River, his family was able to resupply him with another shotgun, horse, and spare clothing (Gallaway, 1988, pp. 19, 48-49, 58).

While the Nance family's wartime experience was atypical as they faced few serious shortages during the war, Nance's soldiering was typical of the Confederate Texan enlisted experience. He joined the Confederate cause at eighteen because he became caught up in the spectacle of the formation of Parsons' Brigade – leading him to the cavalry against his father's wishes (Gallaway, 1988, pp. 12-15). In order to join, Dave had to supply his own horse and weapons, which was common practice in the Confederate Army (Gallaway, 1988, pp. 12-15, 19; Tredegar Iron Works, 2019; Pamplin

Historical Park, 2018). After the war ended, Nance would be reimbursed for any losses to his personal property, but as the Confederacy lost, he was never reimbursed (Gallaway, 1988, p. 19).

Nance first joined the Texas State Militia in 1861, but his unit was soon transferred over to the Confederate Army (Gallaway, 1988, pp. 14-15). This was customary practice at the time as many Texans joining the war effort simply wanted to man the forts on the northern frontier of Texas that had been abandoned when Federal troops pulled out at the start of the war (Wooster, 1995, pp. 1-25, 32-33, 128, 133, 153 ; Luther, 2012, pp. 112-125; Grear, 2010, pp. 55-60). These defenses had originally existed to defend against incursions from Indian Territory – modern Oklahoma (Luther, 2012, pp. 47-57; Wooster, 1995, pp. 10, 15-25). Without Federal troops as a deterrent, Indian tribes including the Comanche and the Kiowa began a series of massed raids into northern and western Texas. These raids killed men, women, children, and destroyed numerous properties (Wooster, 1995, pp. 32-33, 97, 128, 133, 170-171; Grear, 2010, pp. 55-60). Some Texas soldiers felt sold out when the commander of the Department of Texas would release their state militia unit to serve on active duty in the Confederate Army (Grear, 2010, pp. 58-60). Once in national service, these troops could be moved to other theaters, but in cases where the soldiers had joined the militia for the purpose of defending a specific location, desertions were rife when news of Indian raids or other problems at home came in the mail (Gallaway, 1988, pp. 70-71, 73, 77-78, 82-83; Grear, 2010, pp. 8, 22, 50, 54, 58-59, 99-134, 159, 161, 170; Wooster, 1995, pp. 32-33, 97, 128, 133, 170-171).

The majority of the new Confederate Army units, including Nance's, were relocated to the Texas coast to repel potential invasion, but others were sent across the Mississippi to fight battles in the East (Gallaway, 1988, pp. 20-44, 69-89). After idling away near the Texas coast, Nance was transferred throughout the Trans-Mississippi Department – mostly in Louisiana (Gallaway, 1988, pp. 20-57, 68-132). Yet Nance regularly returned home for various reasons including furloughs, convalescence, transportation responsibilities, special assignments, funerals, and acquiring equipment (Gallaway, 1988, pp. 12-132).

For one such added duty, Nance's father petitioned the government to get him permanently away from the front lines. He had already been injured in battle multiple times and was even captured for a short period before making his escape. (Gallaway, 1988, pp. 20-57, 59) Due to serious shortages of gunpowder brought on by the Union blockade, the South opened small-scale gunpowder manufacturing facilities throughout the Confederacy (Gallaway, 1988, pp. 59-63; Dew, 1966, p. 125). Nance was assigned to one such manufacturing facility – the Rowen and Patterson Powderworks in Waxahachie, Texas. According to Gallaway (1988, pp. 63-64), Nance mostly enjoyed the work, but unfortunately it proved as dangerous as the front lines. A gunpowder accident of unknown origin caused the facility to explode, killing two employees while seriously injuring Nance (Gallaway, 1988, pp. 64-67). Once recovered, Nance worked in a wool mill for two weeks to test his strength, then rode straight back to the front and rejoined his old unit (Gallaway, 1988, pp. 68-69).

Gallaway (1988, pp. 23-25) claims that Nance wrote of having no better friends than his 'mess mates' – a group of Soldiers who regularly ate together, sharing the same fire. Nance's experience of forming strong bonds with his mess mates was typical of the strong, yet unofficial organization of Confederate units at squad level (Gallaway, 1988, pp. 23-25). Moreover, he wrote of disease taking the lives of twice as many soldiers as battle, which was characteristic of numerous regiments. At times, Nance and his comrades suffered shortages of food, clothing, horses, ammunition, water, fodder, and shelter (Gallaway, 1988, pp. 27, 44-57, 69-132).

Nance moved throughout Texas, Arkansas, and Louisiana under conflicting orders, and at times the chain of command of his battalion, brigade, or regiment was unclear (Gallaway, 1988, pp. 69-132). There were times where multiple commanders laid claim to the same unit and waged a paperwork battle to be declared the true commander (Gallaway, 1988, pp. 90-101). On occasion, Colonel William Henry Parsons, leader of Nance's brigade, lost command of his own unit, and on some battlespaces commanders made attempts to usurp the authority of their superiors (Gallaway, 1988, pp. 90-101). Gallaway (1988) asserts that Nance experienced this unclear command structure when Brigadier General James W. Major, initially in command of the rear, mismanaged the battle of Blair's Landing both before and after the death of Major General Tom Green, taking command of the field away from the rightful field command successor, Colonel Parsons (Gallaway, 1988, pp. 90-101).

As the war dragged on, Nance's unit turned to impressment of food and clothing from civilians (Gallaway, 1988, pp. 102-132). Gallaway (1988) claims that in order to

continue as a fighting force, Nance and his fellow soldiers were compelled into this sorry state, taking supplies by force from the very people they were supposed to represent and defend. By the end of the war, Nance, just like soldiers throughout the Confederacy, was dismissed from his unit with a short speech, and journeyed home, exhausted, sick and hungry. Most soldiers traveled penniless, but sensing defeat was inevitable, Nance had saved $40 for his return to the family farm (Gallaway, 1988, pp. 130-131).

The Galveston-Houston Economic Zone

The Galveston-Houston economic zone is an important concept to understand as it relates to Civil War archaeology. Archaeological sites in either Galveston or Houston could have connections to both cities. As concerns nautical archaeology, the waters around Galveston have been studied to a much greater extent than Buffalo Bayou in Houston. Therefore nautical archaeological studies from the Galveston-area shape academic perceptions of the region as Houston nautical archaeological work is extremely sparse.

Bayous, Railroads, and Ship Channels: Connections Between the Cities

On the eve of the Civil War, Galveston was the largest, richest city in Texas (Hall, 2012, pp. 11-62; Sipes & Zeve, 2012, pp. 13-24). Houston itself was a young town, only formed 25 years earlier (Hall, 2012, pp. 11-62). Connected to Galveston through Buffalo Bayou by packet steamboat lines, shipping barges, and a recently finished rail line, Houston served as the railroad hub for goods offloaded at the

Galveston port to be shipped throughout Texas and the Southwest (Hall, 2012, pp. 11-82). Because the rail line between Houston and Galveston was only newly built, little proven, and lacked significant rolling stock, and because the Houston ship channel had yet to be dredged, giving Houston its own major port, Galveston and Houston were intimately tied together in a symbiotic relationship through Buffalo Bayou (Hall, 2012, pp. 11-82, 89, 103-114; Sipes & Zeve, 2012, pp. 17-52; Aulbach, 2012, pp. 327, 400-401, 428-429, 459).

Not until 1866 was Houston able avoid the high wharfage fees of Galveston and break from its dependence on the sister city (Johnston, 1991, p. 73). Mayor Horace Taylor, banker T. M. Bagby and the city council formed the Houston Direct Navigation Company (Johnston, 1991, p. 73). This company sent barges to Bolivar Roads to meet incoming ocean-going ships that could not navigate either the sandbars of the bay or the narrow bayou. The ships offloaded the goods directly to the barges and Galveston and its fees were successfully bypassed (Johnston, 1991, p. 73). As the Houston Direct Navigation Company was not formed until 1866, up to and throughout the Civil War an intimately interconnected sphere existed, here called the Galveston-Houston economic zone (Hall, 2012, pp. 86, 89, 98, 101, 103-104, 109).

During the 1890's U.S. Representative Tom Ball (namesake of Tomball, Texas) was an early and enthusiastic supporter of a deep-water port in Houston that could be reached through a dredged ship channel from Galveston Bay (Sibley, 1968, pp. 115, 118, 120, 133, 136; Port of Houston, 2019; Sipes & Zeve, 2012, pp. 17-52). When the 1900 hurricane struck Galveston, killing over 8,000 people, public opinion began to favor the

creation of a port in more-inland Houston (Sibley, 1968, pp. 125, 168; Port of Houston, 2019; Sipes & Zeve, 2012, pp. 17-52). In 1911 a campaign was finally formerly launched to convince voters to come out in favor of funding a ship channel and port (Sibley, 1968, p. 136; Port of Houston, 2019; Sipes & Zeve, 2012, pp. 17-52). The measure succeeded and construction of the channel began in 1912 with dredging and expansion operations. The operation was completed in 1914 with the channel dredged to 25 feet in depth. Various dredging projects from the 1920's to modern day have increased the depth to around 45 feet (Sibley, 1968, p. 4; Port of Houston, 2019; Sipes & Zeve, 2012, pp. 17-52).

Past Nautical Archaeology in the Galveston-Houston Economic Zone

The waters surrounding Galveston are home to many shipwrecks (figure 14), relics of the millions of ships flying various flags including those of Spain, Mexico, the United States, the Confederate States, pirates, and many others that have utilized Galveston as a harbor since Texas was first discovered by Europeans (Hall, 2014, pp. 14-15). Early explorers of Texas such as the Spaniard Cabeza de Vaca or the Frenchman Robert Cavelier La Salle may have even landed on Galveston Island (Hall, 2014, pp. 14-15). Galveston settlements were originally devised by privateers/pirates such as Jean Lafitte and Louis Michele Aury (Hall, 2014, pp. 14-15).

During the 19th-century, Galveston claimed the crown of second-most important city in the Gulf, only after New Orleans (Keith & Evans, 2011, pp. 179-194). The 1900 hurricane – including the resulting property damage and transformed fiscal policies –

ended Galveston's reign as the dominant Texas port (Keith & Evans, 2011, pp. 179-194). Hundreds of years of maritime history make Galveston and its surrounding waters such as Galveston Bay and Buffalo Bayou, an intriguing area of historical nautical archeological study.

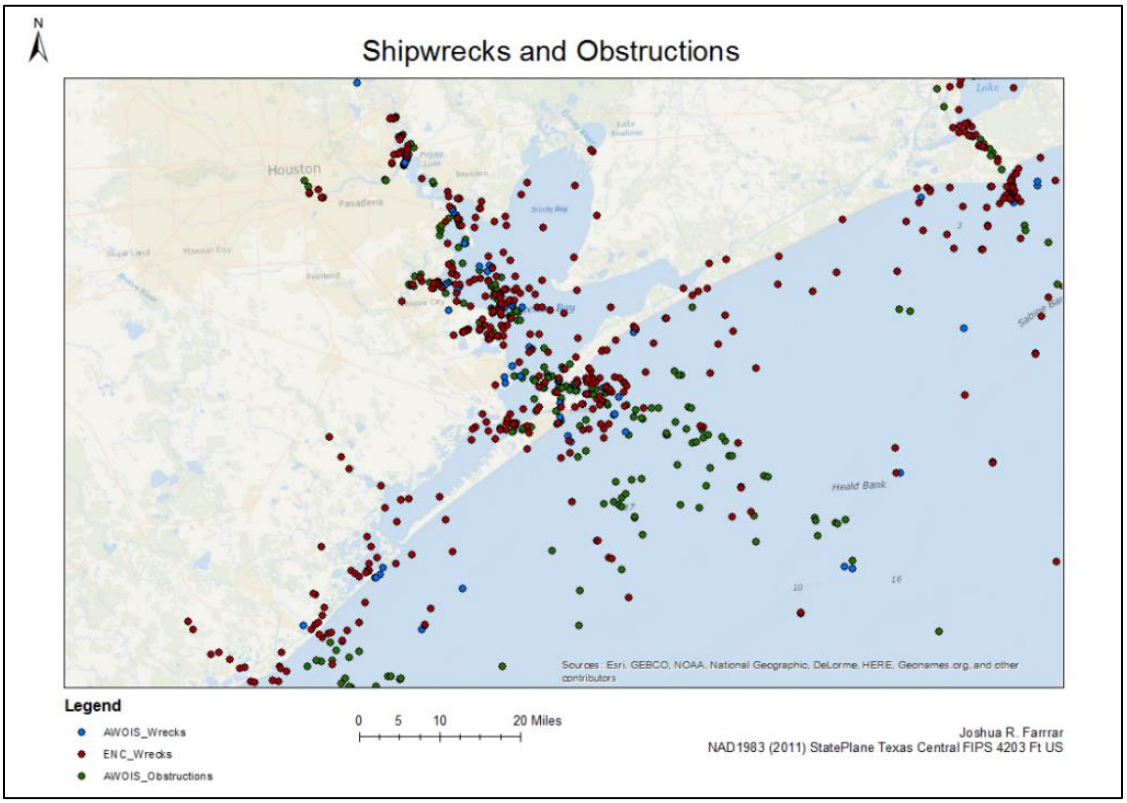


Figure 14 Map of public record shipwrecks and obstructions for the Houston and Galveston area from the NOAA website. Created in ArcGIS (National Oceanic and Atmospheric Administration, 2016). Map image courtesy the author.

The history of the fieldwork conducted in order to retrieve the Milam Street Artifacts (chapter 2) must be examined within the context of the nautical archaeological

fieldwork that has been completed in the Galveston-Houston Economic Zone. In order to meet this intent, I will here survey major nautical archaeological fieldwork that has taken place in this region.

Survey of Past Archaeology

Sporadic surveys of underwater cultural resources have taken place since 1980 in the Galveston area (figure 15). During 1980, the Underwater Archeological Research Section of the Texas Antiquities Committee leased a magnetometer, microwave radar, and computer-plotter positioning system, and completed a reconnaissance magnetometer survey around Galveston. In the 16.85 square mile area, 382 anomalies were recorded. 102 were from known pipelines, which left 280 anomalies for further investigation. No additional investigation of whether these anomalies represented cultural resources was undertaken at that time (Arnold III, 1987).

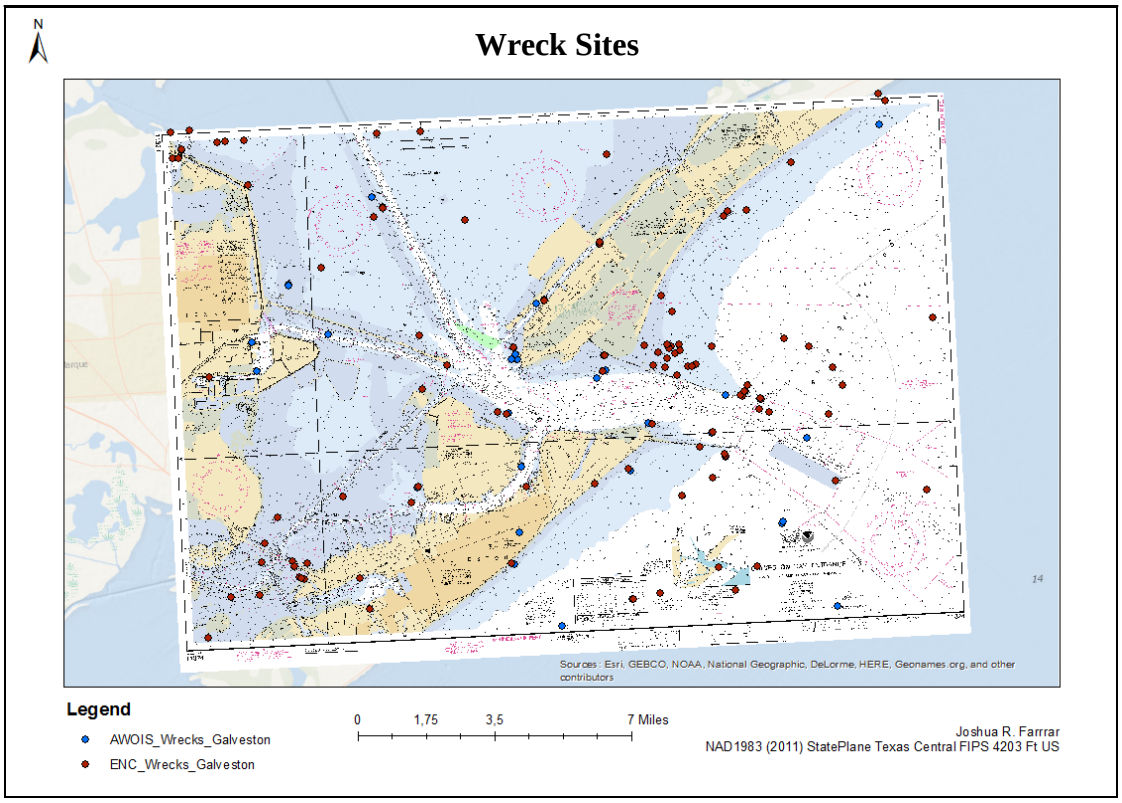


Figure 15 Georeferenced nautical chart and map of public record shipwrecks from the NOAA website for the immediate Galveston Island area. Created in ArcGIS (National Oceanic and Atmospheric Administration, 2016). Map image courtesy the author.

In 1992, Espey, Huston & Associates, Inc. conducted an archeological remote-sensing survey of the Houston-Galveston ship channel for the U.S. Army Corps of Engineers. The survey included use of side-scan sonar, magnetometer, and a sub-bottom profiler. Some 211 magnetic anomalies and 21 side-scan sonar targets were recorded. Ten localities were recommended to archeological divers, none of which were associated with the positions of known shipwrecks at the time (Hoyt, 1993).

North of Galveston, in 1993, Espey, Huston & Associates, Inc. completed a

magnetometer survey of the Sabine Pass Channel and USS *Clifton* (Hoyt, Schmidt, & Gearhart, 1994). Following this survey, in 1994 the Upper Texas Coast Underwater Archaeological Reconnaissance Project conducted a multi-part survey of the Texas coast between Rollover Pass and Sabine Pass. This survey consisted of historical records analysis and interviews, beach/land magnetometer survey, and marine magnetometer survey. Eleven sites were identified and marked for further study using a Differential Global Position System (DGPS) (Arnold III & Oertling, 1995).

South of Galveston, the Caney Creek Wreck, near Matagorda Bay, was surveyed during both the 1970's and 1980's. Fieldwork was started in 1993 by the Southwest Underwater Archaeological Society (SUAS) through permission of the Texas Historical Commission (THC). Fieldwork focused on mapping the 19th-century steamboat wreck and is detailed in the Master's thesis of David Hedrick (Hedrick, 1998).

In December 1997, the wreck of the Civil War blockade-runner *Denbigh* was identified on the north side of Bolivar Roads, near Fort Travis Park. It was rediscovered using 19th-century maps and nautical charts to guide a side-scan sonar survey that eventually found the wreck site. The *Denbigh*, one of the most successful blockade runners during the Civil War, was damaged and sunk by Union ships while it tried to sneak into Galveston at night in May 1865 (Arnold III, Oertling, & Hall, 1999; Ladras, 2016, pp. 49-64).

Following the initial rediscovery of the *Denbigh*, various surveys including fathometer, sub-bottom sonar, and magnetometer surveys were conducted. In 1998, divers began mapping the vessel's remains and conducting preliminary artifact

investigations (Arnold III, Oertling, & Hall, 1999). Fieldwork on the *Denbigh* continued from 1999 to 2001, while site analysis and artifact conservation lasted for years (Arnold III, Oertling, & Hall, 2001; Arnold III, Oertling, & Hall, 2001; Ladras, 2016, pp. 49-64).

In May 2016, J.B. Pelletier, Senior Nautical Archaeologist & Remote Sensing Specialist for URS Corporation, held a week-long seminar at Texas A&M University at Galveston (TAMUG). From 2012-2016, this semi-annual seminar utilized sidescan sonar and magnetometry to study a 19th-century shipwreck site in Galveston for the Texas Historical Commission (THC). No follow-on study was conducted.

Milam Street Bridge or Milam Street Bridges?

Moving on from surveying past archaeology in the greater region, specific background information about the main feature of the Milam Street Artifacts' archaeological site – the Milam Street Bridge – is necessary for this study. The current Milam Street Bridge in downtown Houston spans Buffalo Bayou (figure 16). Built in 1947, it is clearly not the same Milam Street Bridge that existed in 1865 (Department of Transportation, 2005; Aulbach, 2012, p. 295).

Figure 16 The Milam Street Bridge, Houston, Texas in 2015. Photo courtesy Linda Gorski.

Since the 1820's, plantation owners such as Jared Groce, an immigrant from Alabama to Brazos County, Texas, were exporting their cotton out of Texas (Aulbach, 2012, p. 292). During this time John R. Harris ran a steamboat packet barge line down Buffalo Bayou to Galveston. In order to reach Harris' barges near White Oak, Groce had to ford Buffalo Bayou near the site of the modern Milam Street Bridge (McAshan, 1985, pp. 3-4; Aulbach, 2012, p. 292; Writers' Program of the Works Projects Administration in the State of Texas, 1942, p. 139).

The importance of this literal rough road for trade continued during the 1830's. Soon after the founding of Houston in 1836, David Harrison was contracted to build a bridge over the bayou near the ford. A 300-foot long, $1,500 wooden bridge was completed in October 1838, marking the young town's first bridge over the Buffalo Bayou (Red, 1986, p. 7; Moore & Meyers, 2000; Aulbach, 2012, p. 293).

Soon after construction, the Milam Street Bridge was damaged by floodwaters in February 1839 (Aulbach, 2012, p. 293). Early in the 1840's a second bridge was constructed next to the first due to increased traffic (Aulbach, 2012, p. 293). This bridge, again made of wood, introduced concrete as a building material for the supports (Aulbach, 2012, p. 293). Unfortunately, this bridge was ruined by a flood in October to November 1843 (Aulbach, 2012, p. 293). In 1850, the remaining wooden Milam Street Bridge was replaced with an iron bridge (figure 17) that proved longer-lasting than its predecessors (Ziegler, 1938, p. 10; Koch, 1873; Aulbach, 2012, p. 293).

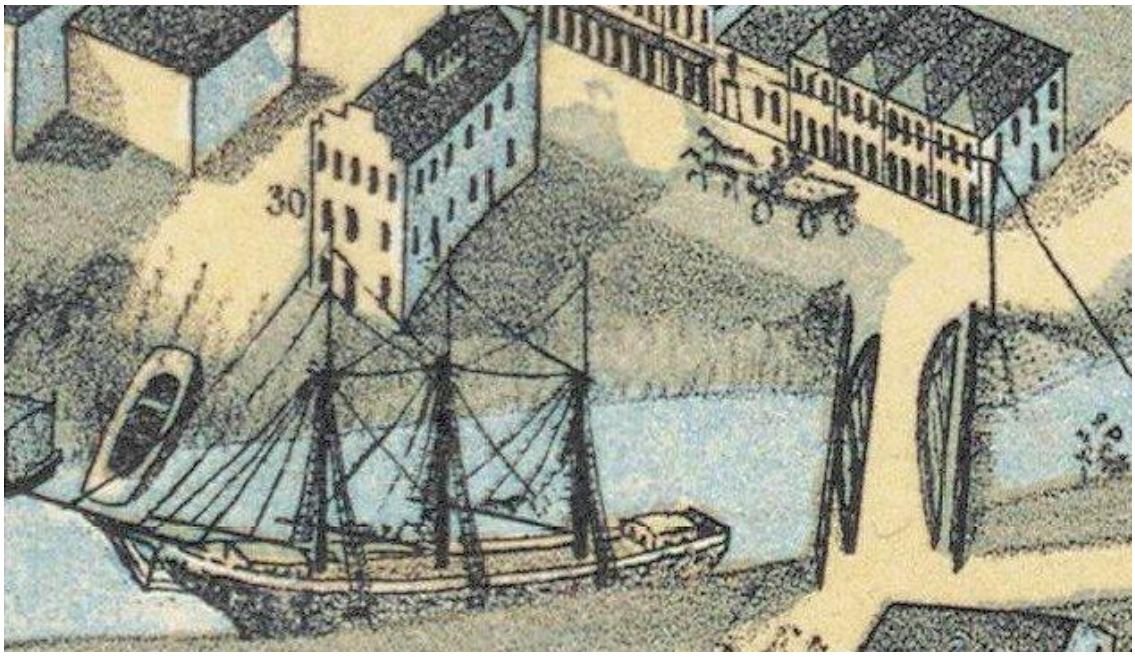


Figure 17 The Milam Street Bridge from Koch's Houston Bird's Eye Map, 1873. Screenshot by the author from an open source scan by the Houston Public Library (Koch, 1873). After the screenshot by Aulbach (Aulbach, 2010).

The "little iron" Milam Street Bridge from 1850 was replaced in 1924 by a concrete bridge which in turn was replaced by the modern Milam Street Bridge in 1947 (Department of Transportation, 2005; Civil War Blockade Runner Lies Near Heart of Houston, 1968, p. 10; Aulbach, 2012, p. 295). During the construction of the current Milam Street Bridge, 351 cannonballs were discovered in the mud of the bayou and disposed of at Fort Sam Houston in San Antonio (Department of Transportation, 2005; Civil War Blockade Runner Lies Near Heart of Houston, 1968, p. 10; Aulbach, 2012, p. 295). No study was conducted on these cannonballs, but their discovery in 1947 may have influenced Carroll Lewis when he searched for additional artifacts below the

Milam Street Bridge in 1968 – the topic of this dissertation (Lewis, 1968; Aulbach, 2012, pp. 295-296).

CHAPTER II

ARTIFACT HISTORY*

Chapter Introduction: Balancing Written Records and Artifact Analysis

How Historical Records Supplement Artifact Analysis Concerning Contextual Evidence

Given the contextualizing background information presented in chapter 1, it is necessary to pause at this juncture and provide a cautionary note before fully delving into the specific history of the Milam Street Artifacts. This message of forewarning necessarily entails introducing certain information, themes, and ideas that will be expounded upon later in the chapter.

In reconstructing the history of the Milam Street Artifacts, one immediately faces problems in forming the historical recreation. If one goes by the written accounts alone, one is unable to conclusively answer the question of why these items were in the bayou. Unfortunately, the artifact analysis also does not tie up all loose ends. How does one balance written records with artifact analysis?

When one has an artifact assemblage, one should first consider if all artifacts are contemporaneous. In this study, it became clear that certain items such as 20th-century pocket knives (figure 18) are not contemporary with other objects such as artillery shells, bayonets, and buttons that clearly date to the American Civil War (Crouch, 1995, pp. 9-

* Part of this chapter is reprinted with permission from The Milam Street Bridge Artifact Assemblage, by Farrar, J., 2017. *The Profile, Houston Archeological Society Newsletter*, 6(8), 6, Copyright 2017 Houston Archeological Society.

237; Lord, 1965, pp. 1-360; Bartleson Jr., 1972, pp. 1-161). Therefore some of the more-modern items can be removed from the historical artifact-based analysis of the site.

Figure 18 A Civil War-era pocket knife from the National Civil War Naval Museum. The pocket knives in the Milam Street Artifact Assemblage date to the 20th century (National Civil War Naval Museum, 2019). Photo courtesy the author.

One can then look for maker's-marks that may reveal the manufacturer and date of the artifacts. Moreover, books, journal articles, and museum exhibits may contain similar artifacts. In this study, many of the artifacts have been identified through visiting

Civil War museums (National Civil War Naval Museum, 2019; Manassas National Battlefield Park, 2018; Gettysburg National Military Park, 2017; The Wilderness Battlefield - Fredericksburg & Spotsylvania National Military Park, 2019; U.S. Army Quartermaster Museum, 2019; Pamplin Historical Park, 2018) and using reference works (Dickey & George, 1993, pp. 5, 11-501; Ripley, 1970, pp. 255-344). Once sure that an artifact dated to the Civil War-era, one can be more confident that it could be used as evidence in comparison with the historical records.

With many artifacts their manufacture location can be vastly different than the location where they were eventually lost or abandoned. In this case, many of the shells originated from France, Britain, or are even of Union make. This creates a network tying these artifacts to other locations and begs the question of how these artifacts ended up in Houston.

Without the written records, artifact-based interpretation of the Milam Street Artifacts could be summed up in a few sentences. With the addition of the written records, one is supplied with both more information and a greater chance at spreading *inaccurate* information. The historical records claim three different stories – the artifacts were thrown in the bayou (Digging Up Bombshells, 1906), sank on an ammunition barge (Relics of the Great War, 1886), or sank on a blockade runner (Lewis, 1968). The records also describe townspeople walking on the mud flats of the bayou during low tide events for 50 years after the war (Digging Up Bombshells, 1906; Relics of the Great War, 1886). During these low tides they would pick up artifacts and keep them as souvenirs. Some speak of seeing remnants of barges or ships (Young, 1913, pp. 131-133;

Sunken Confederate Ship File, 1969-72). As will be detailed in later sections, all of these stories could be correct if the artifacts came from three or more events, or none of these claims could be correct.

Research from various sources for this study has shown what written evidence and artifact evidence does exist. But it is equally important to speculate on what evidence *does not* exist. While the records reveal a ship named *Augusta* and supply barges (Buffalo Bayou's Famous 'Bottle Neck' Hasn't Been Cleaned Out Since 1866, 1936), the 1968 site report (Lewis, 1968) and a later 1999 dive on or near the original location (Hoyt, 1999) found no evidence of ship parts, or even wood pieces in general (Borgens, 2016). Moreover, I have been unable to find historical evidence of a blockade runner named *Augusta* making its way to downtown Houston (Lockett, 1998; Aulbach, 2012, pp. 296-298; Lockett, 1999; Price, 1951, pp. 262-291). This is strange as the Confederacy saw blockade running as legitimate business and so manifests, docking contracts, and insurance claims left a large paperwork trail for each ship (Nichols, 1964, pp. 70, 77, 82; Price, 1952, pp. 52-59, 154-161, 229-236).

Furthermore, analysis of the status of Buffalo Bayou and its narrow, poor navigability casts further doubt that a blockade runner would travel far up the bayou only to sink in the waterway. Furthermore, one must consider two five-foot deep sandbars in Galveston Bay that lay undredged during the Civil War. Only the shallowest-draught ships could cross. Most ocean-going ships had too deep a draught and were forced to go no further than the docks of Galveston. This reality was one of the main reasons that the Galveston-Houston packet steamships detailed in chapter 1 existed

in the first place. (Aulbach, 2012, pp. 294, 317-324; Hall, 2012, pp. 35-36, 112; Johnston, 1991, pp. 73, 82).

Historical records from the 19th century include more than just written documentation. Through map analysis one can look at the historical location of the Milam Street Bridge and compare it to the modern location of the bridge. As detailed in chapter 1, the current Milam Street Bridge is the third bridge to go by that name since the Civil War-era Milam Street Bridge (Aulbach, 2012, pp. 293, 295; Lockett, 1999; Sunken Confederate Ship File, 1969-72). Map analysis of the nearest contemporary map of Houston, one dating to 1869, shows that the Milam Street Bridge of the Civil War was in a different location than the current bridge (Wood, 1869).

Artifact analysis provides information about the artifacts themselves and their places of origin, but without historical records, usually only limited conclusions can be reached. Unfortunately, without historical context from the written records it is hard to tell if the artifact-based conclusions fit within the actual context of the time period itself (The Museum Handbook, 2019, pp. 1:12-1:13). Historical records give context, usage, and details to an artifact assemblage, but the wealth of information here creates conflicting accounts that interpretation of the remaining artifacts may be unable to correct or untangle.

I suggest that the most one can do is use artifacts to vet historical records as best as can be done, then report the competing historical accounts that fit with the artifacts while at the same time stating that one cannot decide between the accounts unless more information comes to light. Unfortunately in the case of this research, it is unclear if the

artifacts even stem from the same events that are elucidated in the historical records. The bridge has moved locations and remains of barges and ships are nowhere to be found since 1968 (Borgens, 2016; Hoyt, 1999). The historical records may be detailing events unrelated to these specific artifacts, but are now tied to the artifacts by the human desire to give the artifacts a more fulfilling backstory.

In the end, caution is warranted in balancing the information gained about the artifacts with the written evidence. But one should feel empowered to present well-researched, evidence-based conclusions, even if the conclusion is inconclusive – otherwise no one would be aware that these artifacts, nor the historical records, exist. There would be mere silence on the subject. This is the research path that I have chosen for this study.

From Whence These Artifacts

How Did These Artifacts Get to Texas?

The artifacts in the Milam Street Artifact Assemblage (figure 19) were manufactured in multiple places, but for the context of this examination, I will focus on the munitions as this has been the principle area of my research.

Figure 19 Artifacts from the Milam Street Bridge Artifact Assemblage. Photo courtesy Ginger Berni.

The munitions in the Milam Street Bridge Artifact Assemblage lack remnants of maker's marks. While we may never know how these specific shells got to Houston, we can trace their most likely routes. The Confederate shells were likely produced by Tredegar Iron Works or one of the various smaller iron works mostly located in Mississippi and Alabama, such as the one at Selma, Alabama (Ripley, 1970, pp. 356-365; Davis, 1961, pp. 26-33; Bell, 2003, pp. 3, 5-6, 9, 11-13, 20, 92, 153-154, 169, 176, 348, 379-387, 398, 400, 432-444; McKee & Mason Jr., 1980, pp. 92-159). These shells would have been shipped by a variety of railroads to New Orleans, where they would have been loaded on ships and sent to Galveston (Nichols, 1964, pp. 83-92). Once at

Galveston they would have been loaded on armed barges or packet steamships and brought up the river to the armory in Houston. Once New Orleans fell to Federal forces, munitions would be shipped overland from Louisiana or Arkansas to Texas (Ripley, 1970, pp. 255-344, 356-365; Hall, 2014, pp. 32-40, 65-101; Foote, 1958, pp. 111-113, 173, 255, 354, 360-361, 369-371, 403, 422, 796; Foote, 1963, pp. 5, 15, 53-556, 391-395, 403-405, 597, 600, 773, 895-895, 963).

The United States shells, including Parrott shells, were possibly captured during the engagements with Union forces at Galveston. The Confederate recapture of Galveston in 1863 provides a likely source as Houston was used as a storehouse for the defense of Galveston, attacks on Galveston, defense of Galveston again, and then defense from Galveston once it was recaptured by Union forces in 1865 (Cotham Jr., 1998, pp. 105-139; Wooster, 1995, pp. 43-46, 88-89, 95, 100, 106, 121-122, 128-130, 171-172, 182, 198, 203). Many engagements took place in Texas between Confederate forces and Union forces. The shells could have been captured near Brownsville, at Sabine Pass, or from the aborted Union Red River Campaign in northern Louisiana (Wooster, 1995, pp. 3, 87-92, 94-95, 111-113, 119-120, 128, 133-149, 181; Foote, 1974, pp. 25-77, 98, 126, 264, 320, 340, 374-376, 450). Possibly the shells were captured in another part of the Confederacy and shipped to Houston, but this is unlikely following the fall of Vicksburg and the loss of the Mississippi River in July 1863 (Foote, 1963, pp. 379-427, 606-614, 641).

The French and British artillery shells were most likely brought from Europe to Cuba or Mexico and then into Texas via blockade runners working out of Galveston.

Blockade runners would habitually slip out in the night, heading for Cuba, Mexico, or Belize. There they exchanged cotton for European-imported rifles, munitions, medicines, dresses, perfumes, and other expensive frivolities, and sailed back to Galveston. It is worth noting that most blockade runners were not large, ocean-going ships capable of transatlantic voyages. Generally, blockade runners had a small cargo capacity and relied on stealth and speed to elude the blockade (Hall, 2014, pp. 32-101; Watson, 1892, pp. xii-xiii; Nichols, 1964, pp. 70, 77, 82; Powell, Cordon, & Arnold III, 2012, pp. 67-81; Block, 1997).

For most of the war, blockade runners actually had a high success rate – over 90 percent in the first two years, and over 60 percent in the last two years of the war – so the risk was well worth the profits (Still, 1983, pp. 38-45; McPherson, 1988, pp. 313-316, 369-373, 378-388).

Why Were These Artifacts in the Waters of Buffalo Bayou: Detailing the Three Theories

As was briefly mentioned in the first section of this chapter, there are three theories that have been proposed over the last 150 years to explain the presence of Confederate Civil War artifacts in Buffalo Bayou under Milam Street Bridge. Each will be examined in detail here.

Theory 1 – Thrown in the Bayou

The first theory is based off a newspaper report from the *Galveston Daily News* in 1886 (Relics of the Great War, 1886). This article describes how a strong Norther in

Galveston Bay led to an extreme low tide in Buffalo Bayou. Local Houstonites swarmed into the Bayou, picking up Confederate items as souvenirs. Two young men were even killed by an ammunition shell taken from the bayou when they tried to dismantle the fuse. Moreover, the article reports that Confederate troops removed the supplies from the Confederate Ordnance Department, stationed in a building leased to them by John Kennedy, and threw them in the Bayou from May 20th-23rd, 1865. A second source from 1913 expands on the story stating that soldiers raided the warehouse for supplies. After the looters vacated, Kennedy threw everything they left behind, including heavy ammunition, off the Milam Street Bridge into the bayou (Young, 1913, pp. 131-133).

Johnston (1991, pp. 63, 83) also supports that Kennedy was involved in the war effort and provides the address of the store that he leased to the Confederacy. She includes a small vignette on him in her book *Houston: The Unknown City 1836-1946* on page 63:

> The Confederacy leased John Kennedy's Trading Post for use as an ordnance department. In a singularly courteous tone, the ordnance officer ordered the people of Harris County to send him "all arms of every kind and description which can be conveniently spared." The building became an arsenal, filled with cannons, small arms, bombs, and ammunition, and was kept under heavy guard day and night (Johnston, 1991, p. 63).

Johnston continues on page 83:

> John Kennedy had leased his store at *813 Congress* to the Confederacy for an armory, but he kept his mill on the gully that later became Caroline Street. The mill ground meal for the army and the city throughout the Civil War. When he regained the use of his trading post on Congress, Kennedy was often seen walking from mill to store wearing a fine layer of corn meal dust (Johnston, 1991, p. 83).

Using historical maps and modern geographic information software, I examined the claim that Kennedy had a store at 813 Congress during the Civil War and that it was close enough to Milam Street Bridge for him to cart heavy objects such as cannon balls to the bridge in order to throw them in the bayou. Below (figure 20) is a modern map of downtown Houston taken from Google Maps. It shows where 813 Congress is today and the location of the *current* Milam Street Bridge.

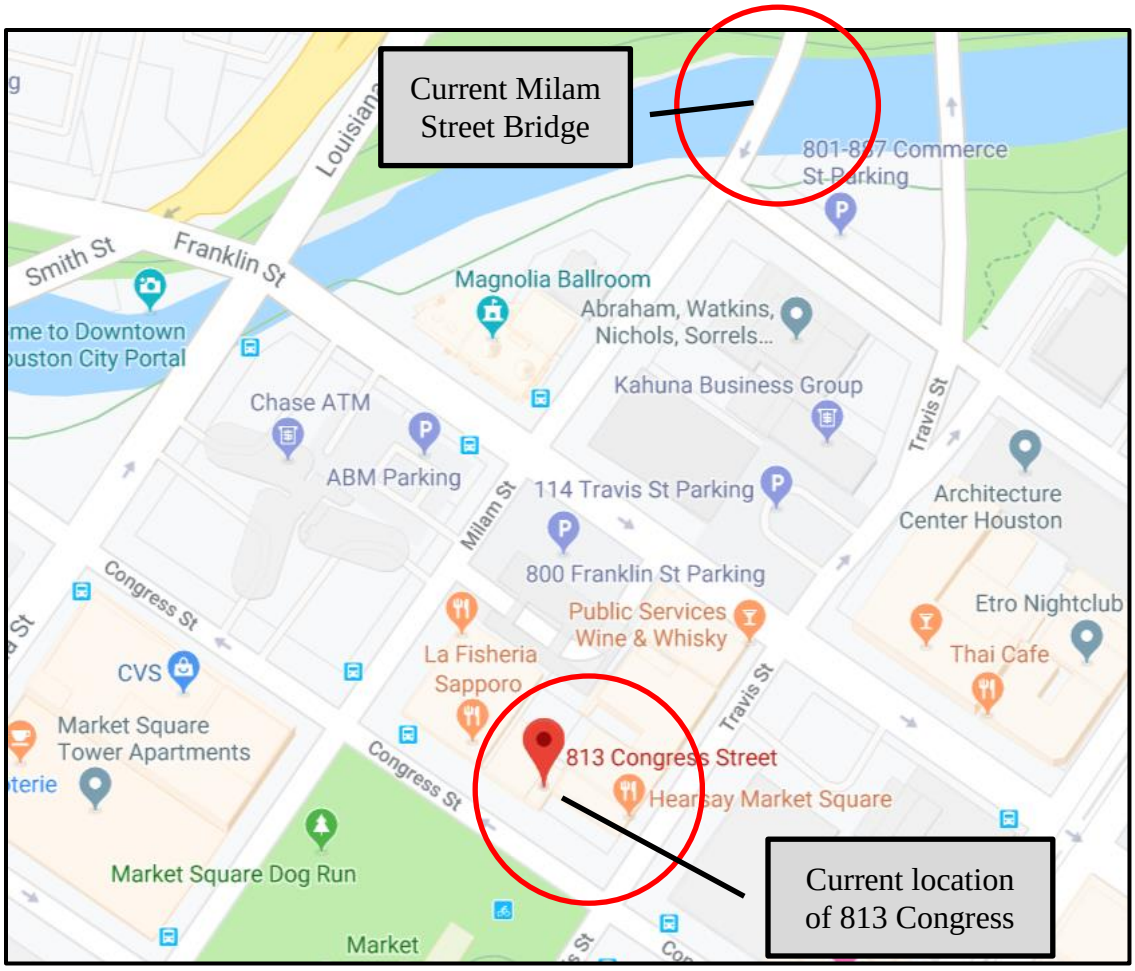


Figure 20 Modern Map of 813 Congress and Milam Street Bridge (Google Maps, 2019). Courtesy the author.

The total walk from modern 813 Congress to the Milam Street Bridge is only two-tenths of a mile – just over 1000 feet. Note, though, that the Milam Street Bridge is not the closest modern bridge to 813 Congress. One is left wondering about the location of 813 Congress in 1865 and the location of Milam Street Bridge and other bridges during the same time period.

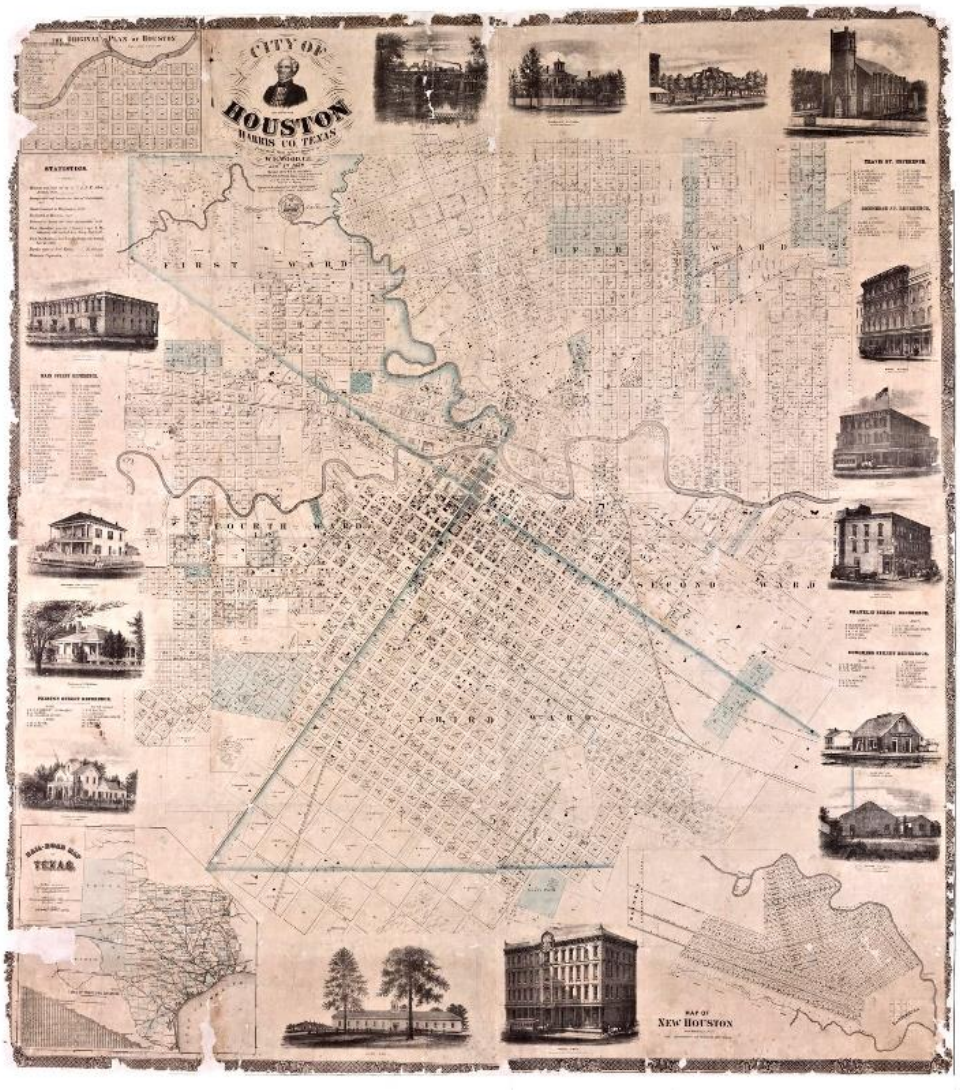


Figure 21 The 1869 Wood Map of Houston. It is the closest contemporary map of Houston to 1865 (Wood, 1869). Courtesy the Houston Public Library.

Enter the Wood *Map of the City of Houston, Harris Co., Texas* (figure 21) from 1869. This is the closest known contemporary map of Houston to 1865. There are multiple copies of this map in existence today. The best copy is currently found at the Houston Public Library through Rice University (Wood, 1869).

When the 1869 map is georeferenced onto 2019 imagery (Bing Maps, 2019) of modern Houston, the growth of the Houston metro area of the last 150 years is apparent (figure 22). The metropolis spreads out like a spider web surrounding the original 1869 downtown.

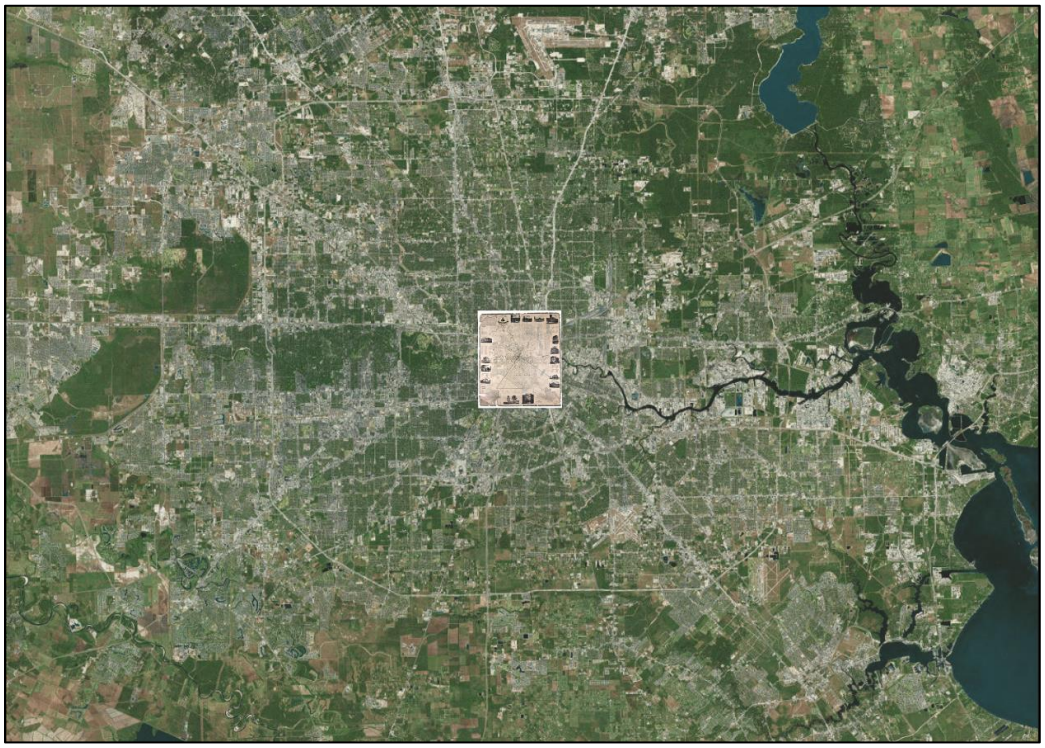


Figure 22 1869 Wood Houston Map (Wood, 1869) georeferenced to 2019 satellite imagery (Bing Maps, 2019) of the Houston metro area. Courtesy the author.

Zooming in further on the georeferenced 1869 map (figure 23), the relation of old Houston to the modern downtown becomes more apparent. Bayous crisscross the

map and imagery, showing that the landscape Houston straddled in 1869 remains in much the same orientation today (Wood, 1869; Bing Maps, 2019).

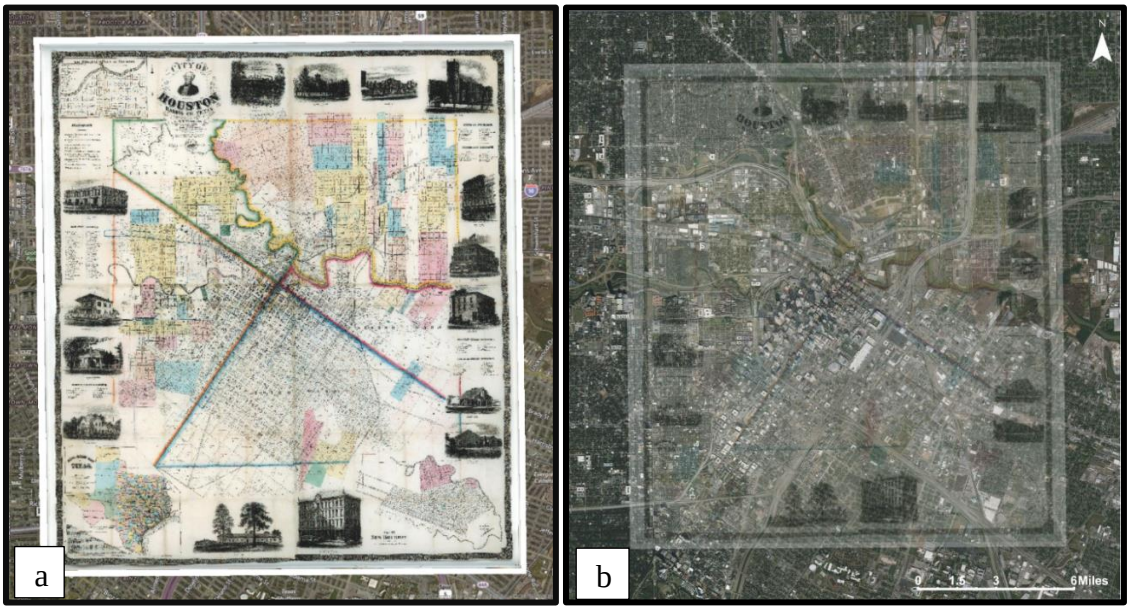


Figure 23 a. The 1869 Wood Map of Houston (Wood, 1869) georeferenced to 2019 satellite imagery (Bing Maps, 2019) of the Houston downtown. b. The 1869 map is set at 50 percent opacity. Courtesy the author.

The map shows the location of Kennedy's property at 813 Congress (figure 24). It is labeled *Kennedy* and lies approximately 1500 feet or .28 miles from the historic Milam Street Bridge (Wood, 1869; Bing Maps, 2019). I assume that Mr. Kennedy's property at *813 Congress* in 1869 is in the same location as 1865. The 1869 Milam Street Bridge is the same bridge as 1865, built in 1850 and dismantled in 1924. The historic Milam Street Bridge is clearly the only nearby bridge over the bayou in 1869.

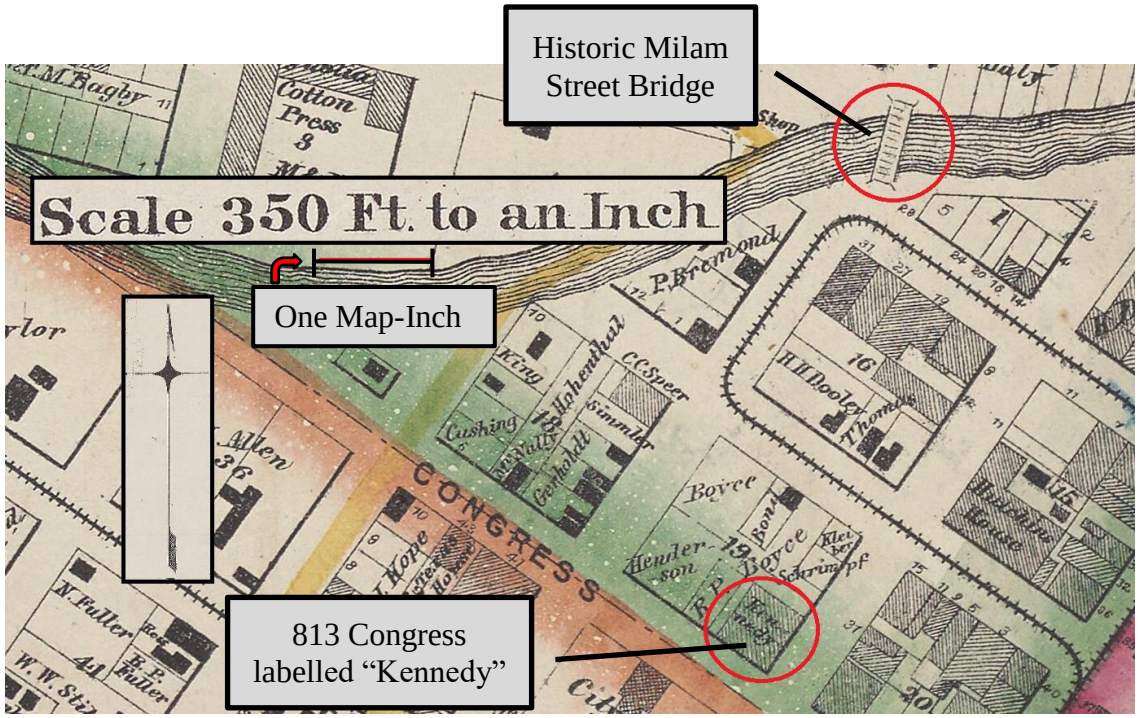


Figure 24 The 1869 Wood Map of Houston (Wood, 1869) georeferenced to 2019 satellite imagery (Bing Maps, 2019) of the Houston downtown. Courtesy the author.

When the 1869 map is superimposed over 2019 imagery of the Houston downtown (figure 25) streets and the bayou match up fairly well. The midpoint of the 1869 Milam Street Bridge is about 75 feet to the east of the modern Milam Street Bridge dating to 1947 (Aulbach, 2012, pp. 292-298; Bing Maps, 2019; Wood, 1869).

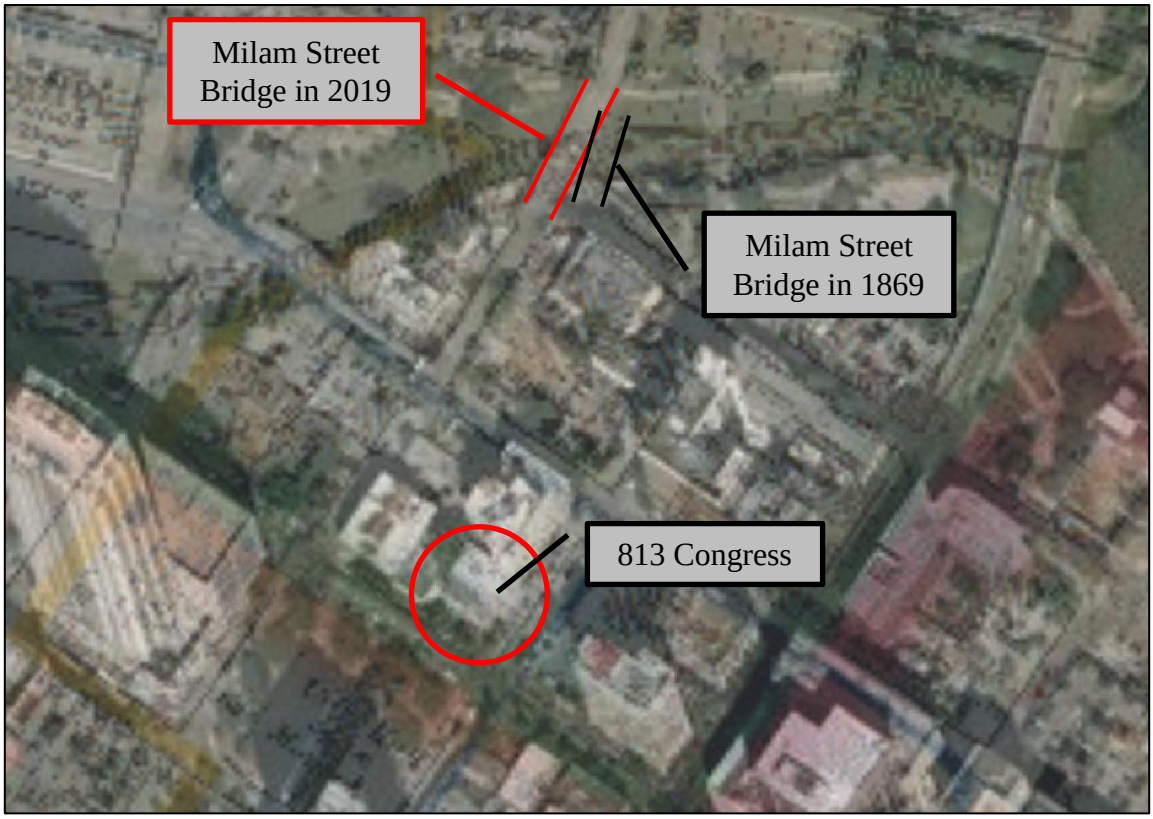


Figure 25 The 1869 Wood Map of Houston (Wood, 1869) georeferenced to 2019 satellite imagery (Bing Maps, 2019) of the Houston downtown near the Milam Street Bridge. The 1869 is set to 50 percent opacity. Courtesy the author.

Theory 2 – From a Barge

The second theory concerns armed supply barges that connected Houston and Galveston. In the aftermath of the war in June 1865, three armed supply barges docked in Houston were supposedly taken up to Milam Street Bridge and sunk in Buffalo Bayou (Aulbach, 2012, pp. 294-295).

Newspaper accounts (Digging Up Bombshells, 1906) and signed affidavits (Lockett, 1998) detailed events in 1906 when one, possibly two, barges were exposed

during a series of extreme low tides in the bayou. Three separate informants recalled going out into the bayou near Milam Street Bridge as kids and walking on the remains of a ship. Their recollections included mentioning ammunition, rifles, and various supplies sitting on the ship or strewn across the bayou bottom. Two separate accounts agree about seeing a small cannon attached to the front of the barge (Lockett, 1998).

According to newspaper accounts (Relics of the Great War, 1886; Digging Up Bombshells, 1906; Fatal Accident, 1867; Buffalo Bayou's Famous 'Bottle Neck' Hasn't Been Cleaned Out Since 1866, 1936) and a witness testimony (Lockett, 1998), from 1866 to 1906 multiple operations in Buffalo Bayou led to some of the shallower supply barge hulks being removed. At least one of the barges near Milam Street Bridge was removed with explosives in 1906 as it was deemed a hazard to navigation and this explosion could be responsible for the deposition of the artifacts where they were found in 1968 (Digging Up Bombshells, 1906; Buffalo Bayou's Famous 'Bottle Neck' Hasn't Been Cleaned Out Since 1866, 1936).

This theory, though supported by historical records, does beg the question: Why would supply barges be sunk without first offloading their cargo? This is especially puzzling since the cargo contained primed and charged artillery shells if all Civil War artifacts found in the bayou at Milam Street Bridge since 1865 stem from these supply barges.

Theory 3 – From a Blockade Runner

The third theory is supported by a single witness testimony (Lockett, 1998; Hoyt, 1999), and the Southwest Historical Exploration Society report from 1968 (Lewis, 1968) which does not state any sources for the information. This theory, which incidentally was detailed on the 1970 Texas Historical Commission Historical Marker at Milam Street Bridge (Sunken Confederate Ship File, 1969-72; Texas Historical Commission, 1970; Texas Historical Commission, 2015), claims that in 1865, the schooner blockade runner *Augusta* made it through the blockade and up to Houston, but sank from damages sustained in the effort, at dock near Milam Street Bridge (figure 26). A man who provided a signed affidavit in 1968 claims that his grandfather was the bow cannon operator on the blockade runner (Lockett, 1998).

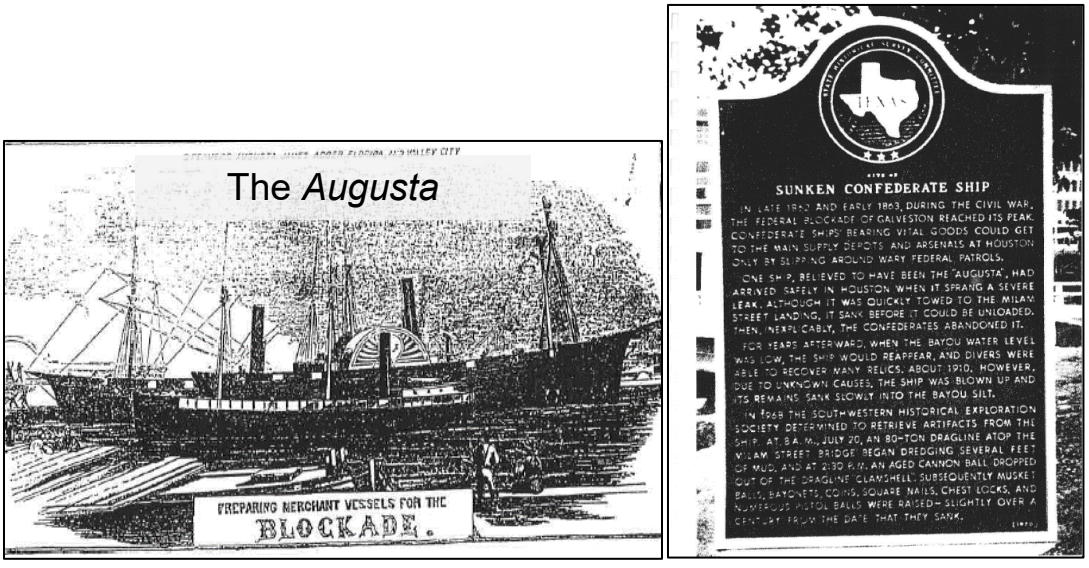


Figure 26 Left: Print of the *Augusta* during the Civil War. Right: 1970 Historical Marker at Milam Street Bridge detailing the supposed sinking of the *Augusta* (Sunken Confederate Ship File, 1969-72). Courtesy Amy Borgens.

This third theory seems unreliable because most blockade runners rarely, if ever, made the trip up Galveston Bay then through Buffalo Bayou to Houston. Though Galveston blockade runners were, depending on the ship, generally smaller, shallow-draught constructions, most were still oceangoing to a certain extent. As mentioned in the introduction of this chapter, the draught needed for even a coastal vessel often limited its ability to cross sandbars in Galveston Bay, at both Red Fish Reef and Morgan's Point Beach. Water depths at these locations were only about five feet, sometimes less, until the sandbars were dredged after the war. Hence the need for flat-bottomed packet steamships and supply barges to ferry passengers and supplies between Galveston and Houston (Hall, 2014, pp. 83-101; Hall, 2012, p. 82). This also highlights the importance of river improvement budgets for dredging, as detailed in chapter 1.

In small defense of the blockade runner theory, Allen's Landing (where White Oak Bayou runs into Buffalo Bayou) lay only two blocks from Milam Street Bridge. Serving as Houston's "port" on the bayou at Main Street, Allen's Landing was capable of turning around even 90-foot side-paddle steamers. If a blockade runner was capable of crossing the sandbars in Galveston Bay, returning from Houston through the narrow bayou would likely be possible since the ship would not have to make the trip stern-first (Hall, 2014, pp. 83-101; Hall, 2012, p. 82; Aulbach, 2012, pp. 317-325).

One must also ask: If the blockade runner was so damaged it was going to sink, why did it not stop for repair in Galveston instead of making the dangerous trek over sandbars and through the narrow bayou to Houston? Possibly Galveston was already recaptured by this point in the war (the affidavit does not supply a specific date in 1865

for the sinking of *Augusta*), but even then there is no record of a blockade runner *Augusta* in Texas during the Civil War (Lockett, 1998). Also it seems unlikely that a blockade runner would sink in shallow water and not be salvaged (Borgens, 2016).

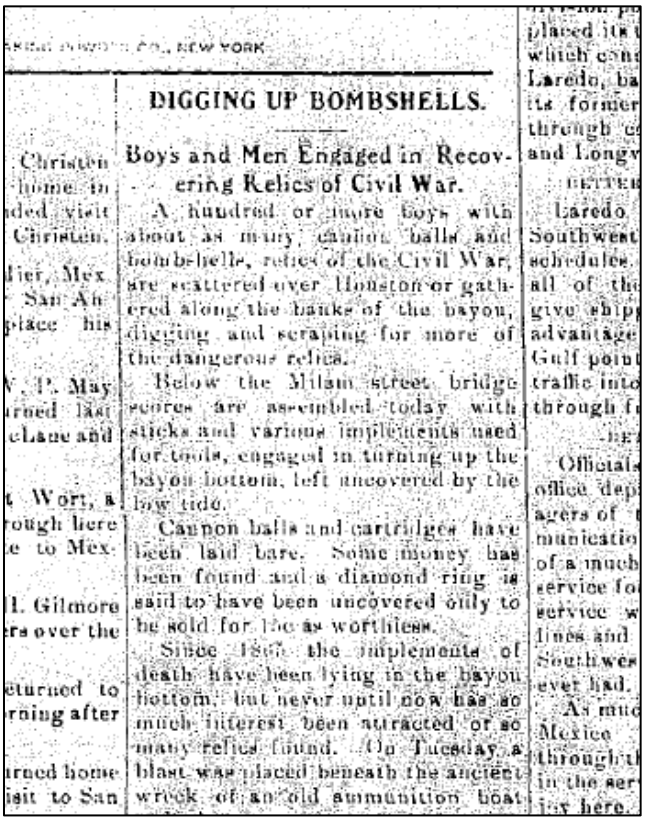
Furthermore, the only blockade runner bearing the name *Augusta* recorded in the Gulf of Mexico during the war was captured on January 12th, 1865, off the coast of Cedar Keys, Florida (Price, 1952, p. 234). A 55-ton schooner with a 6-man crew, this *Augusta* has no known connection to Galveston or Houston (Price, 1951, pp. 262-291; Price, 1952, pp. 52-59, 154-161, 229-236).

103 Years in the Bayou

However it happened, during or soon after the Civil War Confederate supplies ended up in Buffalo Bayou, near or under the Milam Street Bridge. For 103 years these artifacts sat in the bayou, but their effect on Houston and its residents was not complete. The artifacts continued to live on in the popular imagination of the city.

Each time a low tide event took place in the bayou, citizens of Houston would scramble out into the mud, searching for a Civil War souvenir (Aulbach, 2012, pp. 294-298). When the Milam Street Bridge needed to be rebuilt, or the waterway expanded, Civil War artifacts would be uncovered during the project (Aulbach, 2012, pp. 294-298). One hundred years of newspaper articles include news of the Civil War artifacts in the bayou (figure 27) (Relics of the Great War, 1886; Digging Up Bombshells, 1906; Fatal Accident, 1867; Buffalo Bayou's Famous 'Bottle Neck' Hasn't Been Cleaned Out Since 1866, 1936; Digging Up Bombshells, 1906; Walker, 1896; Confederate Ship Believed

Sunk: Civil War Secrets in Muck of Buffalo Bayou, 1968; Houston Local Items, 1877; 'Live' Confederate Cannonballs Found, 1968; Hendricks, 1943) and many histories and memoirs of the era feature them prominently (Aulbach, 2012, pp. 292-298; Aulbach, 2010; Writers' Program of the Works Projects Administration in the State of Texas, 1942; Young, 1913, pp. 131-133; Ziegler, 1938; Red, 1986; McComb, 1981).



DIGGING UP BOMBSHELLS.

Boys and Men Engaged in Recovering Relics of Civil War.

A hundred or more boys with about as many cannon balls and bombshells, relics of the Civil War, are scattered over Houston or gathered along the banks of the bayou, digging and scraping for more of the dangerous relics.

Below the Milam street bridge scores are assembled today with sticks and various implements used for tools, engaged in turning up the bayou bottom, left uncovered by the low tide.

Cannon balls and cartridges have been laid bare. Some money has been found and a diamond ring is said to have been uncovered only to be sold for 10c as worthless.

Since 1865 the implements of death have been lying in the bayou bottom, but never until now has so much interest been attracted or so many relics found. On Tuesday a blast was placed beneath the ancient wreck of an old ammunition boat

Figure 27 1906 Digging Up Bombshells, article in the *Laredo Times* (Digging Up Bombshells, 1906).

The 1968 Excavation

After gathering sworn statements by three Houston residents as anecdotal proof of a possible shipwreck near Milam Street Bridge in Buffalo Bayou, on July 20, 1968, the Southwestern Historical Exploration Society (SHES) conducted an artifact recovery with an 80-ton dragline crane off of Milam Street Bridge (Lewis, 1968; Confederate Ship Believed Sunk: Civil War Secrets in Muck of Buffalo Bayou, 1968). An initial project report was written up by the SHES, detailing the finds of the dragline. The report claims that over 1000 artifacts (figure 28) were recovered and were listed as follows (Lewis, 1968):

- 3 Parrott cannon projectiles, Confederate manufacture
- 2 3-inch Blakely cannon projectiles (one with lead sabot and one with no sabot, English manufacture
- 1 7-grooved Blakely cannon projectile
- 3 12-pound fused round cannon balls
- 1 12-pound Borman fused cannon ball
- 6 6-pound solid iron cannon balls
- 1 Canister complete with ball load
- 3 Double based minie balls
- 1 Wood-based minie ball
- 1 Williams wiper minie ball
- 1 Plain minie ball (no grease rings)
- 10-inch brass naval ordnance cannon fuse
- 3 Blakely brass nipple fuses
- Friction primer
- Pistol balls, 28 caliber
- Pistol balls, 31 caliber
- Pistol balls, 36 caliber
- Pistol balls, 44 caliber
- Rifle balls, 50 caliber
- Rifle balls, 58 caliber
- Rifle balls, 69 caliber
- Musket and/or shrapnel balls, 69 caliber
- Enfield Bayonet

- Musket wrench
- Grape shot
- Rifle barrel (octagonal, 36 caliber with front sight still affixed)
- 1854 half dimes
- 1861 half dollars
- 1863 half dime
- 1850 penny
- Brass military buttons
- Miscellaneous pocket knives
- Belaying pin
- Chest locks
- Keys
- Square nails and spikes

Other items not related to the Civil War period were also uncovered:

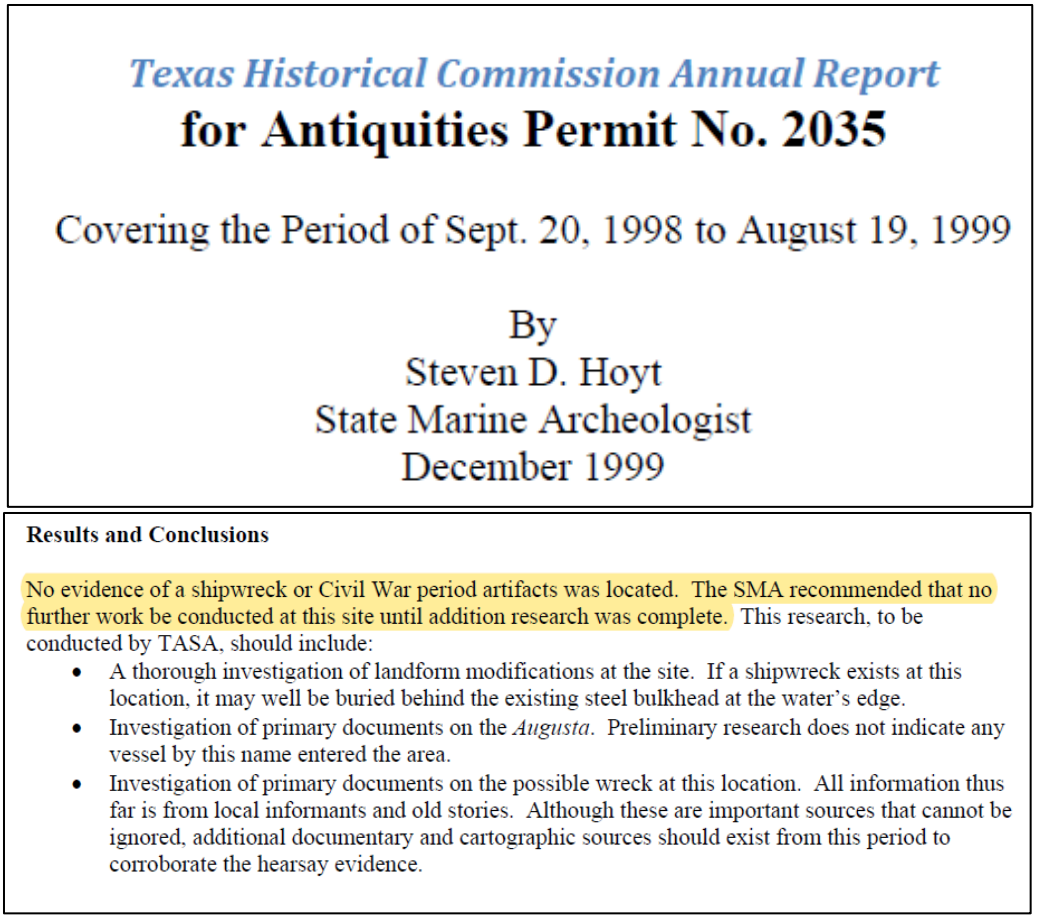
- Brass ‘Texas’ button (5/8-inch diameter), horseshoes, double-edged knives, Pocket knives, old bottles, spoon, miscellaneous coins

Figure 28 Assortment of various Milam Street artifacts as found in storage. Photos courtesy Linda Gorski.

It should be noted that few of these artifacts are rare or particularly monetarily valuable on their own. Furthermore, there are other hodgepodge collections of Civil War artifacts in Texas (Berni, 2018; Ahlstrom, 2008, pp. 1-560). The primary significance of the Milam Street Artifacts stems from their location in Houston and their longtime effect on the city. From abandonment in the bayou, to low tide events and barge clearings, to excavations and exhibits – the Milam Street Artifacts are representative of a continuing relationship between certain Houstonians and Buffalo Bayou Civil War artifacts that is ingrained in local urban legend (Berni, 2018).

1999 Attempt to Find a Ship

In 1999, under Antiquities Permit No. 2035, the Texas Historical Commission (THC) and the Texas Archeological Studies Association (TASA) sent one diver into Buffalo Bayou at Milam Street Bridge to look for more Civil War evidence at and around the site of the 1968 excavation (figure 29). The diver conducted two dives with surface supplied air, totaling 1.5 hours, to search for remains of a shipwreck. The diver did not discover any remains, though visibility was less than three feet (Hoyt, 1999).



Texas Historical Commission Annual Report

for Antiquities Permit No. 2035

Covering the Period of Sept. 20, 1998 to August 19, 1999

By
Steven D. Hoyt
State Marine Archeologist
December 1999

Results and Conclusions

No evidence of a shipwreck or Civil War period artifacts was located. The SMA recommended that no further work be conducted at this site until addition research was complete. This research, to be conducted by TASA, should include:

- A thorough investigation of landform modifications at the site. If a shipwreck exists at this location, it may well be buried behind the existing steel bulkhead at the water's edge.
- Investigation of primary documents on the *Augusta*. Preliminary research does not indicate any vessel by this name entered the area.
- Investigation of primary documents on the possible wreck at this location. All information thus far is from local informants and old stories. Although these are important sources that cannot be ignored, additional documentary and cartographic sources should exist from this period to corroborate the hearsay evidence.

Figure 29 Texas Historical Commission Annual Report detailing diving operations in search of a shipwreck at the Milam Shreet Bridge in 1999 (Hoyt, 1999).

Given the Available Evidence What Most-Likely Happened

Evaluating these possibilities depends partly on Louis Aulbach's authoritative book on Houston entitled *Buffalo Bayou: An Echo of Houston's Wilderness Beginnings* (Aulbach, 2012, pp. 276, 279, 292-298). While my conclusions agree with him on most points, his book was published in 2012 without the benefit of artifact analysis. In this next section I will transliterate his well-informed historical reconstruction of the events

that led to the Milam Street Artifact Assemblage, detailing areas of disagreement in light of new evidence or a reinterpretation of the existing evidence.

In 1842, an Irishman named John Kennedy came to Houston and started a bakery. Kennedy did well in business. He expanded his holdings and in the late 1840's bought a trading post, a brick two-story building at 813 Congress. He renamed it the Kennedy Trading Post. Kennedy was known as a devout Catholic. (Texas Historical Commission, 2015; Justman, 1974, p. 53; Johnston, 1991, pp. 63, 83; Russell, 1981, p. 17; Aulbach, 2012, p. 293)

By the eve of the Civil War in 1860, Kennedy had built a flour mill at the corner of Congress and modern Caroline Street (known as a drainage ditch called Dry Gully at the time). Kennedy also built a three-story building named the Kennedy Building at 220 Travis Street and Congress Avenue. This building was actually right next to the Kennedy Trading Post at 813 Congress. The Kennedy Trading Post opened towards Congress and thus its address was 813 Congress while the Kennedy Building opened towards Travis Street and thus its address was 220 Travis. The 1869 Wood map of Houston does not distinguish between the two buildings and simply labels the corner plot that the buildings occupied as *Kennedy* (McComb, 1981, p. 17; Writers' Program of the Works Projects Administration in the State of Texas, 1942, p. 74; Aulbach, 2012, pp. 293-294; Wood, 1869; Johnston, 1991, pp. 63, 83).

Sources diverge on which building – 813 Congress or 220 Travis – Kennedy rented to the Confederate Ordnance Department in 1862 for use as an armory. While Aulbach sides with sources that state it was the Kennedy Building at 220 Travis, I

personally side with sources that claim it was the Kennedy Trading Post at 813 Congress. One defense mentioned in newspaper articles for why Kennedy threw ordnance in the bayou at the end of the war is that he wanted to reopen his store. This makes most sense if the ordnance was sitting in the trading post. It was possible that Kennedy leased both buildings to the Confederacy (McComb, 1981, p. 17; Writers' Program of the Works Projects Administration in the State of Texas, 1942, p. 74; Aulbach, 2012, pp. 293-294; Wood, 1869; Johnston, 1991, pp. 63, 83; Buffalo Bayou's Famous 'Bottle Neck' Hasn't Been Cleaned Out Since 1866, 1936).

No matter which side-by-side property is the proper one, the rest of the story is consistent between the source materials. After the surrender of Lee's forces at Appomattox in the East (figure 30), in April 1865 soldiers raided the Kennedy property on their way home, taking anything of value. The looting was so bad that Kennedy ordered his employees to pour water on the floors to try to keep the spilled gunpowder and munitions from burning down his shop. This harkens back to the Union capture of Brownsville detailed in chapter 1, when Confederate plundering during the retreat left the town in flames. After the looting of his property by soldiers and civilians alike, Kennedy disposed of the remaining items, including munitions, by dumping them off of the 1850 iron Milam Street Bridge and into Buffalo Bayou. Better in the bayou than in Kennedy's store where they could potentially burn down the town or draw unwanted Union attention when Houston was eventually occupied and placed under martial law (Walker, 1896, p. 9; Young, 1913, pp. 131-133; Aulbach, 2012, p. 294).

Figure 30 Top: Parlor of the McLean House, in the town of Appomatox Court House, Virginia where General Lee signed the surrender of his forces in April 1865. Bottom: The outide of the McLean House (Appomattox Court House National Historical Park, 2017). Photos courtesy the author.

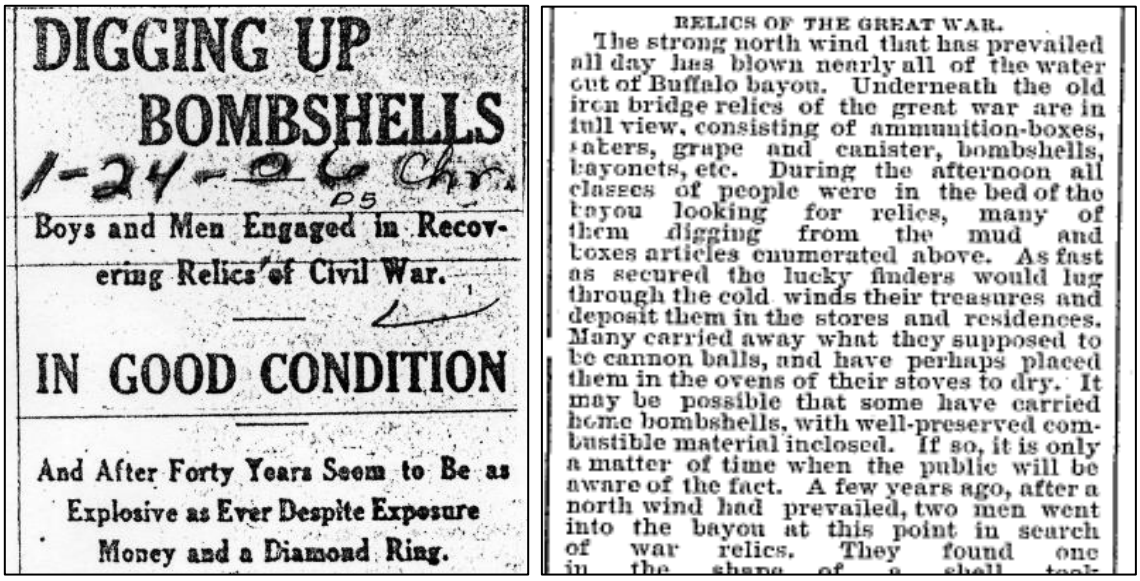
At this point it is clear that Kennedy disposed of Confederate Civil War items in Buffalo Bayou near Milam Street Bridge, but evidence remains for other ways that artifacts recovered in 1968 near the 1947 Milam Street Bridge could have ended up in the bayou. Throughout the war, blockade runners brought supplies into Galveston, while too large to make it past Milam Street, some did make their way partially up the bayou (Hall, 2014, pp. 32-53, 65-101; Aulbach, 2012, p. 294).

On June 2nd 1865, following the surrender of General Kirby Smith in the Trans-Mississippi, three Confederate supply barges were docked in Houston. Loaded with munitions and rifles, they were driven as far upstream as possible and then sunk when they reached the impassably low Milam Street Bridge. (Digging Up Bombshells, 1906; Aulbach, 2012, pp. 294-295; Foote, 1974, pp. 1019-1022)

The Confederate war material dumped in the bayou continued to affect the city for years to come. During low tide events, citizens of Houston could travel out into the mud of the bayou and sift through the debris. For example on February 10th, 1867 tin businessmen Henry Donnellan and A. C. Richer were killed by an accidental explosion of an artillery shell that they had recovered from the bayou on their way home from work. Police found a similar shell under the Milam Street Bridge on November 21, 1877, and claimed it was “similar to the one that killed Henry Donnellan." (Houston Local Items, 1877; Aulbach, 2012, pp. 294-295)

In January 1906, at least one of the old supply barges sunk in June 1865 was fully exposed by a low tide event (figure 31). The top had been visible for years, but now that the bottom was exposed the City of Houston allowed the Houston Yacht and Power

Boat Club to take advantage of the situation and clear the bayou. The Houston Yacht and Power Boat Club endeavored to clear the bayou near the Milam Street Bridge in order to create a harbor for pleasure craft and launches above Main Street (Digging Up Bombshells, 1906; Aulbach, 2012, p. 295).



DIGGING UP BOMBSHELLS

1-24-06 Chr.

Boys and Men Engaged in Recovering Relics of Civil War.

IN GOOD CONDITION

And After Forty Years Seem to Be as Explosive as Ever Despite Exposure Money and a Diamond Ring.

RELICS OF THE GREAT WAR.

The strong north wind that has prevailed all day has blown nearly all of the water out of Buffalo bayou. Underneath the old iron bridge relics of the great war are in full view, consisting of ammunition-boxes, sabers, grape and canister, bombshells, bayonets, etc. During the afternoon all classes of people were in the bed of the bayou looking for relics, many of them digging from the mud and boxes articles enumerated above. As fast as secured the lucky finders would lug through the cold winds their treasures and deposit them in the stores and residences. Many carried away what they supposed to be cannon balls, and have perhaps placed them in the ovens of their stoves to dry. It may be possible that some have carried home bombshells, with well-preserved combustible material inclosed. If so, it is only a matter of time when the public will be aware of the fact. A few years ago, after a north wind had prevailed, two men went into the bayou at this point in search of war relics. They found one in the shape of a shell took

Figure 31 Left: 1906 Digging Up Bombshells, article in the *Houston Chronicle* (Digging Up Bombshells, 1906). Right: 1886 Relics of the Great War, article in the *Galveston Daily News* (Relics of the Great War, 1886).

On January 30, 1906, dynamite was placed below the remains of the barge. While this was going on, the gathering crowd searched the exposed bottom of the bayou looking for souvenir Civil War relics. Many dangerous objects were found and the gunpowder was discovered to still be dry and quite deadly even after 40 years in the water. Other items included rifles, cartridges, money, and a diamond ring. Finally the

charge was lit, the barge blown into pieces, and the mayor and city commissioners declared the waterway free of the last remnants of the "three old hulks" sunk there in 1865. (Digging Up Bombshells, 1906; Aulbach, 2012, p. 295)

The explosive removal of the Civil War barge in 1906 stayed in the memory of the children present for the memorable day. In 1947, when the most-current Milam Street Bridge was built, 351 cannonballs were discovered during the construction and public interest was rekindled. Unfortunately no further record remains of these cannonballs (Department of Transportation, 2005; Civil War Blockade Runner Lies Near Heart of Houston, 1968; Aulbach, 2012, p. 295).

Eventually the oral history of the Milam Street Bridge site reached Carroll A. Lewis Jr, a real estate developer and treasure hunter with the Southwestern Historical Exploration Society. That group took soundings off the Milam Street Bridge in February 1968 looking for remaining Civil War artifacts. Lewis determined the artifacts to be about 5 feet under the mud. (Texas Historical Commission, 1970; Texas Historical Commission, 2015; Aulbach, 2012, pp. 295-297)

In summer 1968, Carroll Lewis prepared for an archaeological excavation near the Milam Street Bridge, relying on the eyewitness accounts of three Houstonians who had witnessed the 1906 barge extraction event (Texas Historical Commission, 1970; Texas Historical Commission, 2015; Aulbach, 2012, pp. 295-297).

John Gresham claimed that he boarded a ship with his grandfather John S. Taylor during the low tide event of 1906. He further claimed that his grandfather recognized the sunken ship as the blockade runner *Augusta*. Gresham recalled that Taylor served as

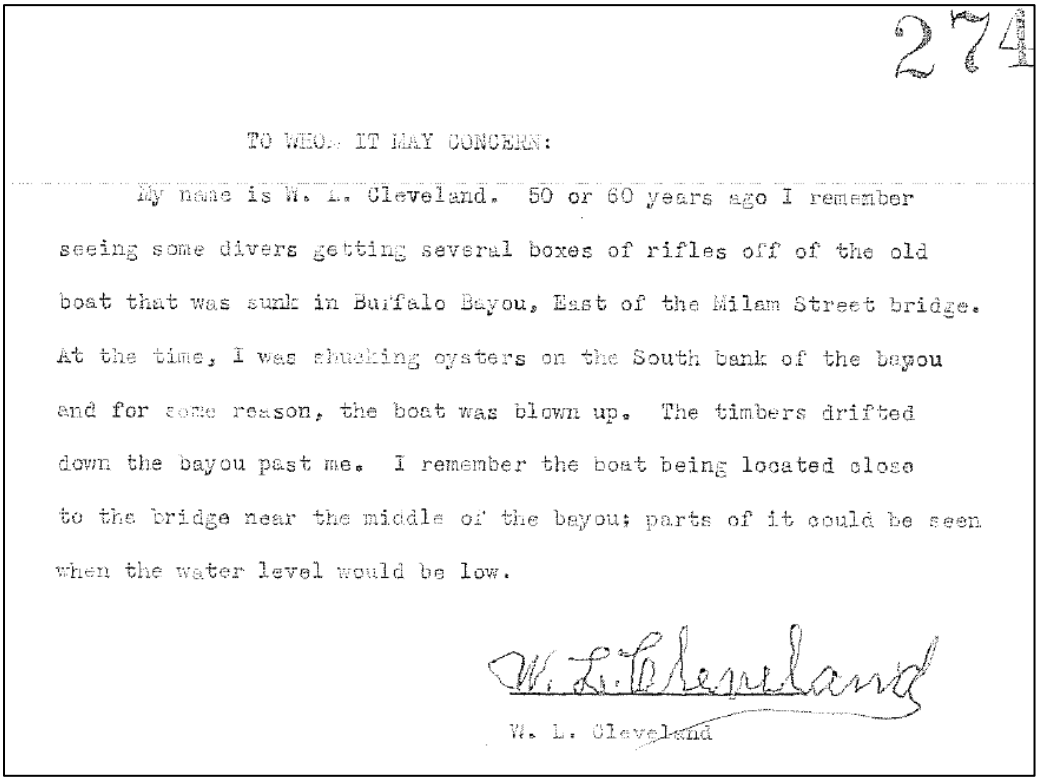
cannoneer on the 65 by 20-foot ship while part of Hood's Texas Brigade. Gresham recollected that the ship was thirty feet downstream of the bridge, its bow was pointed toward the middle of the bayou, the deck was missing but the ribs remained, the forward cabin of the ship was extant, and an iron cannon was still attached to the deck. Gresham further remembered collecting forty cannon balls that they turned into the army to dispose of at Fort Sam Houston (Civil War Blockade Runner Lies Near Heart of Houston, 1968; Sunken Confederate Ship File, 1969-72; Aulbach, 2012, pp. 295-297; Borgens, 2016; Hoyt, 1999).

John Gresham's testimony led to the 1970 historical marker at Milam Street Bridge. It states that the Civil War blockade runner *Augusta* sank there at the end of the Civil War (Texas Historical Commission, 1970). As was mentioned earlier in this chapter, no record of *Augusta* sailing to Houston or Galveston exists and remains of the ship have not been found (Price, 1951, pp. 262-291; Price, 1952, pp. 52-59, 154-161, 229-236; Lockett, 1998). Moreover, Gresham's testimony is called into further question as his grandfather, John S. Taylor, is not located on any rosters of Hood's Texas Brigade. The search for John S. Taylor incorporated all variations of the name and even included rosters for units in the brigade that hailed from states other than Texas (Simpson, 1977, pp. 1-614).

It may be that *Augusta* sank near the Milam Street Bridge, but it is more likely that what Gresham was actually seeing as a boy was one of the up to three sunken armed supply barges, which are detailed in historical records from throughout the second half of the 19th century (Civil War Blockade Runner Lies Near Heart of Houston, 1968;

Sunken Confederate Ship File, 1969-72; Aulbach, 2012, pp. 295-297; Borgens, 2016; Hoyt, 1999).

Felix Joe Richard also remembered a low tide event in Buffalo Bayou as a child. He recalled a 60 by 25-foot boat exposed from the mud with another boat deeply buried in mud across the bayou. Richard recalled boarding the exposed boat and seeing a cannon attached to the deck along with boxes of rifles, shells, and cannon balls (Civil War Blockade Runner Lies Near Heart of Houston, 1968; Sunken Confederate Ship File, 1969-72; Aulbach, 2012, pp. 295-297; Texas Historical Commission, 1970).



274

TO WHOM IT MAY CONCERN:

My name is W. L. Cleveland. 50 or 60 years ago I remember seeing some divers getting several boxes of rifles off of the old boat that was sunk in Buffalo Bayou, East of the Milam Street bridge. At the time, I was shucking oysters on the South bank of the bayou and for some reason, the boat was blown up. The timbers drifted down the bayou past me. I remember the boat being located close to the bridge near the middle of the bayou; parts of it could be seen when the water level would be low.

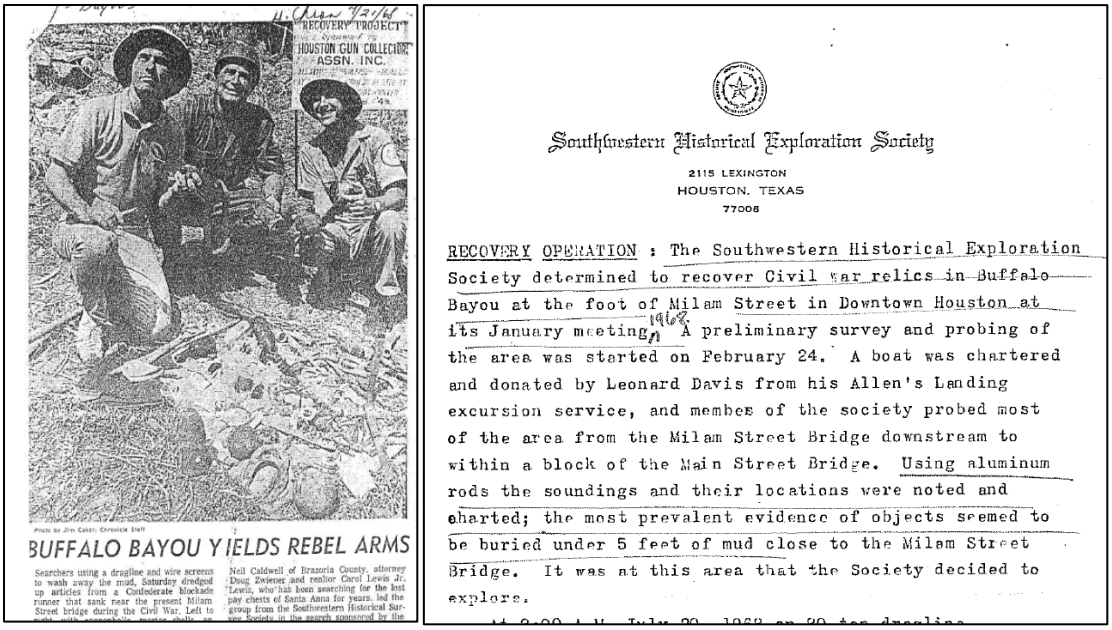
W. L. Cleveland

W. L. Cleveland

Figure 32 W. L. Cleveland's testimony (Sunken Confederate Ship File, 1969-72).

W. L. Cleveland simply recollected that a boat could be seen during low tide events when he was a boy (figure 32). He further remembered boxes of rifles being removed from the boat before it was destroyed in 1906 (Civil War Blockade Runner Lies Near Heart of Houston, 1968; Sunken Confederate Ship File, 1969-72; Aulbach, 2012, pp. 295-297; Texas Historical Commission, 1970).

Based on these accounts, at 8:00 am on July 20th, 1968, Carroll Lewis led the Southwestern Historical Exploration Society in a search for artifacts at Milam Street Bridge. The historical society contracted for a thirty-ton dragline to be placed on the Milam Street Bridge in order to dredge into the mud at the bottom of Buffalo Bayou. They began dredging near the southern bank working towards the center of the bayou (figure 33). For over six hours they found nothing, but at 2:30 pm, they recovered a Parrott shell ten feet out from the bridge in the center of the bayou. The rest of the over 1000 artifacts recovered soon followed (Civil War Blockade Runner Lies Near Heart of Houston, 1968; Sunken Confederate Ship File, 1969-72; Aulbach, 2012, p. 297; Texas Historical Commission, 1970; Texas Historical Commission, 2015).



RECOVERY PROJECT
HOUSTON GUN COLLECTORS ASSN. INC.

BUFFALO BAYOU YIELDS REBEL ARMS

Searchers using a dragline and wire screens to wash away the mud, Saturday dredged up articles from a Confederate blockade runner that sank near the present Milam Street bridge during the Civil War. Left to

Neil Caldwell of Brazoria County, attorney Doug Zwiener and realtor Carol Lewis Jr. 'Lewis, who has been searching for the lost pay chests of Santa Anna for years, led the group from the Southwestern Historical Survey Society in the search sponsored by the

Southwestern Historical Exploration Society

2115 LEXINGTON
HOUSTON, TEXAS
77006

RECOVERY OPERATION : The Southwestern Historical Exploration Society determined to recover Civil war relics in Buffalo Bayou at the foot of Milam Street in Downtown Houston at its January meeting, 1968. A preliminary survey and probing of the area was started on February 24. A boat was chartered and donated by Leonard Davis from his Allen's Landing excursion service, and member of the society probed most of the area from the Milam Street Bridge downstream to within a block of the Main Street Bridge. Using aluminum rods the soundings and their locations were noted and charted; the most prevalent evidence of objects seemed to be buried under 5 feet of mud close to the Milam Street Bridge. It was at this area that the Society decided to explore.

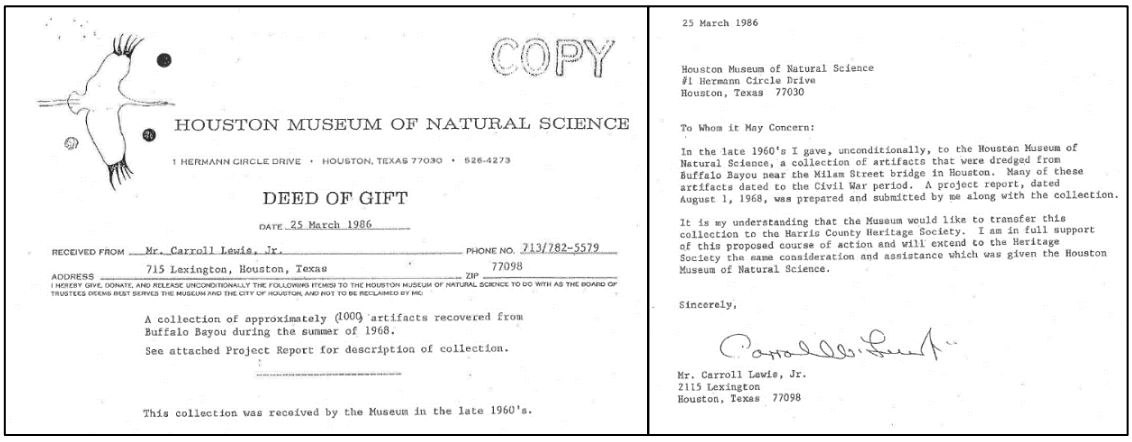
Figure 33 Left: *Houston Chronicle* article detailing the discovery of the Milam Street Artifact Assemblage (Buffalo Bayou Yields Rebel Arms, 1968). Right: The Southwestern Historical Exploration Society Report on the artifact recovery operation. The report is not very detailed (Sunken Confederate Ship File, 1969-72; Lewis, 1968).

This artifact dredging operation was funded by the Houston Antique Gun Collectors Association for exhibition at their annual meeting on August 4, 1968. This exhibit took place with further commitments to display the artifacts at the Houston Museum of Natural Science ('Live' Confederate Cannonballs Found, 1968; Lewis, 1968; Aulbach, 2012, p. 297). According to Louis Aulbach's book on Buffalo Bayou it was unknown if that artifacts had ever been transferred to the Museum of Natural Science. In fact, the artifacts were presumed lost and in the personal collections of the interested parties from 1968 (Aulbach, 2012, p. 297).

From Lost and Found to Lost Again, Found Again

Where Did the Milam Street Artifact Assemblage Go After 1968?

The Milam Street artifact assemblage went from making headlines in 1968 (Civil War Blockade Runner Lies Near Heart of Houston, 1968) to laying forgotten in file boxes. The artifacts dredged up in 1968 were soon forgotten and shunted around to various institutions. They sat in storage with the Houston Museum of Natural Science until 1986 when they were transferred to the Harris County Heritage Society (figure 34) (Jordan, 1986; Latimer, 1986; Lewis, 1986). Since then, the Harris County Heritage Society became the Heritage Society at Sam Houston Park.



COPY

HOUSTON MUSEUM OF NATURAL SCIENCE

1 HERMANN CIRCLE DRIVE · HOUSTON, TEXAS 77030 · 526-4273

DEED OF GIFT

DATE 25 March 1986

RECEIVED FROM Mr. Carroll Lewis, Jr. PHONE NO. 713/782-5579

ADDRESS 715 Lexington, Houston, Texas ZIP 77098

I HEREBY GIVE, DONATE, AND RELEASE UNCONDITIONALLY THE FOLLOWING ITEM(S) TO THE HOUSTON MUSEUM OF NATURAL SCIENCE TO DO WITH AS THE BOARD OF TRUSTEES DEEMS BEST SERVES THE MUSEUM AND THE CITY OF HOUSTON, AND NOT TO BE RECLAIMED BY ME

A collection of approximately (100) artifacts recovered from Buffalo Bayou during the summer of 1968.

See attached Project Report for description of collection.

This collection was received by the Museum in the late 1960's.

25 March 1986

Houston Museum of Natural Science
#1 Hermann Circle Drive
Houston, Texas 77030

To Whom it May Concern:

In the late 1960's I gave, unconditionally, to the Houston Museum of Natural Science, a collection of artifacts that were dredged from Buffalo Bayou near the Milam Street bridge in Houston. Many of these artifacts dated to the Civil War period. A project report, dated August 1, 1968, was prepared and submitted by me along with the collection.

It is my understanding that the Museum would like to transfer this collection to the Harris County Heritage Society. I am in full support of this proposed course of action and will extend to the Heritage Society the same consideration and assistance which was given the Houston Museum of Natural Science.

Sincerely,

Carroll Lewis, Jr.

Mr. Carroll Lewis, Jr.
2115 Lexington
Houston, Texas 77098

Figure 34 Left: Deed of Gift of the Milam Street Artifacts to the Houston Museum of Natural Science. Right: Carroll Lewis writes in support of the Deed of Gift in 1986 (Sunken Confederate Ship File, 1969-72).

The artifacts were rediscovered in 2015 at the Heritage Society in a historic home in Sam Houston Park. The property was undergoing repairs from damage sustained during Hurricane Ike in 2008. Furthermore, the Houston Archeological Society was looking for the Milam Street Artifacts. When a closet in the home was unlocked and the artifacts were found lying on the shelves in fifteen filing boxes. Not all of the original 1000 artifacts remain, but about 650 were found in the boxes (figure 35).

Figure 35 The author and fellow members of the Houston Archeological Society examine the Milam Street Artifact Assemblage in 2016. Photos courtesy Linda Gorski.

Are There More Artifacts Under the Milam Street Bridge?

After the initial dredging operation of 1968, Carroll Lewis remained convinced that many artifacts remained to be recovered (Lewis, 1968). The failure of the 1999 dive attempt to find any artifacts is not surprising given that the artifacts recovered in 1968 were found around five feet *under* the bottom mud. A single diver given only 1.5 hours and 3-foot visibility could not realistically have been expected to find anything of value.

According to Aulbach (2012, pp. 297-298), during March 2010 a north wind and extreme low tide created conditions in the bayou similar to those of 1906. No Civil War artifacts were visible laying on the bottom sediments of the bayou. Through personal correspondence with Aulbach, I also discovered that the Houston Archeological Society conducted a visual search of the bayou bottom when similar conditions presented themselves in 2018, yet still no artifacts were found. If artifacts exist they are likely deep within the sediments and will require heavy machinery to extract. (Civil War Blockade Runner Lies Near Heart of Houston, 1968; Sunken Confederate Ship File, 1969-72; Aulbach, 2012, pp. 297-298; Texas Historical Commission, 1970; Texas Historical Commission, 2015; Lewis, 1968).

CHAPTER III

CONSERVATION*

Why Conserve Old Artifacts?

Conservation of old artifacts is completed for a multitude of reasons. While one may argue that each of these reasons is small on its own and pales in comparison to the modern need for other subjects such as medicine or infrastructure, the reasons for artifact conservation are vast and varied, but those reasons are always challenged by habitual funding deficits (Malakoff, 2018, pp. 20-26).

First and foremost, most humans have an interest in the past and yearn to know from whence they came (Hinchman & Hinchman, 1997, pp. 1, 37, 54-55, 58, 264-265). If the popularity of non-fiction mass market literature is any indication, modern Americans have a remarkably large interest in history (Milliot, 2018).

Artifact conservation also allows us to gain a unique perspective on the problems of the present through an understanding of the past. Artifacts provide us a tangible appreciation for the genius (and folly) of the past through the material culture that was used by past generations (figure 36). Only through an understanding of past material culture can the present learner understand what items were important enough to past

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peoples to warrant the use of time and labor to create and use them (May & Jones, 2006, pp. 1-12).

Figure 36 General Ulysses S. Grant's saddle. Americans are willing to pay to see and to preserve this historically significant piece (U.S. Army Quartermaster Museum, 2019). Photo courtesy the author.

Past artifacts are also useful for sparking creativity in the present as past cultures had different goals, requirements, construction techniques, and utilized differing building materials (figure 37). It is striking that many conserved artifacts now reside in

art museums and are drawn, painted, and photographed for their beauty, skill of manufacture, or other qualities. Art is important to humans as evidenced in popular art forms including theater, dance, music, sculpture, illustration, abstraction, cinema, and literature. The past and the material culture of the past have served as the inspiration for a multitude of present art forms that bring laughter, joy, happiness, or intense emotion to billions of humans. Without preserved material culture, the accumulated imaginings of the past would disappear and society would be limited only to the imaginations of living generations (Janson & Janson, 2004, pp. 14, 19, 46, 60).

Figure 37 Civil War-era canteens – similar, but different from modern canteens (U.S. Army Quartermaster Museum, 2019). Photos courtesy the author.

Conserving artifacts creates an appreciation for the full spectrum of the human experience throughout history as humans survived with less-advanced technology that was designed to serve purposes different from those of today. Material culture supplemented by historical records helps create an understanding of present international variabilities through an understanding of the technological past that each civilization is built upon. In the spirit of Isaac Newton, we all stand on the shoulders of those who came before. Artifacts describe this passing on of accumulated material knowledge in ways that nothing else can (Fagan, 1996, pp. 1-844).

Conserved artifacts of war, torture, and enslavement allow humans to remember how such devices were employed, but also visually demonstrate atrocities committed in the past in an attempt to keep similar events from repeating in the future (figure 38) (Ha, 2012). Unfortunately, conserved artifacts of war, torture, and enslavement can sometimes provoke duplication allowing their continued use in the future.

For some reason, humans can be told something happened and shake it off until they see the evidence for themselves in the form of images and artifacts. In this same vein, conserved artifacts describe the innovations of the past and the changes that occurred affecting the workers, soldiers, families, etc. of the past. As the Greek philosopher Heraclitus supposedly said, “The only constant in life is change” (Mark, 2010). Studying old technology and its effect on the workers of the past helps humans understand that new technology has always had the potential to be threatening to old workers and ways of life. Moreover, technological innovation and adoption tends to

follow a regular, mathematical curve as it moves towards mass acceptance (Fagan, 1996, pp. 276-277, 697).

Figure 38 Civil War-era image of a young girl after the death of her father during the war (colorized) at the American Civil War Museum - Tredegar Iron Works (Tredegar Iron Works, 2019). Photo courtesy the author.

One of the most powerful feelings that humans experience is that of nostalgia (Wildschut, Sedikides, Arndt, & Routledge, 2006, pp. 975-976). The conservation of

artifacts allows for the preservation of what once was and feeds the feelings of nostalgia for past technology that once dominated our youth or that of our ancestors (figures 39-40) (Hull, 2001, pp. 50-51). This goes hand-in-hand with appreciation for past human technology as works of art, skill, and labor. One must also remember that conserved artifacts can, in some cases, be profitable in the form of educational information or entertainment at museums, exhibits, and documentaries (Muñoz-Rojas Oscarsson, 2013, pp. 478-494). Without the artifacts themselves, these past technological examples would not exist and the only monetary income that the archaeological community self-generates beyond mass market books and media would disappear.

Figure 39 Civil War-era dolls and other assorted household goods at the American Civil War Museum - Tredegar Iron Works (Tredegar Iron Works, 2019). Photo courtesy the author.

Figure 40 A Bible, thread, sugar, a child's shoes, and soap. Items from everyday life in the Confederacy during the war at the American Civil War Museum - Tredegar Iron Works (Tredegar Iron Works, 2019). Photo courtesy the author.

Conserved artifacts can also be used as tools to reinforce cultural narratives that work to unite groups, for better or worse, on local, regional, or even national levels. People long to rally around symbols of a collective, unified past (Muñoz-Rojas

Oscarsson, 2013, pp. 478-494; Boardman, 2002, pp. 1-240; Hodge, 2009, p. 488). While some groups may misuse the unifying power of conserved artifacts such as religious or nationalistic items, conserved artifacts are a powerful tool for unity (Todorova & Zsuzsa, 2012, pp. 61-62, 85, 96, 101, 108, 113, 119, 155, 167, 174, 190-191, 215, 233, 278).

Finally many humans desire to preserve and pass on knowledge, mostly in the form of material culture such as artifacts or writing, not exactly knowing what later generations will do with this knowledge, but knowing that if the knowledge is not passed on then it will be lost forever (Thompson, 2017, pp. 11, 24, 129, 222, 340). Humans are generally not comfortable with items, things, or ideas being lost forever and work to preserve knowledge of events, people, places, or objects that interest them (Msuya, 2007, pp. 1, 3-8). This connection may be based on familial ties, work relations, childhood events, preferred entertainment methods, past investment of time and labor, or connections to friendships, for examples (Guest, 2017, pp. 5-72, 347-436, 655-691). For these reasons and many others, we conserve old artifacts.

The Environmental Factors of Buffalo Bayou

Given that an artifact is worthy of protection, the environment that an artifact interacted with throughout its history has a profound effect of both its preservation and conservation planning. Therefore a short study of the environmental factors in Buffalo Bayou is necessary to understanding the preservation state and conservation of the Milam Street Artifacts.

The depositional environment of Buffalo Bayou near Milam Street Bridge has changed over the last 150 years. The bottom used to be a thick, spongey clay during the 1830's (Hall, 2012, pp. 11-38), but is now a more hard-packed clay (Hoyt, 1999). While the Milam Street Bridge was at the furthest historical navigable extremes of the waterway for large ship traffic during the Civil War (Aulbach, 2012, p. 294), the bayou has been heavily influenced over the last 150 years by dredging for flood drainage, construction to prevent erosion, demolition of old structures, and pollutant run-off (Hoyt, 1999; Aulbach, 2012, pp. 1-576). As of 1999, the bottom of Buffalo Bayou near Milam Street Bridge was decently hard-packed with a slightly acidic pH, and was covered in remnants and chunks of concrete from past bridge and retention siding demolition (Hoyt, 1999). The artifacts dredged up in 1968 were sitting more than five feet down in the sediments (Lewis, 1968).

Without human intervention and in between flood events, the undisturbed, thick sediments of the bayou were likely creating an anaerobic environment due to the large amount of particulate organic matter (POM) found in the bayou from the surrounding vegetation. As this POM covered the bottom, over time it would create sediment layers. Microscopic organisms would quickly use up sediment oxygen supplies as the organisms broke down the POM, using up oxygen during respiration (Fitzsimmons, 2018). Moreover, unlike Galveston Bay, Buffalo Bayou is a freshwater environment, meaning that it has low chlorides in the water. This was confirmed through testing chloride levels in the water baths in which artifacts had soaked in the lab.

The majority of the Milam Street Artifact Assemblage is iron, cupreous, and lead artifacts, though there is limited organic matter as well. The slightly acidic water conditions from pollutant run-off did not benefit the iron while it was in the water as pH from 6 to 7 is not a stable iron pH in most conditions (Pearson, 1987, pp. 76-80, 212; May & Jones, 2006, pp. 130-136, 314, 323-326; Cronyn, 1990, pp. 19-21, 37-38, 187-188; Hamilton, 1976, pp. 22-23). A pH of 6 to 7 is also unbeneficial for cupreous material in freshwater conditions while lead corrosion products are relatively inert and therefore not significantly pH dependent (Pearson, 1987, pp. 73, 80-84, 243-244; May & Jones, 2006, pp. 135-136; Cronyn, 1990, pp. 204, 217; Hamilton, 1976, pp. 68-69).

The lack of oxygen in the sediments and chlorides in the water created very favorable preservation conditions (Hamilton, 1999, pp. 4, 38, 40-43, 45-46, 49-50, 54, 57, 59-60, 65-72, 85; Pearson, 1987, pp. 74-75; May & Jones, 2006, pp. 28, 31, 273, 295, 325, 328 ; Cronyn, 1990, pp. 19, 24, 31, 35, 76, 171, 188, 194-195, 199, 218-219, 226). But it should be noted that, though as a riverine environment Buffalo Bayou tends to have lower levels of sulfate-reducing bacteria than sea water, sulfate-reducing bacteria are still present in a sediment environment. Sulfate-reducing bacteria contribute to oxidation, thereby metal corrosion, even in anaerobic conditions (Fors & Sandstrom, 2006, pp. 399-415; Hamilton, 1976, pp. 11-12; Hamilton, 1996, pp. 59-61).

Though it has been 50 years since the artifacts were lifted from the bayou, the artifacts are in fine condition. I posit that the lead and cupreous artifacts had a small oxidation layer form on their surfaces and were then protected by this oxidation layer and the lack of oxygen in the sediments while in the water (Fitzsimmons, 2018;

Hamilton, 1996, pp. 123-124). The iron artifacts had a small layer of ferrous oxidation appear on the surface but anaerobic conditions and low levels of sulfate-reducing bacteria kept this ferrous oxidation from further oxidizing to a ferric compound and breaking off through the different expansion coefficients of ferrous and ferric iron (Hamilton, 1999, pp. 42-43; Hamilton, 1976, pp. 11-13; Hamilton, 1996, pp. 54-62). Moreover, the lack of chlorides in the water saved the artifacts from destructive chloride crystallization over the last 50 years outside of the water (Pearson, 1987, pp. 68-89, 207-238, 243-245, 248-252; May & Jones, 2006, pp. 122-123, 132-135, 139-140, 144-145, 150, 154-155, 158, 311; Cronyn, 1990, pp. 171, 188, 194-195, 199, 218-219, 226; Hamilton, 1976, pp. 33-34).

The composite artifacts are mostly artillery shells that have iron and a cupreous metal (brass probably), and are well preserved, though the iron is less well-preserved than the iron in non-composite shells. The iron in these composite artillery shells likely served as a sacrificial anode as a galvanic cell electric field was created between the cupreous metal and the iron through the small, but non-zero amount of ions in the water of the bayou (Fitzsimmons, 2018; Pearson, 1987, p. 76; May & Jones, 2006, pp. 131-133; Hamilton, 1976, pp. 8-9; Hamilton, 1996, pp. 55-58).

Moreover, due to the low chloride levels in the freshwater environment of the bayou, the iron was not converted to ferrous or ferric chloride which, when exposed to oxygen and water, converts to hydrochloric acid. Iron thus did not convert to Fe_2O_3 from a ferrous state to a ferric oxide state, which causes the metal to expand to two times the

original values – flaking off and ruining the metal (Pearson, 1987, pp. 74-80; Hamilton, 1976, pp. 9-10; Hamilton, 1996, pp. 57, 61-62).

Concerning the few organic objects, the wood has preserved well since it was most likely in a low chloride, anaerobic environment for the 100 years underwater (Hamilton, 1996, pp. 32, 62).

Other factors that can affect artifact preservation include Ultraviolet (UV) light and physical agitation. UV light is high frequency, short wavelength electromagnetic radiation. In most artifact preservation situations, this radiation would be emitted from the sun. Water filters out radiation from the sun as one moves down through the water column, but this filtering is preferential towards low frequency, long wavelength radiation. Thus red light is filtered out first in the visible spectrum while blue and purple light travel the farthest. Blue light can travel hundreds of meters and UV is even shorter wavelength radiation than blue light so the Milam Street Artifacts lying multiple meters down in Buffalo Bayou would be exposed to a non-zero amount of UV radiation if on the sediment surface. Fortunately, the artifacts were buried in the sediments and therefore one can rule out UV radiation as having a negative effect on the artifacts while in the water (Pearson, 1987, pp. 268-269; May & Jones, 2006, pp. 15, 284, 287, 292; Cronyn, 1990, pp. 36-37; Fitzsimmons, 2018; Filippi, 2019).

Physical agitation may also have played some part in the preservation of the artifacts. This is mostly based on how quickly the artifacts were covered in sediment once in the bayou and if this was a permanent condition or if they became exposed outside of the sediments periodically due to variations in rainfall, current, building

projects, and tides. Visually, I do not see obvious evidence of scouring on the artifacts from repeated rubbing or erosion. Once again, this is likely because the artifacts were buried in the sediments for most of their time in the bayou (Fors, Jalilehvand, & Sandstrom, 2011, pp. 785-792).

Conservation of a Subset of the Milam Street Artifacts

Creating a Conservation Strategy

My conservation strategy was largely impacted by the fact that these artifacts came from a freshwater environment and were therefore impregnated with minimal amounts of chlorides. The well-preserved nature of the artifacts also allowed for the use of electrolytic reduction (electrolysis) for the iron and cupreous artifacts and Caley's Method for the lead artifacts as these techniques can sometimes be too vigorous for fragile items. It should be noted that lead does not have to be conserved in order to stabilize it, and that conservation of lead actually entails cleaning in order to expose detail or for aesthetics. Also, anything that can be conserved by Caley's Method can also be conserved by electrolysis (Hamilton, 1999, p. 86; Hamilton, 1976, pp. 8-16, 30-49, 57-60, 68-70; Hamilton, 1996, pp. 124, 126).

While conserving a subset of artifacts for the Heritage Society at Sam Houston Park, I made sure to store each artifact, conserved or non-conserved, in its own artifact bag with artifact tag. Artifacts of similar size and weight were stored together in labelled plastic containers with sealing lids and kept in temperature controlled (though not humidity controlled) areas out of direct sunlight.

In June 2017 I began work in Texas A&M University's Conservation Research Laboratory (figure 41) under the guidance of famed conservator Dr. Donny Hamilton, whose many projects include the centerpiece of the Texas State Museum in Austin, the French ship *La Belle*. The first set of fully conserved artifacts was transported to Houston in September for a museum exhibit at the Heritage Society at Sam Houston Park in May 2018 and was on display until August 2018.

Figure 41 The author working on the Milam Street Bridge Artifact Assemblage in the Conservation Research Laboratory at Texas A&M University. Photo courtesy the author.

Concerning Iron

Iron does not like to be a metal and is only stable in a ferric state (commonly known as rust) (Hamilton, 1999, pp. 40-43; Hamilton, 1976, p. 13; Hamilton, 1996, p. 61). If the ferric material is not removed from an iron artifact, the rust will continue to spread until the artifact is eventually destroyed (Hamilton, 1999, pp. 40-43; Hamilton, 1976, p. 13; Hamilton, 1996, p. 61). Iron artifacts need to be kept in an alkaline environment higher than a pH of 9 while the critical relative humidity for iron is 60-70 percent (Hamilton, 1999, p. 72; Cronyn, 1990, pp. 198, 201; Hamilton, 1976, pp. 21-24; Hamilton, 1996, p. 105). If humidity is below 60 percent, iron should not rust, however if chlorides are present (or another contaminant) this lowers the critical relative humidity. Iron should therefore ideally be kept at 65 degrees Fahrenheit and lower than 50 percent relative humidity (Hamilton, 1996, p. 105; Hamilton, 1976, pp. 21-24; Pearson, 1987, p. 269; May & Jones, 2006, pp. 135-136).

Iron can be cleaned a number of different ways. This includes chemical baths in aqueous solutions of compounds such as 10 percent oxalic acid, 10 percent phosphoric acid, EDTA-Na_2, Citric acid, or 10 percent phosphoric acid with 1 milliliter of photoflo and 1 gram thiourea (Hamilton, 1999, pp. 67-68; Hamilton, 1976, pp. 28-53; Hamilton, 1996, p. 96). While chemical baths can be effective, electrolytic reduction (ER) was used in this study to clean the iron artifacts (Pearson, 1987, pp. 223-227; May & Jones, 2006, pp. 139-158; Cronyn, 1990, pp. 174-175, 191-192; Hamilton, 1976, pp. 30-49).

There are three reasons one uses ER for the conservation of iron artifacts from a marine environment:

1) When using low current density, ER reduces corrosion products back to lower oxidation states. For iron, only ferrous, not ferric corrosion compounds can be reduced. Additionally these ferrous corrosion compounds can only be reduced back to magnetite, but this process is still useful as it preserves the original surface of the artifact. As the Milam Street Artifacts had been exposed to oxygen in the air for 50 years by the time of conservation, no ferrous material remained, and thus this step of low current density ER was unnecessary.

2) When using medium current density, ER is an efficient way of removing chlorides from metal. After testing, the Milam Street artifacts were found to have low chloride counts already rendering this step unnecessary as well.

3) When using the highest current density, ER is useful for mechanical cleaning of artifacts. This was the main purpose of using ER for conservation of the Milam Street Artifacts. If iron is in a ferric state then the ferric compounds need to be removed mechanically, chemically, or through electrolytic reduction. For this project ER was chosen (Pearson, 1987, pp. 223-227; May & Jones, 2006, pp. 150-154; Cronyn, 1990, pp. 174-175, 191-192; Hamilton, 1976, pp. 13, 30-49).

Electrolytic reduction requires a direct current supply capable of up to 150 amps at 6 volts. Additionally, the output voltage must be controllable over the entire range (Pearson, 1987, p. 225). Also needed are terminal wires with steel clips, anode material (such as ½ inch, 18-gauge expanded steel mesh or, if economically viable, stainless steel), electrolyte (usually 5-10 percent sodium carbonate solution or 2-5 percent sodium hydroxide solution for iron), vats (usually acid-resistant plastics such as polyvinyl

chloride (PVC) polypropylene (PP), or polyethylene (PE)), and an artifact (which acts as the cathode) (Pearson, 1987, pp. 223-227; May & Jones, 2006, pp. 150-154; Cronyn, 1990, pp. 174-175, 191-192; Hamilton, 1976, pp. 30-49).

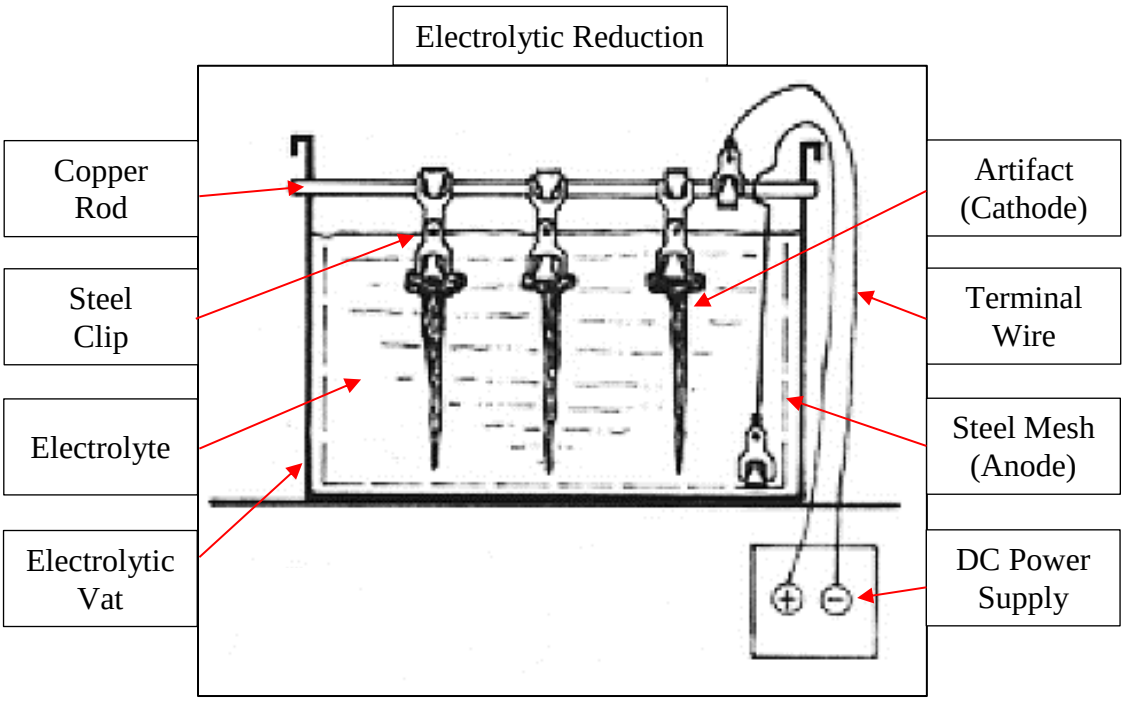


Figure 42 Electrolytic Reduction Setup used for conservation of choice Milam Street Artifacts. Modified from *Conservation of Metal Objects from Underwater Sites: A Study in Methods* (Hamilton, 1976, p. 36), annotations by the author.

For this study, the iron artifacts were first gently cleaned with water to remove surface dirt. The artifacts were then suspended from copper rods (figure 42) into a 2 percent solution of sodium hydroxide (NaOH) in a large electrolytic vat. By attaching the artifacts to the copper rods with electrically conductive material (various sized steel

alligator clips), the artifacts themselves became the cathodes. Expanded steel mesh anodes were placed around the artifacts, then the negative side terminal wire clips were attached to the copper rod holding the artifacts (cathode) while the positive side terminal wire clips were attached to the expanded steel mesh (anode). A direct current power supply ran 24-hours-a-day outputting 10 amps at 12 volts (Pearson, 1987, pp. 223-227; May & Jones, 2006, pp. 150-154; Cronyn, 1990, pp. 174-175; Hamilton, 1976, pp. 30-49).

The artifacts were left to sit in the electrolytic vat for lengths of time varying from 5 to 30 days. The point at which an artifact was deemed ready to be permanently removed from the electrolytic vat was determined by daily visual inspections of both the outside and inside surfaces of each artifact. These inspections were conducted to determine if the desired level of ER cleaning had been achieved – if loose corrosion products had been removed. At varying intervals, artifacts were removed from the electrolytic vat and gently scrubbed with a toothbrush to aid in corrosion product removal (Pearson, 1987, pp. 223-227; May & Jones, 2006, pp. 150-154; Cronyn, 1990, pp. 174-175; Hamilton, 1976, pp. 30-49).

After the electrolytic reduction session, the artifacts were rinsed in three separate baths of boiling deionized water for 30-60 minutes to further remove residual electrolyte, which forms a white powder upon drying if not removed. After the third bath and once dry, a first coat of 20 percent solution of tannic acid (200 grams of tannic acid in 1 L of deionized water plus 150 mL of ethanol to decrease surface tension) was applied to protect from future rust. The second and third coat were applied over a period of days

once the proceeding coat of tannic acid was fully dry. Tannic acid converts the surface of the metal to ferric tannate and thereby makes artifacts more corrosion resistant and creates an aesthetically pleasing black outer layer (Hamilton, 1999, p. 68; Cronyn, 1990, p. 200; Hamilton, 1976, pp. 53-56; Hamilton, 1996, pp. 96-98).

Finally the artifacts were placed in microcrystalline wax (melts at 190 degrees Fahrenheit but is heated to 300-350 degrees Fahrenheit) and left in until the artifact ceased to bubble, thereby air pockets trapped around the artifact had emptied leading to better wax penetration. The artifacts were then removed when the wax was cooled to 210 degrees Fahrenheit and the excess wax was wiped off with rags. Microcrystalline wax is water impervious. Microcrystalline wax appears naturally as beeswax, but a synthetic version was used here due to the price difference (Hamilton, 1999, pp. 68, 70-72; Pearson, 1987, pp. 230-231; May & Jones, 2006, pp. 158-159; Hamilton, 1976, pp. 53-56).

Artifacts treated in the manner outlined above are left a black matte color from the tannic acid and microcrystalline wax. Since many museum pieces and large iron objects are treated with tannic acid, in my experience when many people think of iron that is not rusty or sharpened they imagine it black, even though this is not true and is actually the tannic acid (Hamilton, 1999, p. 68; Cronyn, 1990, p. 200; Hamilton, 1976, p. 55; Hamilton, 1996, pp. 96-98, 101-105).

Concerning Brass

Brass is an alloy of copper and zinc. While the corrosion layer on iron will never turn back into iron, the oxidized layer of a brass object can be turned back into something close to the original material by using electrolytic reduction. Unfortunately, the oxidized layer does not turn back into brass, but copper, and therefore has a redder hue or patina than the underlying brass layer (Pearson, 1987, pp. 232-238; May & Jones, 2006, p. 128; Cronyn, 1990, p. 216; Hamilton, 1976, pp. 14, 58-59).

For the brass artifacts, I conducted electrolytic reduction in 5 percent formic acid (or 2 percent sodium hydroxide if it was attached to an iron object). The difference between iron and copper electrolytic reduction is the need to clean copper. After electrolytic reduction was complete, I gave the brass artifacts a fingertip rubdown with pumice and baking soda to remove the thin layer of plated copper that had built up over the brass. Instead of using tannic acid, I then let the brass artifacts soak in a 2-5 percent solution of benzotriazole (BTA) mixed with ethanol. BTA is a compound that helps stabilize the brass and keep it from oxidizing.

Finally I coated the artifacts in microcrystalline wax. Though this last step is technically unnecessary for a brass artifact, it provides a further layer of protection and, in my experience, the wax deadens the copper hue and gives the artifacts a more brass-like patina (Pearson, 1987, pp. 230-231, 236-238; May & Jones, 2006, pp. 150-154, 158; Cronyn, 1990, pp. 174-175, 228-229; Hamilton, 1976, pp. 58-61).

Concerning Lead

Lead items need not be conserved to be stabilized, therefore conservation of lead is generally used for the purposes of exposing details hidden by the corrosion layer or for aesthetics (Pearson, 1987, pp. 243-245; Cronyn, 1990, pp. 204, 207-208, 210; Hamilton, 1976, pp. 68-69; Hamilton, 1996, p. 124).

The lead items in this study (figure 43)[1] were first cleaned with repeated water baths and brush scrubbing to remove all excess dirt and debris. After manual cleaning, it was clear that the artifacts had minimal corrosion. I chose to use Caley's Method, a simple, common lead conservation technique, to conserve the artifacts (Hamilton, 1999, p. 86; Hamilton, 1976, p. 70; Hamilton, 1996, p. 124).

Caley's Method for these artifacts consisted of the following:

1. Boiling the artifacts in 10 percent hydrochloric acid for about an hour.
2. Boiling the artifacts in a deionized water rinse.
3. Letting the artifacts soak in a 10 percent ammonium acetate solution for about an hour.
4. Applying microcrystalline wax in the same manner as the iron and brass artifacts.

[1] Unfortunately, I was unable to identify the stamp "ARSSC" on the lead ingot. The Houston Archeological Society claims that ARSSC stands for a 19th-century Russian lead manufacturer, but I have been unable to independently verify this claim.

Figure 43 Lead artifacts from the Milam Street Collection before conservation (left) and after conservation (right). Photos courtesy the author.

The Role of Conservation in Research

How Conservation Influenced the Milam Street Artifact Assemblage

Conservation played an important role in my research on the Milam Street Artifact Assemblage. The intimate time that I took with each artifact that I chose to conserve – taking pictures, cleaning, and conserving – helped me to identify many of the conserved artifacts in the collection. Conservation was also the driving force for me being able to work with this collection as the Heritage Society at Sam Houston Park

wanted conservation work done on some of the artifacts before their Civil War museum exhibit opened in May 2018.

For personal research purposes, as opposed to the needs of the Heritage Society, I mostly conserved the Civil War-era munitions to look for maker's marks. Though I did not find any maker's marks, conservation was still useful. For example, I was able to determine that one artifact was a vent pick, also known as a gimlet, after conservation (Crouch, 1995, p. 118; Ripley, 1970, p. 227).

In another instance, conservation helped me to reveal details of a lock (figure 44). I was able to compare it with period locks to see if the lock is contemporaneous with the Civil War artifacts. Upon visiting a lock collection at the Art Museums of Colonial Williamsburg during summer 2018 (figure 45) and upon personal conversation with Dr. Donny Hamilton, the lock seems to date from before the 20th century and would have originally been from a trunk (Colonial Williamsburg, 2018).

Figure 44 A trunk lock from the Milam Street Artifact Assemblage. Photo courtesy the author.

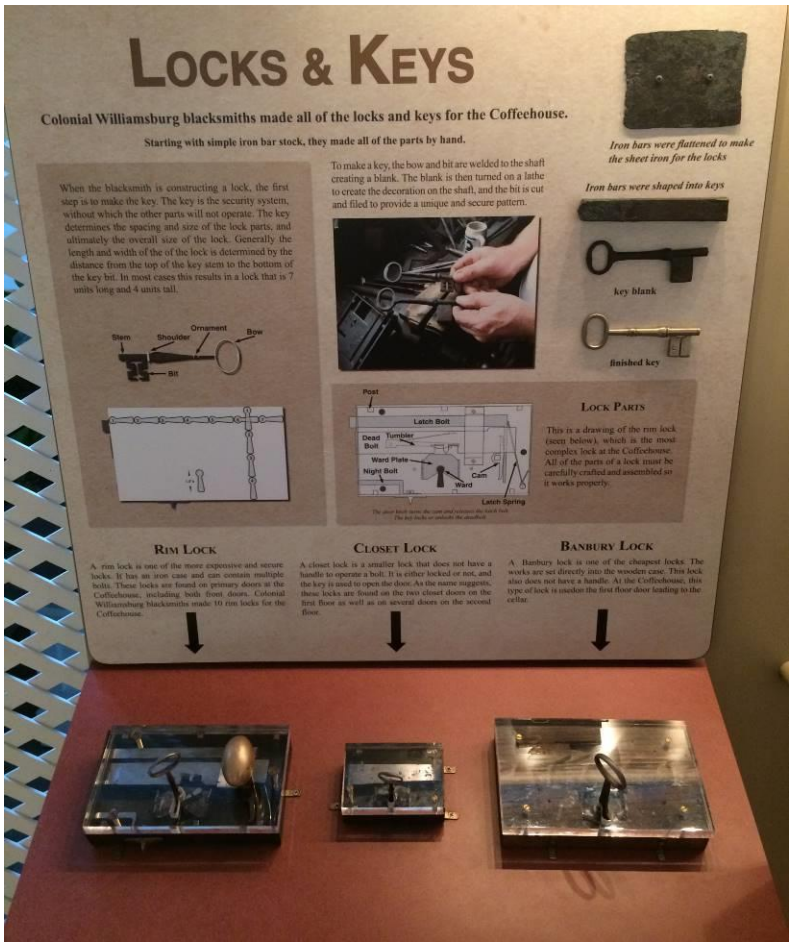


Figure 45 17th-19th century locks on display at the Art Museums of Colonial Williamsburg (Colonial Williamsburg, 2018). Photo courtesy the author.

In a third case, through conservation, I was also able to determine that eight seemingly random metal artifacts were actually driving bands (Ripley, 1970, pp. 289-344). After the artillery pieces and the driving bands were cleaned and conserved, they fit on their respective artillery shells. From this, I was able to confirm my findings when visiting the Tredegar Iron Works Museum in Richmond, Virginia (figure 46). The National Park Service Ranger showed me their collection and took out reproductions of

various artillery pieces to teach me how the shell and cartridge fit together with the driving band (Historic Tredegar, 2019; Tredegar Iron Works, 2019).

Figure 46 Munitions, limber chest, and cannon loading display/demonstration by the National Park Service at Tredegar Iron Works (Tredegar Iron Works, 2019). Photos courtesy the author.

As a final example, conservation helped me positively identify a bayonet (figure 47) as an Enfield rifle bayonet. Once the artifact was conserved, I could see the tell-tale iron band with screw and triangular blade. The bayonet was so corroded and covered in

encrusted bayou bottom mud that I could not make out many features until after conservation was complete. After visiting the Civil War battlefield museums at Chickamauga, Gettysburg, Fredericksburg, and Petersburg, I was able to confirm my findings based on their collections (figure 48) (Chickamauga & Chattanooga National Military Park, 2017; Gettysburg National Military Park, 2017; Fredricksburg Battlefield - Fredericksburg & Spotsylvania National Military Park, 2018; Petersburg National Battlefield, 2019; Pamplin Historical Park, 2018).

Figure 47 Bayonet from the Milam Street Artifact Assemblage. Photo courtesy of Amy Borgens.

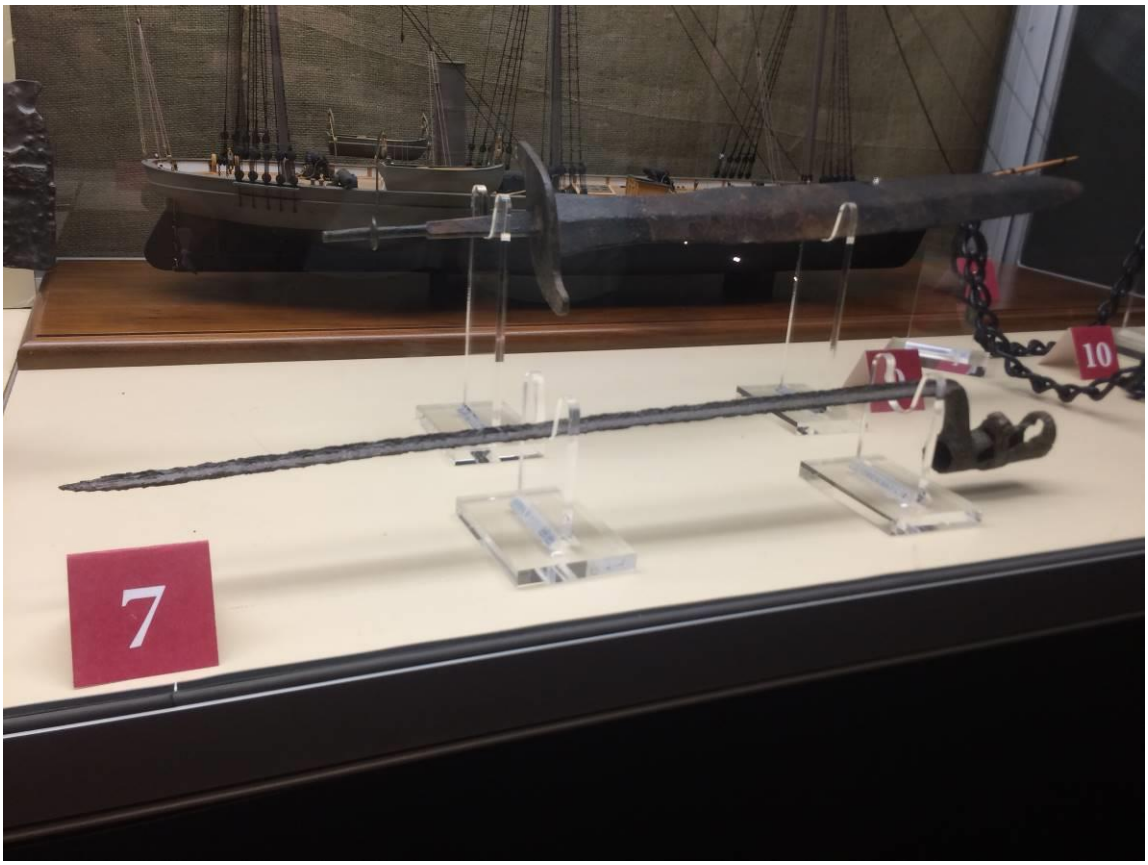


Figure 48 Enfield bayonet (National Civil War Naval Museum, 2019). Photo courtesy the author.

Overall, the most vital contribution that conservation made to my research was that it allowed me to study these artifacts in the first place. The Heritage Society at Sam Houston Park wanted specific artifacts conserved for their museum exhibit. They wanted some artifacts left un-conserved for comparison purposes and they wanted museum panels written up on artifact conservation. Because I was able to conserve a subset of the artifacts, I was able to get involved with this project and study the greater ramifications

of this artifact assemblage within the context of Houston, Texas, and the South during the Civil War.

As a logistics officer in the Texas Army National Guard, I initially became interested in supply routes and Houston's role as a supply depot for Galveston, leading me to accept this project. Without willingness to take part in conservation, I would never have been picked for this venture.

Furthermore, in my opinion, all the hard work of conservation is worth it in order to see the excitement of the general public when they are able to view and understand historical objects in a tangible way, through artifacts at a museum exhibit. Sharing the results of historical archaeology with the public is one of the main reasons that conservation matters, and in a small way, justifies the investment.

Conservation through Digitization

In working on the Milam Street Artifact Assemblage, I became interested with the idea of potentially digitizing the collection.

As a test of this burgeoning capability for digital artifact preservation, I chose to create photogrammetric models of a Read-Parrott shell (figure 49) and a lead ingot (figure 50) from the Milam Street Artifact assemblage. Regrettably, I found the process to be time-consuming and limited in applicability at this time. While precise 3D models of artifacts are generally inexpensive to make, useful for sharing with colleagues, and attention-grabbing with the general public, I am not sure that the finished product is worth the effort for an entire artifact assemblage at this stage in the development of

photogrammetry if this is the only option available to the researcher. Rather than create photogrammetric 3D models of every artifact in a collection, I would instead create models of only the choice artifacts and merely take accurate measurements and pictures of the remaining artifacts as this supplies a comparable amount of information in a fraction of the time, money, and computer processing power.

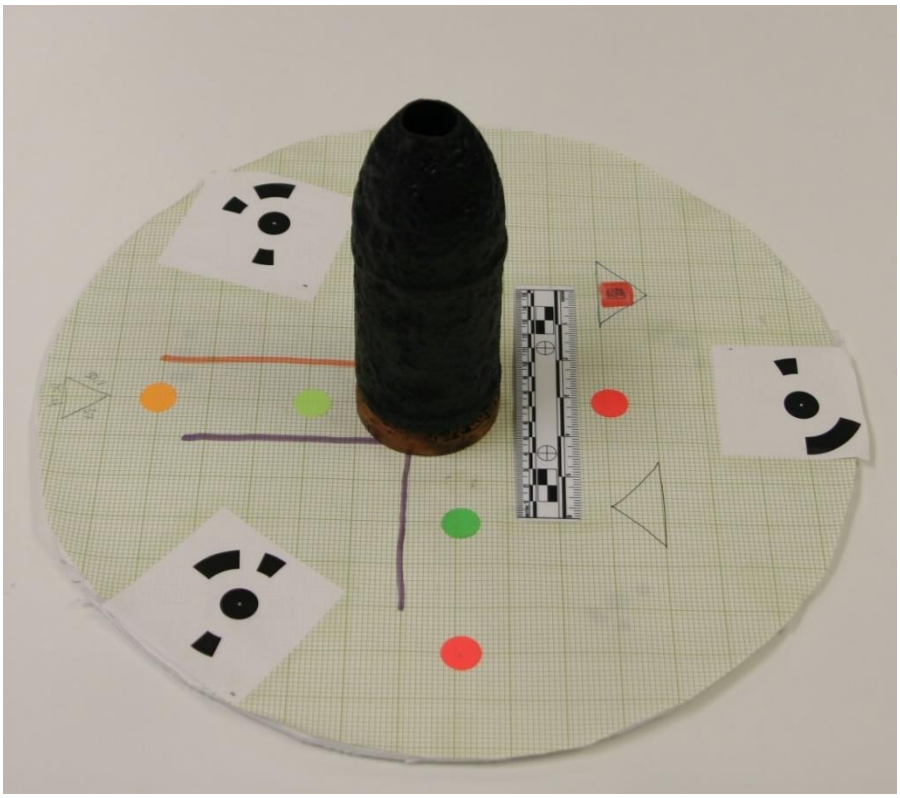


Figure 49 Photogrammetry set-up for a Read-Parrott shell. Photo courtesy the author.

Figure 50 A 3D model of a lead ingot from the Milam Street Artifact Assemblage made by the author in Agisoft Metashape using photogrammetry.

Digitization: An Acceptable Proxy for Artifact Conservation? – A 21st Century Dilemma

Another important matter pertaining to conservation is using digitization as a low-cost proxy for true artifact conservation (Kuzminsky & Gardiner, 2012, pp. 2744-2751).

I do not find that a digital model of an object is an acceptable proxy for the object itself. If the artifact or building no longer exists because, for example, it was destroyed in Palmyra (Denker, 2017, pp. 20-30) or the National Museum of Brazil (Katz, 2018)

then a model of an object is better than nothing. But virtual preservation of data does not mitigate the responsibility of conservation upon excavation because if the team working on this project is unwilling to create a long-term curation plan for the actual artifacts then I highly doubt that they will create a long-term curation plan for the 3D model (Curation, 2019).

Data will not last forever and must be curated just as the artifacts themselves need curation (Jensen, 2005, pp. 117-119; Filippi, 2019). How can one ensure that the data will be accessible in perpetuity? If one lets the artifact disintegrate because a 3D model exists then what happens when the data, the code that is the 3D model, disintegrates as well? A curation plan must be created for the 3D model that saves the data on Gold Standard discs, hard drives, and numerous back-ups. The software package that reads the model must be preserved also. A drive that can read the discs must be preserved too. Moreover, a computer that can run the drive and the software that runs the drive must be conserved.

Now we are right back where we started – we are conserving an artifact only now it is a computer instead of the original artifact itself. Which do you think will be harder and more expensive to preserve long term – an artifact such as a cannonball or a working piece of electronics loaded with various vital software components? I contend that the idea of preserving *only* the 3D model instead of also conserving the artifact is a fool's errand, but few have yet realized it. I fear that if archaeologists fail to continue pushing for artifact conservation because 3D digitation exists, it could lead to a future where

policy-makers divert funds needed for conservation to other projects outside of archaeology due to the perceived low-cost option of 3D digitization.

I firmly believe 3D digitation should be used as a back-up to the original artifact so that if we have a situation such as was present at Palmyra (Denker, 2017, pp. 20-30) or the National Museum of Brazil (Katz, 2018) then we at least have something to study or so that artifacts can be shared with those who are unable to visit the physical artifact. 3D digitization can be time-consuming so some sort of plan for which artifacts merit 3D digitization first must be created based on the specific collection. 3D digitation should also be used so that the public can interact in a more tactile, interactive way with artifacts since one cannot allow everyone to just pick artifacts up and play with them. 3D digitization is likewise a way to show artifacts in their context. One could create a 3D representation of a ship and place the artifacts in the hold for example.

Though a powerful and useful tool, 3D digitization should not replace actual artifacts on display, or even more crucially, conservation and continued preservation of genuine artifacts (Jensen, 2005, pp. 117-119; Filippi, 2019; Dostal, 2018; Kuzminsky & Gardiner, 2012, pp. 2744-2751).

CHAPTER IV

INFORMATION EXTRACTION AND LONG-TERM PRESERVATION PLANNING

Information Extraction

The Big 'So What?' of Artifact Collections

The Milam Street Artifact Assemblage (figure 51) is varied and with that variety comes a wealth of information. First this artifact collection gives information on military technology used in the 19th century, but also shows what military technology was physically available to Southern forces during the last days of the Civil War in 1865. Also, decorated items such as buttons provide military cultural symbolism from the time period. The artifacts themselves provide information on their manufacturing location and this in turn lends information about the movement and transport of goods.

Figure 51 Conducting artifact identification on the Milam Street Artifact Assemblage. Photos courtesy of Linda Gorski.

Study of the construction materials of the artifacts shows which materials were used during this time period, but this is an imperfect interpretation of the artifact assemblage. The current assemblage actually shows some less obvious clues about the time period. For example, if these artifacts are the remains of a looted storehouse at John Kennedy's shop then they may show which objects were not worth looting from Kennedy's business. If the artifacts are from an ammunition barge then they may provide information about what an ammunition barge traveling between Galveston and Houston would be carrying during April-May 1865. Or maybe they are the items that remained on the barge once everything deemed useful had been offloaded and distributed.

Moreover, the artifacts have a 150-year history after being initially lost in the bayou. Therefore, the artifact collection may provide information about which artifacts were of little interest to souvenir hunters during 100 years of low tide events in Buffalo Bayou. The remaining artifacts also show what material types preserve well in Buffalo Bayou for 100 years and then in filing boxes in closets in Houston for 50 years.

In 1968, over 1000 artifacts were dredged from the Bayou, but only around 650 now remain. The remaining collection may show which objects 1960's Houstonians thought to be worth saving. Or the remaining assemblage could reflect the artifacts that the initial finders did not take to their house and keep instead of eventually handing them over to the museum. Moreover, the 350 artifacts now lost may have been misplaced by the various institutions that housed them over 50 years because these artifacts were not

deemed as important as the remaining artifacts. Finally, the missing artifacts may be the ones that disintegrated because they were not conserved.

Study of the artifacts reveals which conservation techniques (or in this case lack of techniques) were used in the past to preserve these artifacts for future generations. The lack of preservation in the past shows that these artifacts were not deemed to be worth the investment over the last 50 years or there were no facilities available to conserve them.

Finally many other pieces of information may be gleaned. Is the entire artifact collection cotemporaneous? Are these objects similar to those used in the rest of the United States during the same time period? And so on. Many lines of inquiry still remain for future researchers.

Long-Term Preservation Planning

Long-term preservation planning is an important step in caring for heritage resources, including conserved and non-conserved artifacts. Questions such as, "Who will manage this collection in the future?" must be taken into account during initial conservation planning (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:18; Curation, 2019).

Since the Milam Street Artifact Assemblage was recovered in 1968 it has been stored untreated in cardboard filling boxes. To the best of my knowledge it has been stored inside throughout this time, but between 1987 and 2015 there is little information on the location of the artifacts except that they were owned by a heritage society that

changed hands and management (Lewis, 1986). As mentioned in chapter 2, the artifacts were eventually rediscovered after 2008 in their original filing boxes in the closet of a non-climate controlled historical home in Sam Houston Park that was being inspected for repairs of water damage from Hurricane Ike in 2008. Luckily, the artifacts had clearly been above the waterline (Berni, 2018).

During their time since recovery, these artifacts have been in contact with non-acid free paper, huge changes in relative humidity, polluted air, and lots of oxygen (Berni, 2018). All of these factors are not desirable for long-term preservation planning (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:13, 4:1-4:64, I1-I18, N1-N27, O1-O12; Curation, 2019).

For the long-term preservation of this collection or a future project that has artifacts made of iron, cupreous metal, and lead, I recommend display cases filled with nitrogen, with UV shielding glass, kept at a relative humidity of 45-55 percent, at temperatures between 60-75 degrees Fahrenheit (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 4:1-4:55; Curation, 2019). I suggest that the non-conserved iron artifacts be socked in an alkaline inhibitive solution bath that is at a stable pH of 10 to 12 that prevents further oxidation until conservation work can take place (Pearson, 1987, pp. 105-113, 268-270; May & Jones, 2006, pp. 135-136; Cronyn, 1990, pp. 188, 201; Hamilton, 1976, pp. 21-25). Because most museums operate on a tight budget, I suggest that at the very least the artifacts be kept in a climate controlled environment with minimal swings of relative humidity and temperature, and out of direct

sunlight (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 4:1-4:64, 7:11-7:13, 12:1-12:15; Curation, 2019).

Conserving and Preserving a Portion of a Collection

Sometimes only a portion of a collection can be conserved. In this case I was only able to conserve about 10 percent of the Milam Street Artifact Assemblage. Following preservation planning guidelines (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:18; Curation, 2019), I first and foremost went to the Heritage Society and asked which artifacts they found to be most important and their reasons why. It is extremely important to maintain good relations with your partners and to talk with those who are directly connecting with the public. These artifacts relate to Houston's historical events and I wanted the opinions of educated and concerned Houstonians on the subject.

The Heritage Society's opinion on which artifacts to preserve was based off of perceived impact to the public. They wanted artifacts such as artillery shells and canister shot to be conserved as they decided those artifacts would be eye-catching for the public in a museum exhibit. Given these parameters, we eventually decided on the conservation of multiple artillery shells, driving bands, canister shot, a bayonet, a lock, a shot scoop, a vent pick, a lead ingot, a marching music stand, and a rifle barrel.

Next, I made a chart that included feasibility on the x-axis and impact on the y-axis (figure 52). I broke the chart into four quadrants and sorted the artifacts that the Heritage Society wanted preserved into the area (high-high, low-high, high-low, low-

low) that I decided that they best fit into (Berni, 2018). Under this schema, artifacts with high impact and high feasibility for conservation would be prioritized.

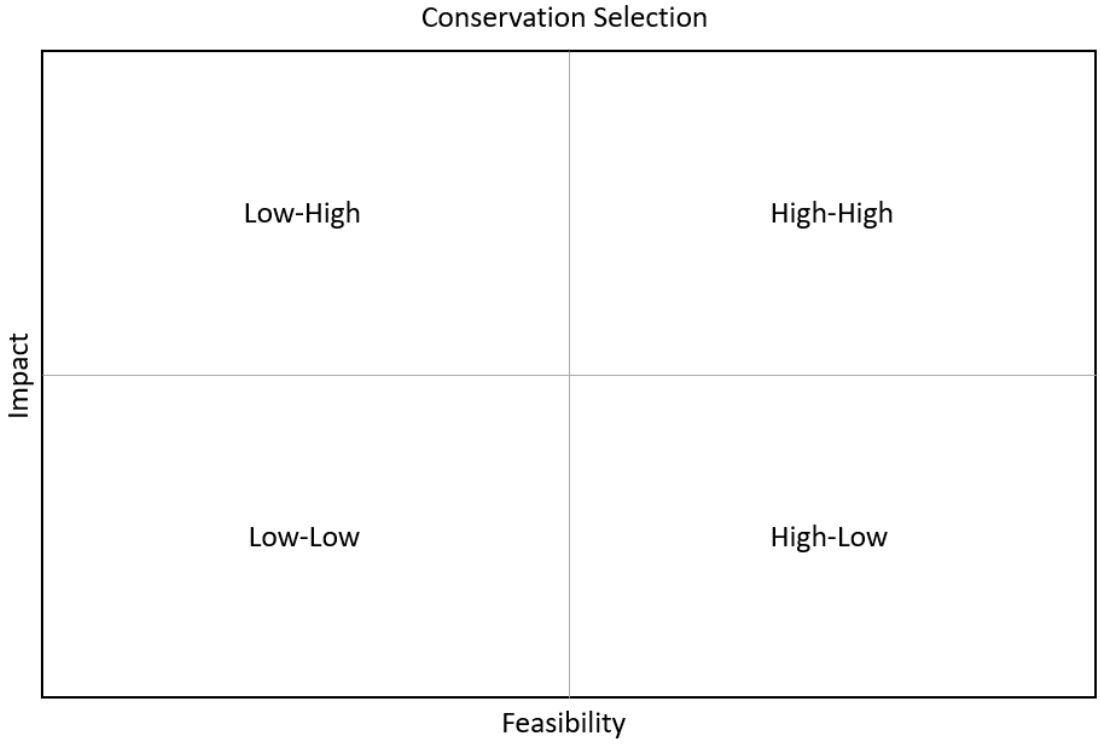


Figure 52 Conservation selection chart for weighting feasibility and impact by artifact. Figure by the author.

This step proved unnecessary in this case as the Heritage Society had already determined which artifacts they deemed to have high impact, and, of these artifacts, all had suitable feasibility for conservation. My limiting factors then became funding and time. Conversation with the Conservation Research Laboratory at Texas A&M University determined that my funding and time would be adequate to cover the

conservation of the chosen artifacts. Finally, I reported the situation back to the Heritage Society and received approval to begin conservation.

Conserving and Preserving an Entire Collection

My conservation plan was based on the requirements of the Heritage Society that only a small subset of the collection be conserved. If the Heritage Society's proposal had been to conserve all 650 artifacts I would have needed to rethink my conservation plan. I would have needed a large location to store the non-conserved artifacts, a place to conserve the artifacts, and a space to temporarily store the conserved artifacts (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:12, 7:1-7:14; Curation, 2019).

As has happened with the small subset of artifacts that I have conserved, and with the entire artifact assemblage, I have worked with the Heritage Society to help create long-term curation plans. Though at times I have concluded that their plans were insufficient, the artifacts belong to the Heritage Society and the most I can do is point them to an appropriate preservation manual or authority (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:18, 4:1-4:64, I:1-I:187:1-7:78; Curation, 2019). The Heritage Society also has money, time, and staffing limitations that must be taken into account.

As it was the curator for the Heritage Society who let me conserve some of the artifacts and study the entire assemblage, I mainly trusted the Heritage Society to create and fund long-term preservation and curation plans for their own artifacts. From the

beginning they have clearly striven to remain in line with Texas Historical Commission (THC) best practices (Texas Historical Commission, 2019). The Heritage Society may have been subject to audits if the collection belonged to THC or was acquired through the use of grant money from THC, but this is not the case, so decisions are really up to the Heritage Society (Texas Historical Commission, 2019).

Unfortunately, the Heritage Society has been financially struggling for a number of years. If it goes under there will be a need for a facility for long-term curation of the Milam Street Artifacts. In this case the artifacts could be transferred to THC control and moved to the Texas long-term curation facility at Texas State University (Curation, 2019).

Starting a Project: Preservation and Curation Considerations

One must make many considerations when committing to work on an artifact assemblage. Personally, I would consider starting a project without full funding and long-term access to curation facilities if the objects are already in a non-conserved, non-preserved state. This was the case with the Milam Street Artifacts when they were first discovered in filing containers. The partial funding available, the obtainable facility time, and the requirements of the Heritage Society for the collection heavily influenced the conservation plan of these artifacts. Conservation was dependent on which artifacts could be properly completed well before access to facilities and money ran out. Artifacts chosen for conservation also needed to be ones that were deemed useful for a museum exhibit. Though the Heritage Society only wanted a subset of the collection conserved, I

joined the project because, at least in this way, some artifacts from the collection could be conserved instead of none. I then worked with the Historical Society to create a basic long-term curation plan that involved moving the artifacts into individual bags, plastic bins, and a climate-controlled environment (Berni, 2018).

The danger to this approach was a conservation risk due to the very nature of conservation. Conservation is time-consuming and without reliable long-term access to a facility, one may be stuck with a half-conserved artifact that has lost its protective oxidation layer without being properly conserved and is actually worse off than before (Hamilton, 1999, pp. 4-10; Hamilton, 1976, pp. 86-87, 92-96; Hamilton, 1996, pp. 12-15). Risk assessments must be completed to identify risk, mitigate risk, and assume acceptable risk from the outset of a project.

I followed my conservation plan during 2017-18 by conserving only artifacts chosen by the Heritage Society that could be finished fully and properly with the limited funding and access to facilities available. These steps have increased the chances of long-term preservation of at least part of the collection through this conservation decision. For the non-conserved artifacts, their long-term preservation chances have been increase by placing them in individual plastic bags and sturdy plastic storage containers. Given limited resources, work was completed while maintaining good conservation and preservation practices, as far as I knew them at the time (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:18, 7:1-7:28, 8:1-8:19; Curation, 2019; Hamilton, 1976, pp. 56, 21-25, 70-71, 92-96).

Long-Term Curation Plans for the Milam Street Artifact Assemblage

As of October 2019, the long-term curation plans for the Milam Street Artifacts are undecided. This is clearly not a good place for curation planning to be at, but this is a better time than never to start truly thinking about it. The original plan was for the Heritage Society to take the artifacts back after conservation of choice objects and curate them in their own collection along with their numerous other artifacts and historical objects. As of 2019, the Heritage Society's financial situation has come to a head and early discussion have taken place surrounding the possibility of sending the Milam Street Artifacts to Texas State University or a museum that shows interest in them. The Heritage Society is most interested in sending them to Texas A&M University for curation and future study, but Texas A&M only has limited curation facilities and little interest in managing these artifacts (Dostal, 2018).

Lessons Learned in Conservation, Preservation, and Curation

First, having a written agreement about curatorial guarantees before starting a conservation project is a must (Curation, 2019). I want to know where artifacts will be housed, the conditions under which they will be housed (mainly temperature and relative humidity), if they will be available for researchers and/or museum exhibits or just locked away, if the curation will cost money, how much money will be available for curation, and how long funding for curation facilities will continue (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:18, 4:1-4:64, 7:1-7:28, 8:1-8:19, 12:1-12:15; Curation, 2019; Hamilton, 1976, pp. 3-4).

Investment of money, time, or effort into a conservation project is wasted if the curation plan means that the objects will not be properly preserved or available to researchers and the public after conservation is complete. While not all of these issues were encountered during this project, working on the Milam Street Artifact Assemblage taught me what to plan for in future projects (Cronyn, 1990, pp. 1-13).

Another question is more difficult to answer: is a conserved object with a bad curation plan better off than a non-conserved object with a bad curation plan? In this case, getting involved in a project that has a bad curation plan may actually help the preservation of the artifacts through conservation even if the curation plan continues to be poor. These types of projects can be frustrating and are not ideal. They may, in limited cases, do more good than harm. But conversely, clearly it is the duty and obligation of each researcher who gets involved with a project to raise these curation concerns and see them rectified if at all possible (Archeological Curation Information, 2019; The Museum Handbook, 2019, pp. 3:1-3:18; Curation, 2019; Hamilton, 1976, pp. 3-4).

Long-Term Preservation Planning – A Case Study

Hurricane Harvey: Facing Catastrophe

In late August 2017, Hurricane Harvey struck the Texas Coast as the most-expensive hurricane or cyclone of all time. For four days the Texas Coast was battered with over 40 inches of rainfall, causing unparalleled flooding (figure 53) and over $125 billion (2017 U.S. dollars) in damage. Flooding from the slow-moving hurricane

caused over 70 deaths, prompted more than 17,000 rescues, displaced more than 30,000 people, and destroyed or severely damaged hundreds of thousands of homes (Shultz & Galea, 2017, pp. 1437-1438).

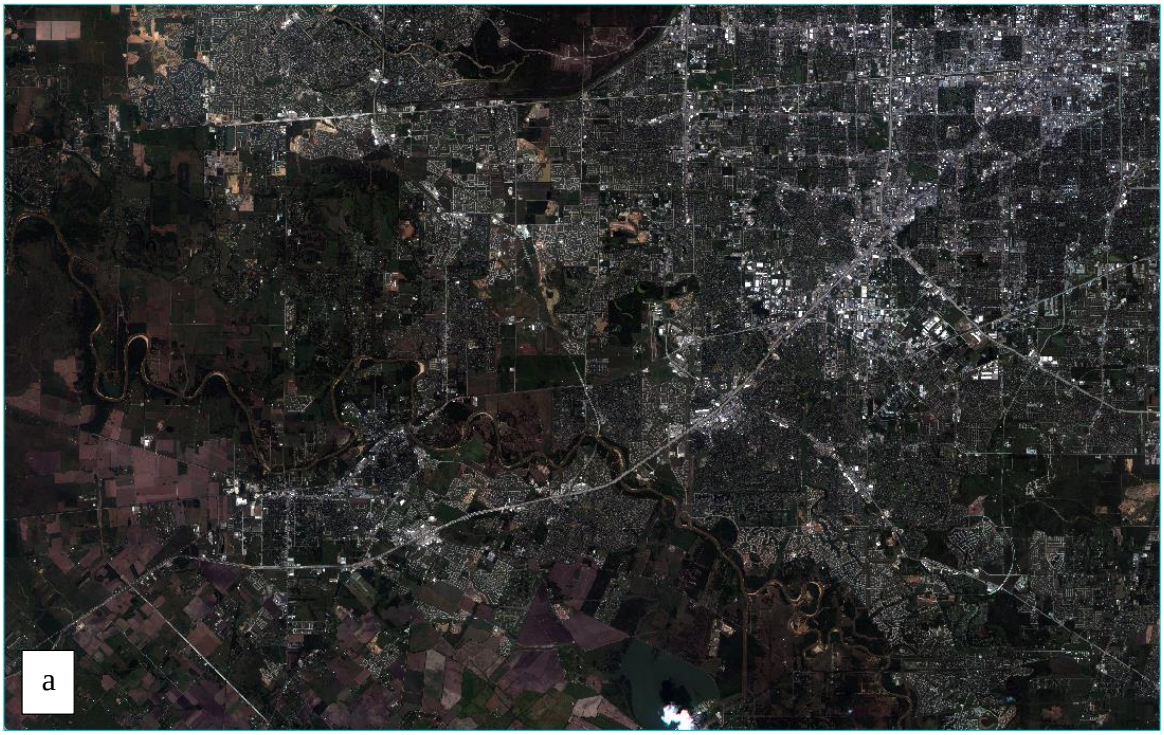
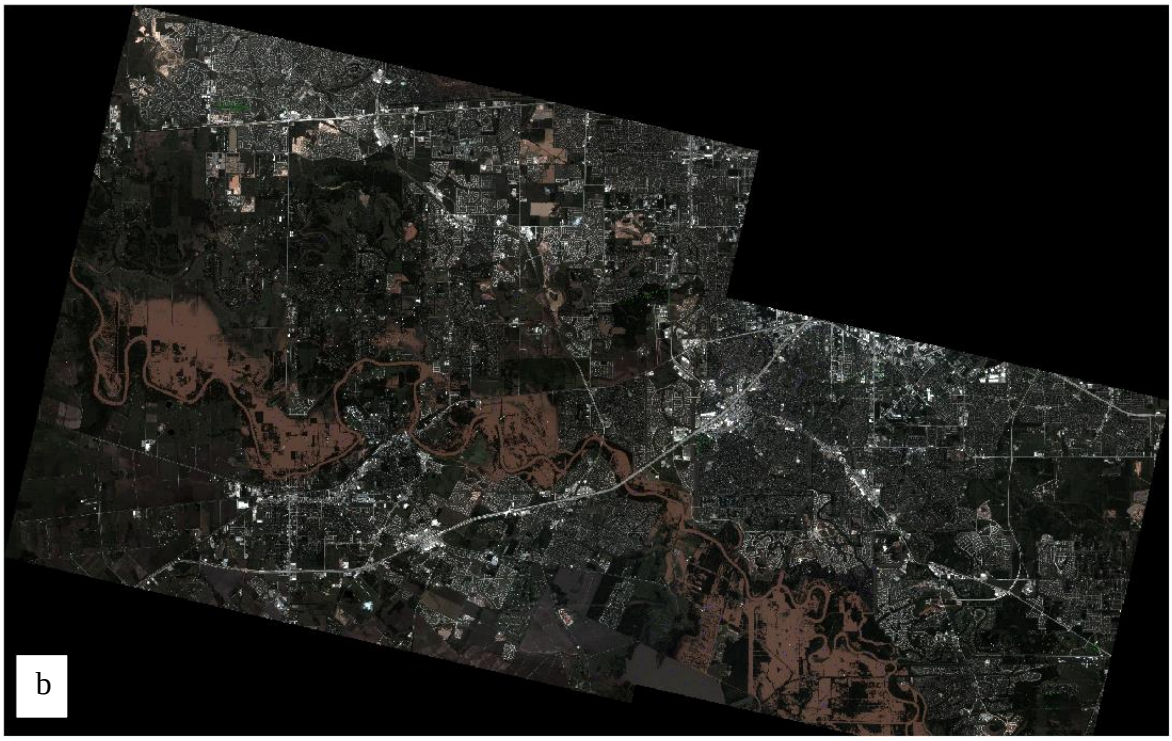


Figure 53 a. Satellite imagery mosaic of the Brazos River in southern Houston pre-Hurricane Harvey. Sensor RapidEye. Imagery resolution 6.5 meters. b. Satellite imagery mosaic of the Brazos River in southern Houston during Hurricane Harvey. Notice the muddy waters of the river (reddish-brown color) overflowing the banks. Sensor CubeSat. Imagery resolution 3.7 meters. c. Support Vector Machine (SVM) non-probabilistic linear/nonlinear classification of the Harvey imagery into the classes of water (blue) and not-water (white). With this classification technique, flooding becomes very apparent. All imagery mosaicking and processing completed in ENVI 5.0 by the author. Open source imagery courtesy of the Planet website (Planet, 2018).



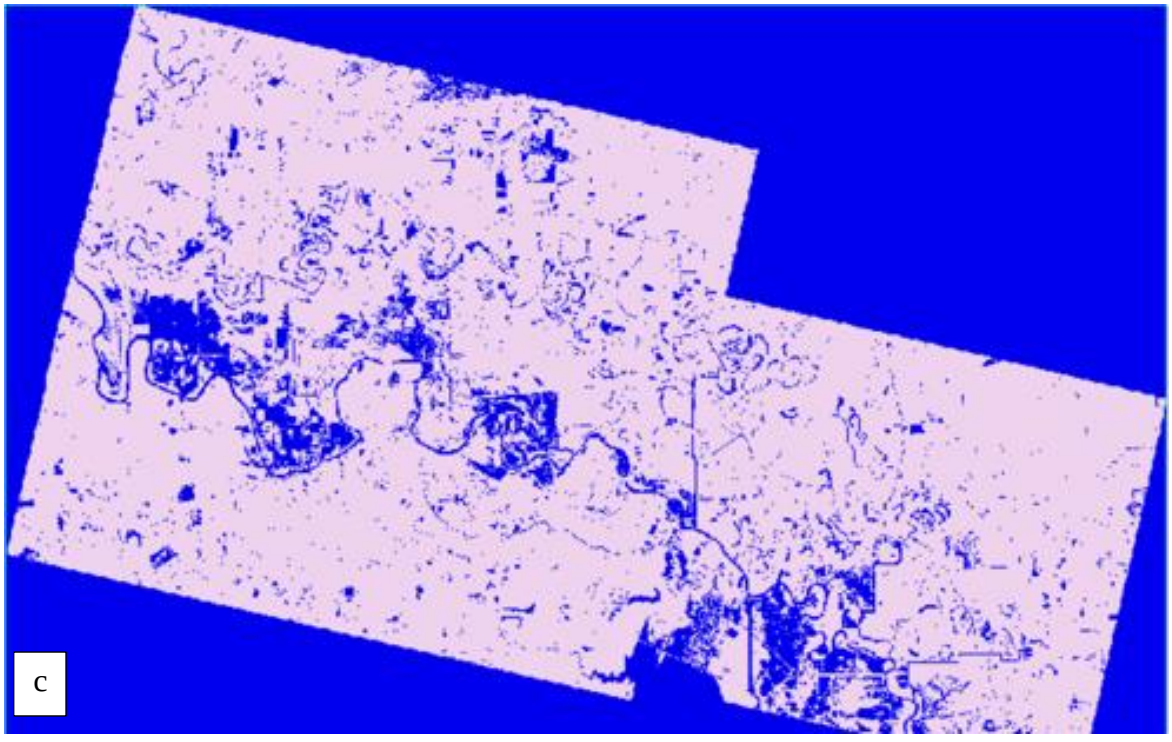


Figure 53 continued

Using a dataset acquired from the Prism Climate Group: Northwest Alliance for Computational Science and Engineering by means of the *Data Explorer: Time Series Values for Individual Locations*, one can compare precipitation from Hurricane Harvey to that of other major 21st-century hurricanes to have struck Texas or the rest of the United States (figure 54) (Oregon State University, 2019).

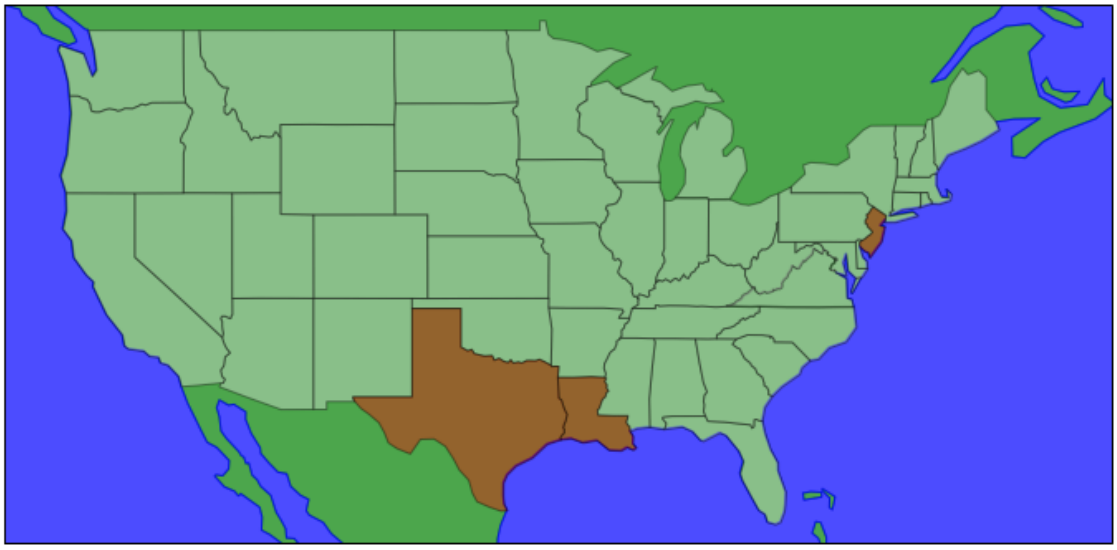


Figure 54 A map of the United States showing in brown, from left to right, the locations of Texas, Louisiana, and New Jersey. Created by the author using Python.

Data on the following hurricanes was used in this study:

Hurricane Harvey, Texas - Hurricane status August 17th to September 3rd, 2017

Hurricane Ike, Texas - Hurricane status September 1st to 14th, 2008

Hurricane Rita, Texas - Hurricane status September 18th to 26th, 2005

Hurricane Sandy, New Jersey - Hurricane status September 22nd to October 2nd, 2012

Hurricane Katrina, Louisiana - Hurricane status August 23rd to 31st, 2005

The tool known as *Data Explorer: Time Series Values for Individual Locations* supplies the average daily precipitation for every U.S. county with a 4 kilometer spatial resolution. The precipitation values are derived by using as many station networks and data sources as possible, but for some areas and counties interpolation is conducted using the values from surrounding grid cell centers. This is factored in using inverse-distance squared weighting. The precipitation values can then be compared through graphical representation using Python coding language in Jupyter Notebooks software (figures 55-57) (Oregon State University, 2019).

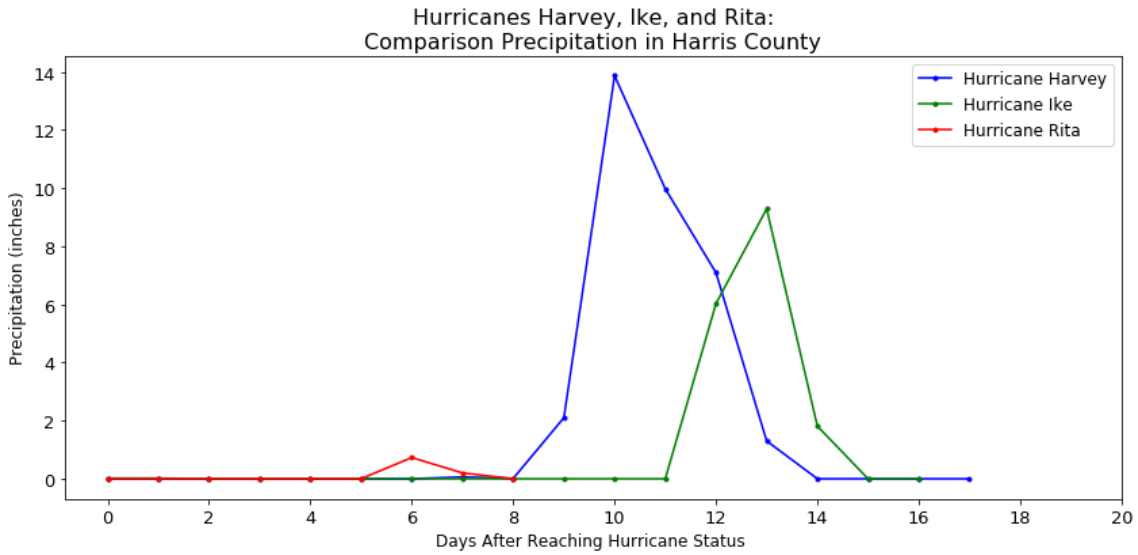


Figure 55 Comparing precipitation from Hurricanes Harvey, Ike, and Rita for Harris County, Texas, location of Houston, Texas. Notice how the precipitation from Harvey dwarfs that of Ike and Rita – both of which were very destructive storms. Created by the author using Python in Jupyter Notebooks.

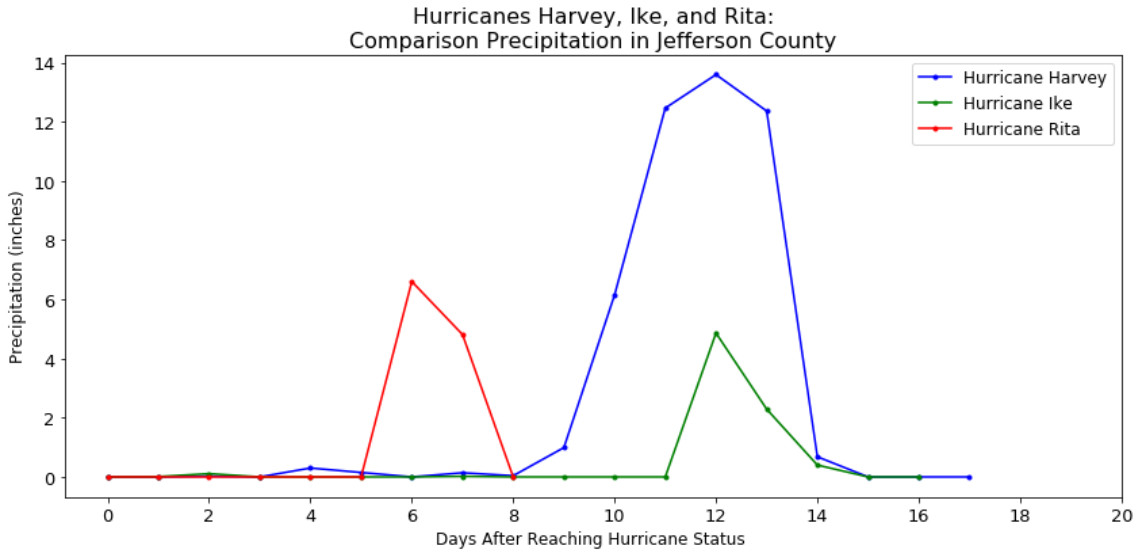


Figure 56 Comparing precipitation from Hurricanes Harvey, Ike, and Rita for Jefferson County, Texas, location of Beaumont, Texas. Notice how the precipitation from Harvey dwarfs that of Ike and Rita – both of which were very destructive storms. Created by the author using Python in Jupyter Notebooks.

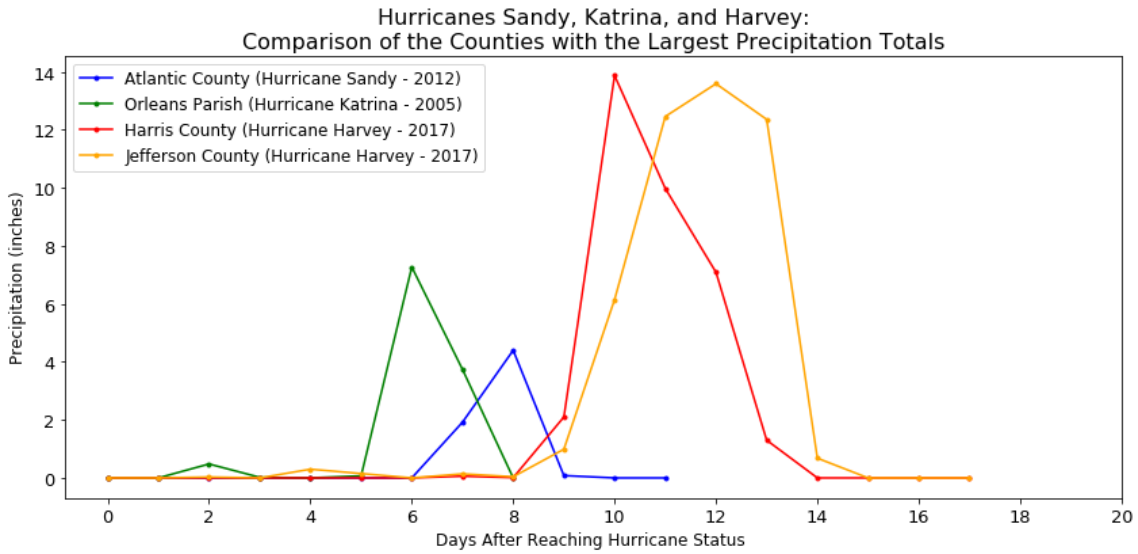


Figure 57 Comparing precipitation from Hurricanes Sandy, Katrina, and Harvey for the most-effected counties in each storm. Both Harris and Jefferson Counties are shown for Harvey as a tie-in to the previous figures even though Jefferson County received more precipitation than Harris County. Notice how the precipitation from Harvey dwarfs that of Katrina and Sandy – two of the most-destructive storms in U.S. history. Created by the author using Python in Jupyter Notebooks.

Clearly Hurricane Harvey was a catastrophic event nearly unprecedented in Houston history and in recent U.S. history. Already connected through a partnership of documenting and conserving Civil War artifacts, the Heritage Society at Sam Houston Park, the Houston Archeological Society (HAS), and J. Richard Steffy Ship Reconstruction Laboratory at Texas A&M University were further linked through experiencing this natural disaster (figure 58).

Figure 58 The author, member of the J. Richard Steffy Ship Reconstruction Laboratory at Texas A&M University, working with the Houston Archeological Society: Left) At the Cottonfield Site at Tait Ranch, Columbus, Texas, in 2016; Right) At the Kleb Woods Nature Preserve, Tomball, Texas, in 2018. Photos courtesy Linda Gorski.

Flood waters damaged Heritage Society property and destroyed the house of the Collections Curator, Ginger Berni, while stranding Houston Archeological Society (HAS) members throughout the city. I was activated with the Texas Army National Guard to assist with the humanitarian crisis (figures 59-60). As the Heritage Society and HAS members struggled to rebuild, all parties stood united in their determination to complete a Civil War museum exhibit by May 2018 that included the Milam Street Artifact Assemblage. Beyond this, we all learned a large lesson in artifact curation planning for the Houston area – one must factor in natural disasters, in this case, flooding.

Figure 59 The author's Texas Army National Guard unit prepares water for transport to Houston, Texas in response to Hurricane Harvey in September 2017. Photo courtesy of SFC Jerrod Zuniga.

Figure 60 The swollen Brazos River is visible as the author's Texas Army National Guard unit sling loads water to Houston, Texas, in response to Hurricane Harvey in September 2017. Photo courtesy of the author.

In 2017 the historic 1868 Pillot House in Sam Houston Park (figure 61), curated by the Heritage Society, was surrounded by water from Buffalo Bayou in downtown Houston. The house was raised 14 feet after Tropical Storm Allison in 2001, but it still got about a foot of water during Harvey (Berni, 2018). If the Milam Street Artifacts had still been housed in the closet of a historic house in Sam Houston Park, the flooding could have been catastrophic for their preservation.

Figure 61 The historic 1868 Pillot House in Sam Houston Park, Houston, flooded by Hurricane Harvey. Photos courtesy of Ginger Berni.

Ginger Berni recorded her flooding experience. Her account shows the historic nature of the flooding from Hurricane Harvey:

"This is the view from my house (figure 62) just before the water came in. I am close to Braes Bayou and my house was built in the early 1950's. It had *never flooded* before Harvey."

– Ginger Berni, Collections Curator, The Heritage Society (Berni, 2018)

Figure 62 View from The Heritage Society at Sam Houston Park's Collections Curator Ginger Berni's house during Hurricane Harvey. Photo courtesy of Ginger Berni.

"This is the view from my neighbor's house after we waded over there for safety (figure 63). They are two streets away from our house going away from the Bayou. They are in a new construction two-story house. Even the first floor is about four feet off the ground."

– Ginger Berni, Collections Curator, The Heritage Society (Berni, 2018)

Figure 63 View of The Heritage Society at Sam Houston Park's Collections Curator Ginger Berni's house during Hurricane Harvey. Photo courtesy of Ginger Berni.

In light of results from Hurricane Harvey, it is clear that artifact curation in Houston should include plans to store artifacts off of the floor, or above ground level if possible, and in waterproof containers if at all possible. Natural disaster curation planning is necessary beyond Houston and has applicability to all areas of the United States. How well artifacts would survive flooding, earthquakes, tornadoes, or fire are questions researchers must face. In some areas of the country, if an artifact is to be truly curated in perpetuity the question is not *if* an artifact will face a natural disaster, but *when*. This case study shows the need for continued planning due to the prospect of disasters (The Museum Handbook, 2019, pp. 10:1-10:51).

CHAPTER V

FACILITATING PUBLIC INVOLVEMENT IN ARCHAEOLOGY

The Importance of Public Involvement in Archaeology

Public Involvement with cultural heritage is critically important to the future of historical archaeology in the United States and abroad (figure 64). If archaeologists never share their research conclusions with the locals who have interest in the research and have some claim to the history elucidated by the research, then archaeology becomes, at worst, a self-serving cycle of narrow or senseless research, or at best, a hobby. Furthermore, continued funding and support for archaeological research has its best chance at success when the relevant community understands and supports the work. Public involvement in archaeology can serve as a symbiotic relationship that provides purpose and support for continued archaeology.

Figure 64 A "ranger talk" on Little Round Top in Gettysburg National Military Park involves the general public with historical events and can encourage the public to consider artifacts like the ones held by the general depicted in the statue (Gettysburg National Military Park, 2017). Photo courtesy the author.

Sul Ross, Jefferson Davis, and Texas A&M University

Public support for Civil War historical archaeology can be easy to find in many parts of the country including Texas as people continue to be interested in Civil War history. Books describing the Civil War such as *Killer Angels* continue to be best sellers today (Shaara, 1974). This may be because the interconnections, even 160 years later, are never-ending. For example, one of the first presidents of Texas A&M University, Lawrence Sullivan 'Sul' Ross, joined the Confederate Army as a private when the war

began (Johnston, 1991, p. 66). He quickly gained a commission and worked his way up the ranks to become a major, distinguishing himself with Hood's Texas Brigade in the East (Johnston, 1991, p. 66). Ross became one of the youngest generals in the Confederate Army. After the war he became the 19th governor of Texas before taking over the Agricultural and Mechanical College of Texas – now Texas A&M University – in 1891 (Johnston, 1991, p. 66).

In fact Sul Ross was not the only famous Confederate to be offered the position of president at what would become Texas A&M University. During a visit to Houston in 1875 as guest of honor at the State Fair, former president of the Confederacy Jefferson Davis (figures 65-66) was offered the presidency of Texas A&M College, set to open in 1876. Though Davis wrote his wife that, "the country is beautiful, abounding in flowers…the people have a robust, healthy look, and are cheerful and confident in their future" – he politely declined the offer (Johnston, 1991, pp. 89-90).

Figure 65 A notable historical artifact is former Confederate President Jefferson Davis' funeral carriage (U.S. Army Quartermaster Museum, 2019). Photo courtesy the author.

Figure 66 Jefferson Davis' suit that he was wearing when captured at the end of the war. From the American Civil War Museum, Tredegar Iron Works (Tredegar Iron Works, 2019). Photos courtesy the author.

The Importance of the Milam Street Artifacts to Houston

Just as the Civil War has Texas A&M connections, the Civil War era is alive in Houston as street names and existing family names carry echoes of what once was. The Milam Street Artifacts are important to the community of Houston. While the importance of this study begins with personal interest in the study period, it emanates far more than individual ambitions. Simply put, numerous laypeople in Texas may find this study interesting and valuable. As proof, this chapter details how individuals have attended two exhibits and read two newspaper articles published about the Milam Street artifacts. While I do not know the motivations of each individual, I do understand that this study has importance to some Houstonians, Texans, and Americans, and therefore, as a historical archaeologist, this project has importance to me as I work to defend the cultural heritage of the interested parties.

Figure 67 The author visits Chancellorsville Battlefield with his daughter Annie. (Chancellorsville Battlefield - Fredericksburg & Spotsylvania National Military Park, 2019). Photo courtesy the author.

As an American and a Houston-born Texan, I feel interest and personal responsibility in protecting, maintaining, and furthering the heritage of the people of Houston, Texas, and the United States (figure 67). The museum exhibit at the Heritage Society during summer 2018, entitled *Dumped and Forgotten Below the Milam Street Bridge* (figure 68), gained favorable attention and was recognized by Houston news sources, including the *Houston Chronicle* (Gray, 2018) and *Houston Press* (Tommaney, 2018) (figure 69). The exhibit generated revenue for the Heritage Society at Sam Houston Park. Furthermore, the subset of the artifacts chosen for display at the Bob Bullock Texas State History Museum in Austin from February 2019 to February 2020 furthers the mission of that institution as well (figure 70).

Figure 68 Artifacts from the Milam Street Artifact Assemblage, conserved by the author and on display at the Heritage Society at Sam Houston Park in the museum exhibit *Dumped and Forgotten Below the Milam Street Bridge*. Photos courtesy of Ginger Berni.

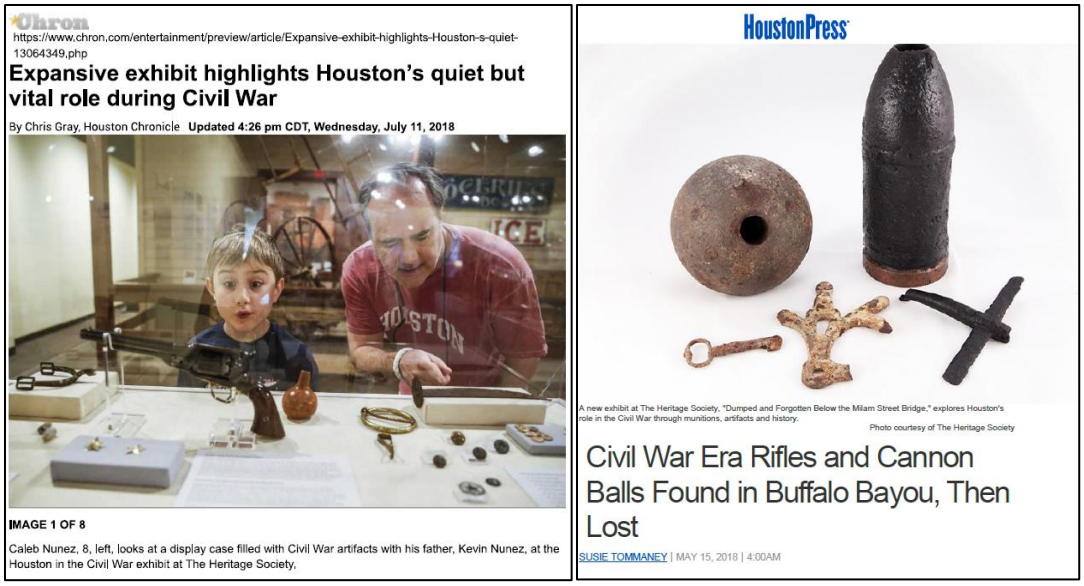


Figure 69 Articles in the *Houston Chronicle* and *Houston Press* covering the museum exhibit *Dumped and Forgotten Below the Milam Street Bridge.* Screenshots modified from the above articles by the author (Gray, 2018; Tommaney, 2018).

Figure 70 Milam Street Artifacts on display at the Bob Bullock Texas State History Museum in Austin. Photo courtesy of Ginger Berni.

These museum exhibits have created a tangible interaction with Texas history that has attracted children as well as adults. While the museum exhibit *Dumped and Forgotten Below the Milam Street Bridge* was running it was frequented by school children and other Houstonians alike. Two gentlemen even came dressed as Civil War soldiers, interacting with the children and helping them live history (figure 71). The artifacts served as a centerpiece to this saga, bringing a community together around their shared cultural heritage (figure 72). History is important to Houstonians (Johnston, 1991, pp. xi-xii). These artifacts are a relic of Houston's eventful past.

Figure 71 Two Houston men volunteer their time to interact with visitors to the Heritage Society at Sam Houston Park while wearing period-wear during the exhibit *Dumped and Forgotten Below the Milam Street Bridge*. Photo courtesy of Ginger Berni.

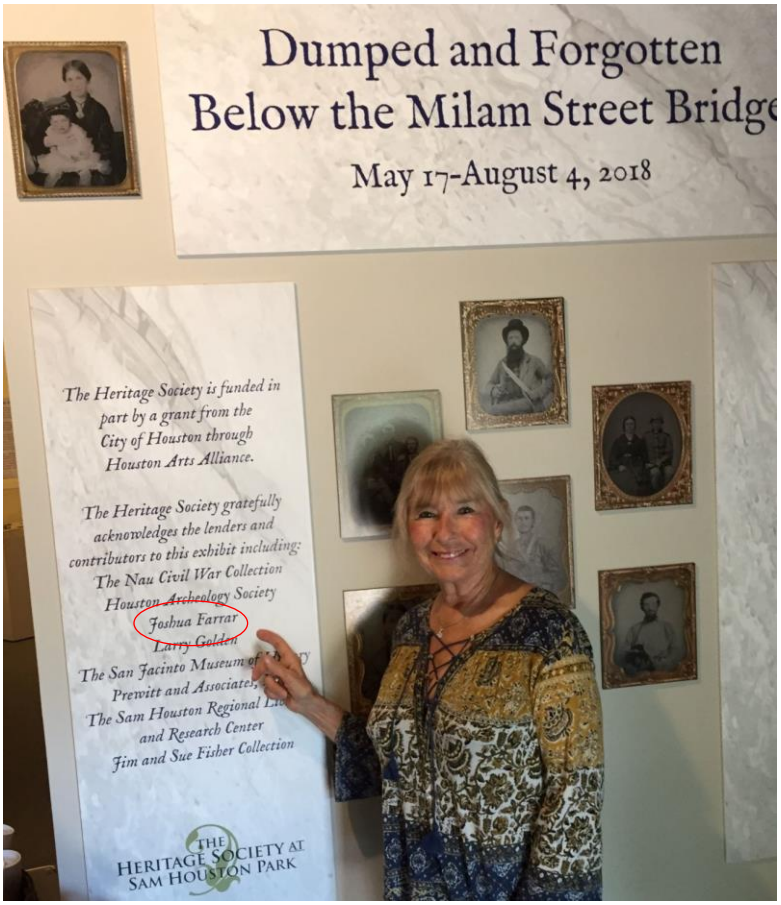


Figure 72 Houston Archeological Society President Linda Gorski visits the Heritage Society at Sam Houston Park during the exhibit *Dumped and Forgotten Below the Milam Street Bridge*. Photo courtesy of Ginger Berni.

To gain further public attention, I have taken several steps. I presented some of my findings in the monthly Houston Archeological Society newsletter and in the *Journal of the Houston Archeological Society*. Additionally, I presented numerous times on the Milam Street Artifacts including at both the 52nd and 53rd Annual Meetings of the Society for Historical Archaeology, at a Preservation Symposium in the College of Architecture at Texas A&M University, and at the 250-member Houston Archeological

Society monthly lecture series. I also created the information panels for the museum exhibit at the Heritage Society at Sam Houston Park in 2018. In my experience, at every juncture Houstonians from all walks of life have been enthralled with my findings and excited about my work.

Finally, as mentioned in chapter 2, research related to this project has generated evidence supporting the possible correction of the 1970 Texas Historical Commission Historical Marker once located, until damaged, at the Milam Street Bridge in Houston (Borgens, 2016). The marker incorrectly detailed the events surrounding the artifact assemblage by stating that the artifacts come from a sunken blockade runner (Texas Historical Commission, 1970). This study shows this to be the least-likely series of events and thus this correction will better-educate the public as they learn about the technology and material cultural of the American Civil War. This artifact collection specifically shines light on the logistical portion of the Civil War in Texas – a critically important, yet oft-overlooked portion of warfare.

CHAPTER VI

CONCLUSION

Overarching Conclusion

The preponderance of evidence is that the Milam Street Artifacts originated from the armory leased out of John Kennedy's property straddling the streets of Congress and Travis in downtown Houston. The most probable scenario is that in April 1865, the material in question was taken from John Kennedy's property and thrown in the bayou – likely off of the 1850 Milam Street Bridge (Johnston, 1991, pp. 63, 83; Relics of the Great War, 1886; Aulbach, 2012, pp. 292-298). In short, since General Lee had surrendered at Appomattox, the war was all but lost. Confederate soldiers looted their own armory and Kennedy, wanting his store back and fearing that the plundering would leave his property in flames, disposed of the supply remnants, including munitions, in the bayou.

The sunken barges theory has merit as well, though there is less 19th-century evidence for this option and the question of why the cargos, including primed artillery shells, were not offloaded before sinking still remains. Kennedy's disposal of material and the sunken barges may *together* account for the Milam Street Artifacts (Buffalo Bayou's Famous 'Bottle Neck' Hasn't Been Cleaned Out Since 1866, 1936). The blockade runner theory described on the Texas Historical Commission marker from 1970 is supported by the least evidence and makes the least logical sense given the situational and historical context (Sunken Confederate Ship File, 1969-72).

As for the specific artifacts within the collection, I suggest that the Union artillery shells may have been captured during the relief of Galveston in 1863 (Cotham Jr., 1998, pp. 105-139) and that the British and French shells may have been brought to Galveston by blockade runner through an intermediary port in Cuba, Mexico, or Belize (Hall, 2014, pp. 32-101; Powell, Cordon, & Arnold III, 2012, pp. 67-81; Watson, 1892, pp. xii-xiii; Nichols, 1964, pp. 70, 77, 82, 83-90). I have not discovered maker's marks on the shells and, therefore, I am basing my interpretation on ordnance typology.

In brief, conservation, preservation, and curation are all important steps in responsible artifact management. Their planning and completion are the responsibility of the researcher, and must be accomplished following standard operating procedures accepted within the archaeological field. Digital conservation is not an acceptable proxy for physical artifact conservation and natural disaster curation planning is necessary if an artifact is to be truly curated in perpetuity. Finally, public involvement is the lifeblood of archaeology and is critically important to the future of the field.

Concluding Thoughts and Personal Connections

In closing, working on the Milam Street Artifact Assemblage are a common thread connecting Houstonians in three centuries. The assemblage's ongoing story has shown how events that appear insignificant in the grand scheme of history are of importance to affected individuals and their descendants, whether through blood or mere geographic relation. These artifacts and objects like them, though seemingly inconsequential in the big picture, were significant to people living in Houston at the

time of the Civil War and have remained relevant at times throughout the intervening 160 years. Their historical narrative is important to tell because the small stories of history give the past realism and new life.

Artifacts are a constant reminder of the *human* element of history. Archaeology is not about the artifacts, it is about the people who used the artifacts. History is not about the documents, it is about the people's lives that are revealed by the documents. War is not only about grand campaigns and massive changes in the social order. These themes and changes are only identified later by historians and historical archaeologists. The study of war is about the soldier and those left behind who cared about him or her.

The Milam Street Artifact Assemblage reveals aspects of the home front, and the workers who desperately tried to keep soldiers fed, clothed, and armed. The artifacts relate part of the story of the people of Texas, the past people of the Confederacy, and the people of the United States. It is the story of the effort that went into making, procuring, shipping, and storing these supplies in order to support Texas soldiers.

When these supplies, now artifacts, slipped below the waters of Buffalo Bayou, it was not merely the loss of a few goods, it was the loss of thousands of hours of labor, worry for loved ones, and dreams for the future. With study of these artifacts, I am privileged to inject humanity into study of the past, through care for the lives of civilians and soldiers of the past. Though gone, they are remembered through their preserved material culture in the Milam Street Artifacts.

As a current member of the Texas Army National Guard, it is an honor to explore the exploits of those who served my state during one of its darkest times. I consider

myself blessed to have worked on this project, thereby continuing the tradition of service to my state through study of its past and interest for its citizens, both past and present (figure 73).

Figure 73 The author visits the Fredericksburg Battlefield, Virginia (Fredricksburg Battlefield - Fredericksburg & Spotsylvania National Military Park, 2018). Photo courtesy the author.

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APPENDIX A

RELEVANT PRIMARY SOURCE OUTLINE

1. History of Houston and Buffalo Bayou
    a. Houston Maps
        i. 1837, 1851, 1869, 1873 Maps
    b. Milam Street Bridge
        i. 1838
        ii. Several 1830's-1840's replacements
        iii. 1850
        iv. 1924
        v. 1947
2. Milam Street Bridge Artifact History
    a. Introduction of the Three Theories
        i. Supplies Dumped Off Bridge
        ii. Sunken Supply Barge
        iii. Sunken Blockade Runner (*Augusta)*
    b. Primary Sources
        i. Galveston Daily News – 1867
        ii. Galveston Daily News – 1877
        iii. Galveston Daily News – 1886
        iv. Galveston Daily News - 1896
        v. Houston Chronicle – 1906
        vi. Laredo Times – 1906
        vii. *True Stories of Old Houston and Houstonians: Historical and Personal Sketches* by S. O. Young, pgs. 131-133 – 1913
        viii. Houston Chronicle – 1936
        ix. Houston Chronicle – 1943
        x. John Gresham signed statement – 1968
        xi. W.L. Cleveland signed statement – 1968
        xii. F.J. Richards signed statement – 1968
        xiii. Southwest Historical Exploration Society Report by Carroll Lewis – 1968
        xiv. Houston Post – 1968
        xv. Houston Chronicle – 1968
        xvi. Texas Historical Foundation Files – 1969-1972
        xvii. Historic Marker – 1970
        xviii. Harriet Turner to Truett Latimer letter – 1972
        xix. Houston Business Journal - 1985
        xx. Texas Archeological Study Association Report – 1998

xxi. Texas Historical Commission Annual Report for Antiquities Permit No. 2035 – 1999
xxii. Texas Archeological Study Association Report – 1999
xxiii. Broken Historical Marker 2001 and 2011

3. History of the Milam Street Artifacts Ownership
    i. Deed of Gift from Mr. Carroll Lewis Jr. to Houston Museum of Natural Sciences – 1986
    ii. Gift Agreement from Houston Museum of Natural Science to Harris County Heritage Society – 1986
    iii. Texas Historical Commission Annual Report for Permit No. 2035 – 2016

APPENDIX B

TEXAS SOLDIERS MAINTAIN THEIR BATTLEFIELD REPUTATION

"The troops from other states have their reputation to *gain*, the sons of the defenders of the Alamo have theirs to *maintain*." – Jefferson Davis, 1861 (Grear, 2010, p. 35)

General Longstreet's Assault and General Lee's Gap - 1862

On August 30th, 1862, the final day of the Battle of Second Manassas, the Texas Brigade spearheaded General Longstreet's 25,000-men assault on the Union left. The brigade delivered 60 percent casualties to the 5th New York Zouaves in the process of overrunning two Union *regiments* (about the same size as a brigade) and an artillery battery. The assault shattered General Pope's Union forces, ending the battle and providing a considerable Confederate victory (figure 74).

The next month, at the Battle of Sharpsburg, the Texas Brigade moved up from the reserve to fill a gap in the Confederate lines. Taking 60 percent casualties, the brigade successfully held off two Union *corps* (many brigades). The Texans had cemented their reputation (Manassas National Battlefield Park, 2018).

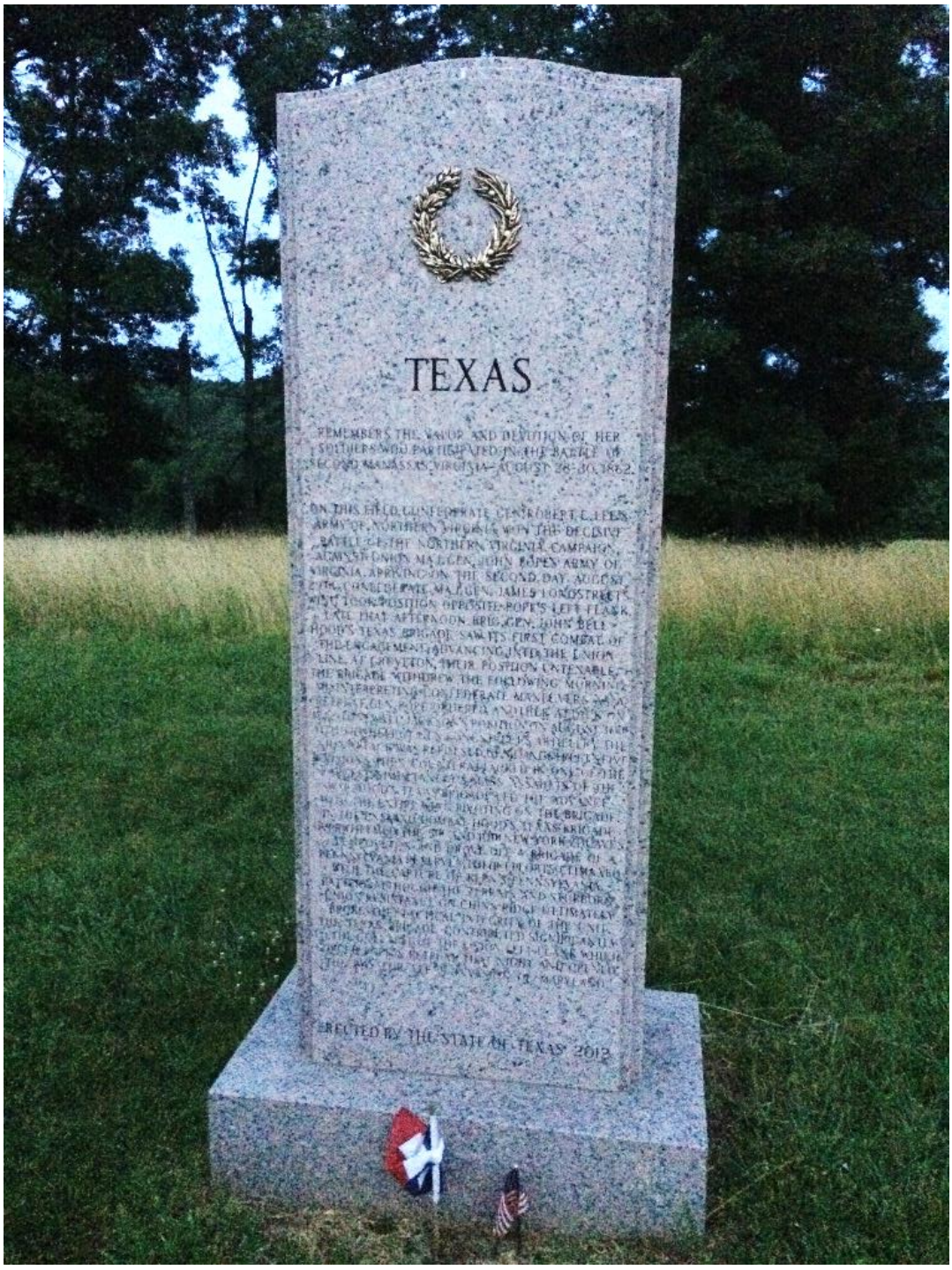

Figure 74 The Texas Civil War Monument at Manassas (Manassas National Battlefield Park, 2018). Photo courtesy the author.

Devil's Den and Little Round Top - 1863

"Follow the Lone Star Flag to the top of *the mountain*!" – Texas officer upon assaulting Little Round Top during the Battle of Gettysburg, 1863 (Grear, 2010, p. 1).

With their reputation upheld, the outnumbered Texas Brigade successfully took Devil's Den during the Battle of Gettysburg. Called upon to advance on Little Round Top, the brigade finally met its match and proved unequal to the task. This failure was the turning point of the war (figures 75-80) (Gettysburg National Military Park, 2017).

Figure 75 Little Round Top, decisive point of the battle of Gettysburg, as seen by the Texans at Devil's Den. (Gettysburg National Military Park, 2017). Photo courtesy the author.

Figure 76 Devil's Den, site of the majority of Texas deaths and the fiercest fighting at Gettysburg (Gettysburg National Military Park, 2017). Photo courtesy the author.

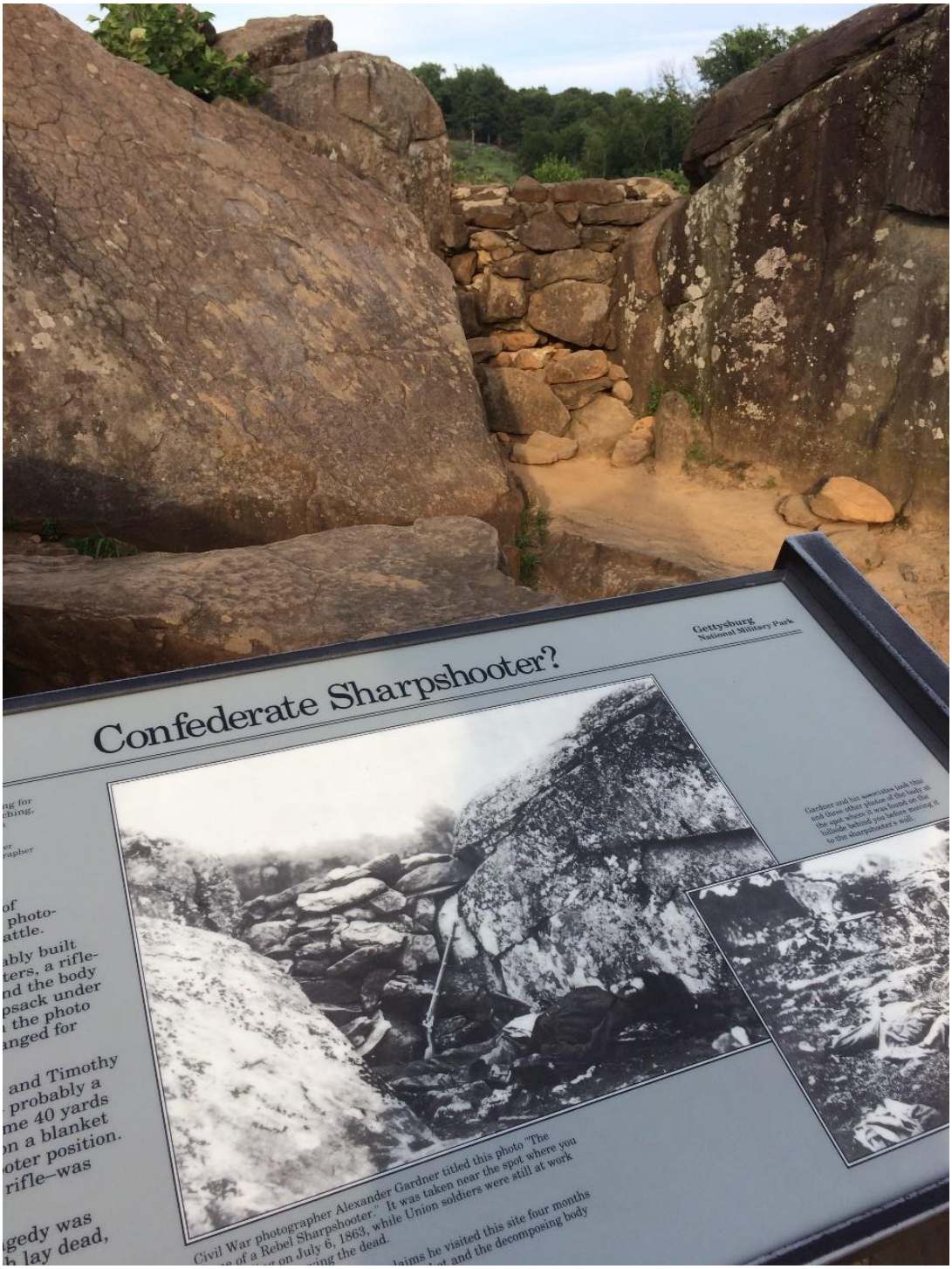

Figure 77 Famous site of a Confederate soldier death image in the twisting maze of rocks at Devil's Den, site of the majority of Texas deaths and the fiercest fighting at Gettysburg (Gettysburg National Military Park, 2017). Photo courtesy the author.

Figure 78 View of Devil's Den from Little Round Top at Gettysburg. This was the view that Union troops had as they fired down on Texas soldiers. (Gettysburg National Military Park, 2017). Photos courtesy the author.

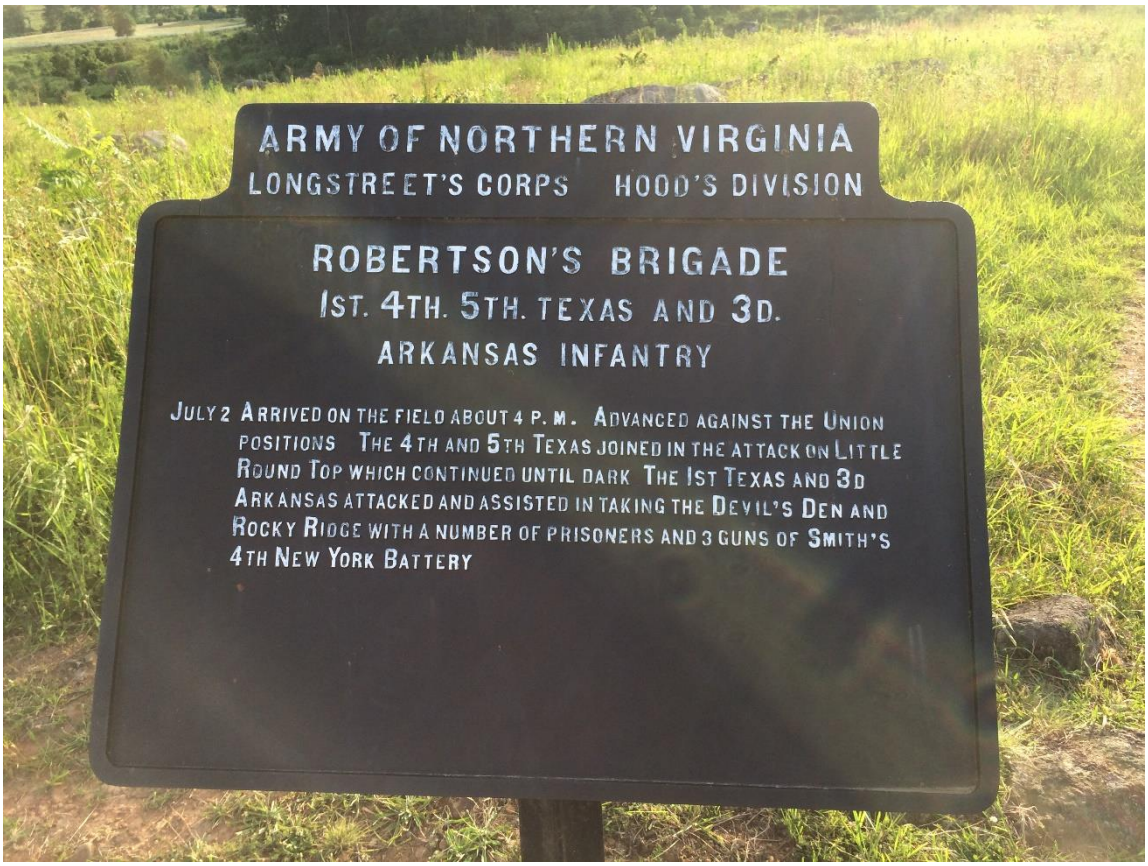

Figure 79 The Texans advance on Devil's Den and Little Round Top. (Gettysburg National Military Park, 2017). Photo courtesy the author.

Figure 80 The Texas Civil War Monument at Gettysburg (Gettysburg National Military Park, 2017). Photo courtesy the author.

The Crisis in Tapp Field - 1864

During the Battle of the Wilderness in 1864, General Robert E. Lee's Army of Northern Virginia was in retreat and about to cede the field of battle in catastrophic, possibly war-ending, defeat. Lee was left with only 12 cannon to face 20,000 advancing Union soldiers. Just as the battle seemed hopeless, the first reinforcing soldiers of General Longstreet's Corps, Hood's Texas Brigade, jogged into view up the Plank Road. Overcome with emotion, General Lee tried to lead the charge of the Texans from horseback, but the Texans stopped mid-charge and yelled, "Lee to the Rear! Lee to the Rear!" Suitably admonished for the rash risk of his own life, so precious to the future of the Confederacy, Lee complied and the Texas Brigade charged into the fray, turning the tide of battle from bitter defeat to overwhelming victory (figure 81) (The Wilderness Battlefield - Fredericksburg & Spotsylvania National Military Park, 2019).

Figure 81 The Crisis in Tapp Field (The Wilderness Battlefield - Fredericksburg & Spotsylvania National Military Park, 2019) Photos courtesy the author.

APPENDIX C

FINDING THE HUMAN ELEMENT IN ARCHAEOLOGICAL RESEARCH

Balancing Approaches to Studying the Civil War

While I volunteered on an archaeological dig in 2016 for the Houston Archeological Society, Linda Gorski, president of the society, asked if I would be interested in getting involved with a project concerning "underwater stuff and the Civil War." Later that year I traveled with Gorski to the Heritage Society at Sam Houston Park and met the collections curator, Ginger Berni. Together they introduced me to the Milam Street Artifacts. While I had entered graduate study with the intention of studying Ancient Near Eastern shipbuilding, I instead devoted my time working with a collection about 5,000 years closer in time and 7,000 miles closer to home.

Before I embarked on this research venture, my Civil War knowledge was limited. It included watching Ken Burns' 11-hour 1990 documentary *The Civil War*, visiting two Civil War battlefields, and reading Shelby Foote's three-volume work, *The Civil War: A Narrative*. I had little knowledge of Texas' part in the war beyond hearing the names Albert Sydney Johnston and Hood's Texas Brigade, and I had no background covering motivations of individuals, public policy, weapons systems, or industry and logistics. This study would ultimately carry me around the country, investigating battle sites and museums. I reflected upon how Civil War museums, memorials, and landscapes convey human experience and emotion through their displays of artifacts and information panels (figure 82).

Figure 82 The author and his wife, Helen Farrar, visit Chickamauga and Chattanooga National Military Park in Tennessee and Georgia (Chickamauga & Chattanooga National Military Park, 2017). Photo courtesy the author.

Needing stronger background in the Civil War era before embarking on a substantial Civil War artifact analysis, I turned to Dr. Joseph Dawson III of the Texas A&M University History Department as one of his research fields is the American Civil War. In the year before his retirement he directed me in two semesters of independent study about that conflict.

I began to unwind the complex relations during the Antebellum period between North and South, East and West, urban and rural, free and slave. Numerous factors contributed to regional strains in the United States that led to the Civil War. One such example that proved especially pertinent to Houston was river improvement public

policy – a clash of fiscal ideologies that only exasperated sectional tensions. As Buffalo Bayou was continually improved, both before and after the Civil War, national tensions from river improvement policy were fundamental to understanding the role of Buffalo Bayou – that critical connection between Houston and the port city of Galveston on the eve of the Civil War (Paskoff, 2007, pp. 1-290).

Readings introduced contrasting views of the Union naval blockade of the Confederacy. While some historians saw the blockade as effective (McPherson, 1988, pp. 313-316, 369-373, 378-388), others disagreed (Still, 1983). With the longest coastline in the Confederacy, Texas played a notable part in the blockade. The trade hub of the state was Galveston, and so it was most-affected by the blockade. But Houston served as the primary resupply point for Galveston and connection to the rest of Texas, and so the blockade was intertwined with the status of Houston as well.

Understanding the Milam Street Artifact Assemblage required studying Civil War weapons and munitions in order to understand pieces from my artifact collection. Desperate for any resources, the Confederacy used Southern, Northern, and European manufactured equipment, as well as weapons and materials dating back to the 1820's. The archaeological cache from Buffalo Bayou took on new light as it became apparent that artifact identification and analysis would involve knowledge spanning decades and continents, including focusing on the minutest details (figure 83) (Ripley, 1970, pp. 13-16).

Better understanding the state of Confederate arms, munitions, and equipment during the Civil War required study of the Confederate economy and its manufacturing

and trade practices and sources. A major reference is James McPherson's 1989 Pulitzer Prize-winning book, *The Battle Cry for Freedom* that introduces the status of Southern industry, business, and the economy in 1860. But even after reading such a respected book, more questions cropped up and other themes and topics needed to be explored (McPherson, 1988, pp. 6-8, 33, 39, 91-102, 437-442).

Figure 83 The author examines belt buckle replicas at Pamplin Historical Park – The National Museum of the Civil War Soldier (Pamplin Historical Park, 2018). Photo courtesy the author.

I sought out statistical analysis of the Southern economy and how environmental factors impacted the Antebellum Southern social order. *Modernizing a Slave Economy: Economic Vision of the Confederate Nation* by John Majewski provided a critique of the commonly held view that the South was against industrializing due to its traditional values. Majewski argues that the South was striving for industrial progress, but wanted to base this technological development on slave, instead of free, labor (Majewski, 2009, pp. 1-162). Majewski provided me with an anthropological study of environmental determinism based on shifting agricultural techniques, but I was still missing the human element (Majewski, 2009, pp. 22-80, 163-180). How desperate was the Southern manufacturing plight that a Houston artifact cache would contain such a hodgepodge of material?

Assistance in reaching that human element came from an unexpected location – *Ironmaker to the Confederacy: Joseph R. Anderson and the Tredegar Iron Works* by Charles Dew provided the intimate perspective into the South's war effort. Serving as arguably the most important Southern industrial center, Tredegar Iron Works (figure 84) attempted almost singlehandedly to bridge the South's industrial gap compared to the North (Dew, 1966, pp. 1-320).

Figure 84 The author visits Tredegar Iron Works and the American Civil War Museum in Richmond, Virginia (Tredegar Iron Works, 2019). Photo courtesy the author.

The daily struggles of Joseph Anderson to gain raw materials and keep his business afloat fleshed out the limited Southern industrial capacity during the war, and how important it was for the Confederates to acquire, upkeep, reuse, and defend artillery and ammunition (Dew, 1966, pp. 1-320). Dew's work improved perspective into the significance of the Confederate artifacts found in Buffalo Bayou to the Southern cause. These artifacts may seem old and outdated from the perspective of the 1860's, but some were likely critical to the South's war effort and only the direst of circumstances would have seen them abandoned in the bayou.

Human Motivation in the Civil War South

Historians have written for decades trying to comprehend the experience of the Confederate soldier (Hughes Jr., 2008, pp. vii-xviii; Grear, 2010, pp. 1-9; McPherson, 1988, pp. vii-xi). What would drive men to fight for four long years, armed only with mismatched varieties of equipment and ill-supported by a crippled economy?

To find answers, researchers travel across the country visiting battlefields and museums to in an attempt to understand this missing human element of the war. During my own research travels, I visited Manassas where the battles began, and Appomattox where the war in the East ended. I went to the sites of the South's greatest victories, usually supported by the shock troops of the Texas Brigade, including Second Manassas, Fredericksburg, Chancellorsville, Chickamauga, and the Wilderness. I studied the sites of the South's greatest defeats including Gettysburg, Chattanooga, Petersburg, and Richmond (figures 85-87). Just walking the battlefields, one feels connected with the Civil War soldier and sees the fields of death through their eyes.

Figure 85 Comparing artifacts from the Milam Street Artifact Assemblage with those displayed at Manassas, Fredericksburg, Gettysburg, and Petersburg National Battlefield Parks (Manassas National Battlefield Park, 2018; Fredricksburg Battlefield - Fredericksburg & Spotsylvania National Military Park, 2018; Gettysburg National Military Park, 2017; Petersburg National Battlefield, 2019). Photos courtesy of the author, Linda Gorski, and Amy Borgens.

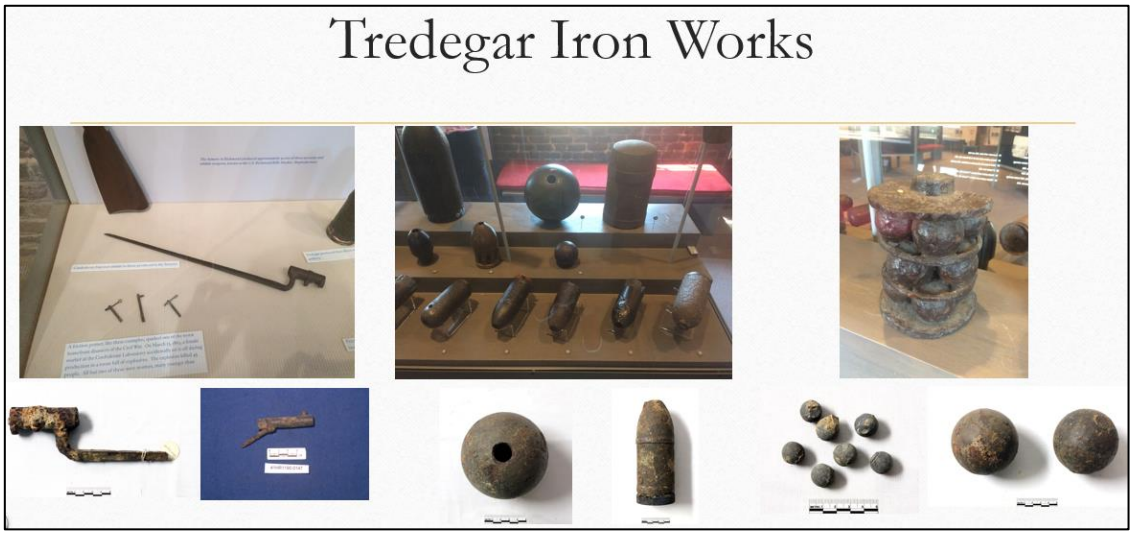

Figure 86 Comparing artifacts from the Milam Street Artifact Assemblage with those displayed at Tredegar Iron Works (Tredegar Iron Works, 2019). Photos courtesy of the author, Linda Gorski, and Amy Borgens.

Figure 87 The rolling hills of the twice fought-over battlefield at Manassas, Virginia (Manassas National Battlefield Park, 2018). Photo courtesy the author.

I strained to understand the logistical support that was needed for the war effort – the very idea of keeping the Southern soldiers fed, clothed, and armed was mind-boggling. I visited Tredegar Iron Works, General Ulysses Grant's Petersburg supply line at City Point on the James River, the U.S. Army Quartermaster Museum, Pamplin Historical Park, and the Civil War Naval Museum in Columbus, Georgia (figures 88-90). These trips afforded an intimate look at Civil War wagon, train, and ship supply technology, at plantation economy, and blockade running psychology.

Figure 88 The battlements, trenches, and impromptu soldiers' quarters at Petersburg, Virginia (Petersburg National Battlefield, 2019). Photos courtesy the author.

Figure 89 Standard issue Army rations from relatively soon after the Civil War (U.S. Army Quartermaster Museum, 2019). Photo courtesy the author.

Figure 90 *Supporting Victory* by Don Stivers. President Lincoln, General Grant, and others look on at the Union supply depot at City Point, Virginia during the siege of Petersburg. Note the ships, wagons, warehouses, and trains needed for supplies. (U.S. Army Quartermaster Museum, 2019). Photo courtesy the author.

But something was still missing. Even after three summers of travel in search of the Southern soldier, I was still lacking more about the *Texas* human element. Why did the Texans go to war? Why were Hood's Texans fighting so far from home, and what of the Texans left behind, fighting nearer the homefront in the Trans-Mississippi? And most importantly, what was Houston's role in the war effort?

I turned my attention to specific Texas engagements such as Galveston, Brownsville, Sabine Pass, and the Red River Campaign (Wooster, 1995, pp. 87-92, 111-113, 119-120, 128, 133, 136-137, 138-145). These battles can easily be lost in the noise of larger conflicts such as Vicksburg and Sharpsburg, but these battles were *the* Civil War to many Texans – not far off campaigns in Tennessee or further east. I refocused my studies from the motivations of Texas soldiers in all theaters of the war to those fighting on the home front (Grear, 2010, pp. 1-9). What did the Trans-Mississippi Theater mean to the Texas soldiers? Why did they enlist? Why would they willingly fight and die to defend a Texas way of life? And what types of supplies did they use?

After raising many questions, my studies led to one book that can open readers' eyes to intimate nature of the Texas Civil War struggle – *The Ragged Rebel: A Common Soldier in Parson's Texas Cavalry* by B. P. Gallaway. This book reveals an individual perspective about why Texans fought for the South and shows how the artifacts found in Houston should still have importance today.

The Ragged Rebel provides readers unique insight into the common soldier's perspective. Gallaway ties together how events that are insignificant in the grand scheme of history are of vital importance to affected individuals (Gallaway, 1988, pp. 1-136).

Reading *Ragged Rebel* helped me understand that the collection of artifacts from Buffalo Bayou, though seemingly insignificant in the big picture and after the passage of time, were vital to people living in Houston during the Civil War. The background of these artifacts is important to tell because the small stories of history give the past realism and new life. History is not grand campaigns and sweeping political drama. At its heart, history is individual people getting out of bed and facing the day (figure 91). These artifacts potentially touched the lives of thousands of people and those lives are worth remembering through study of these artifacts.

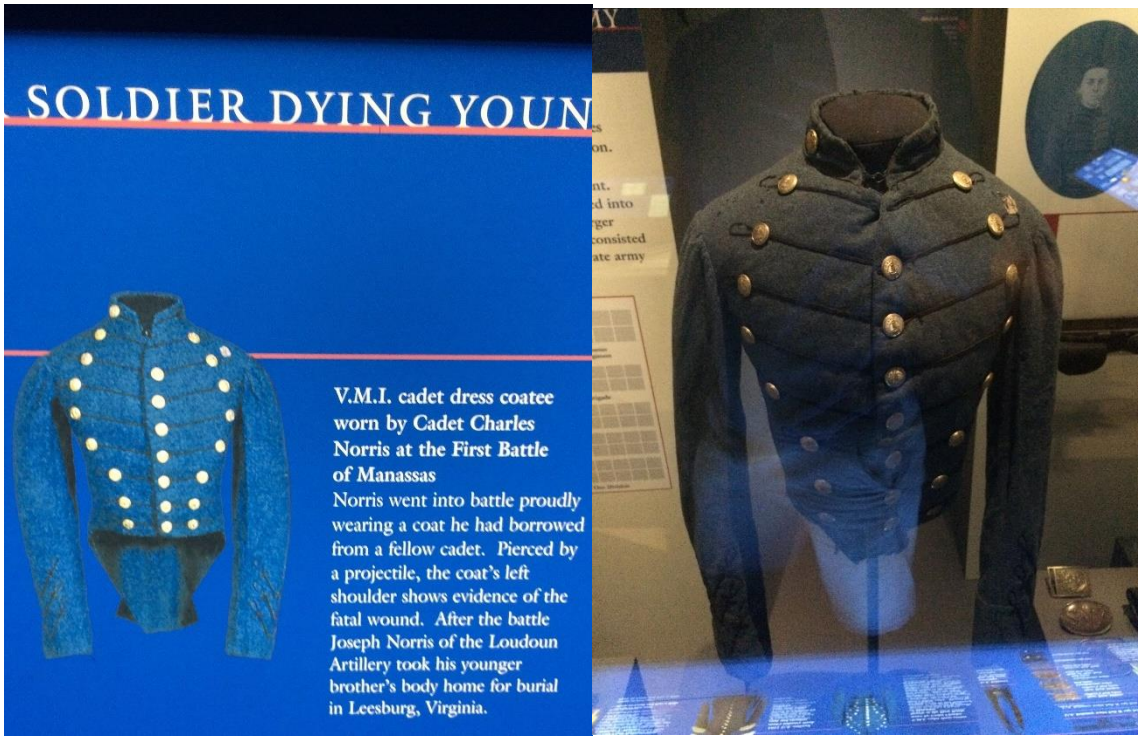

Figure 91 The death of a young soldier at the First Battle of Manassas. The real price of war (Manassas National Battlefield Park, 2018). Photos by the author.

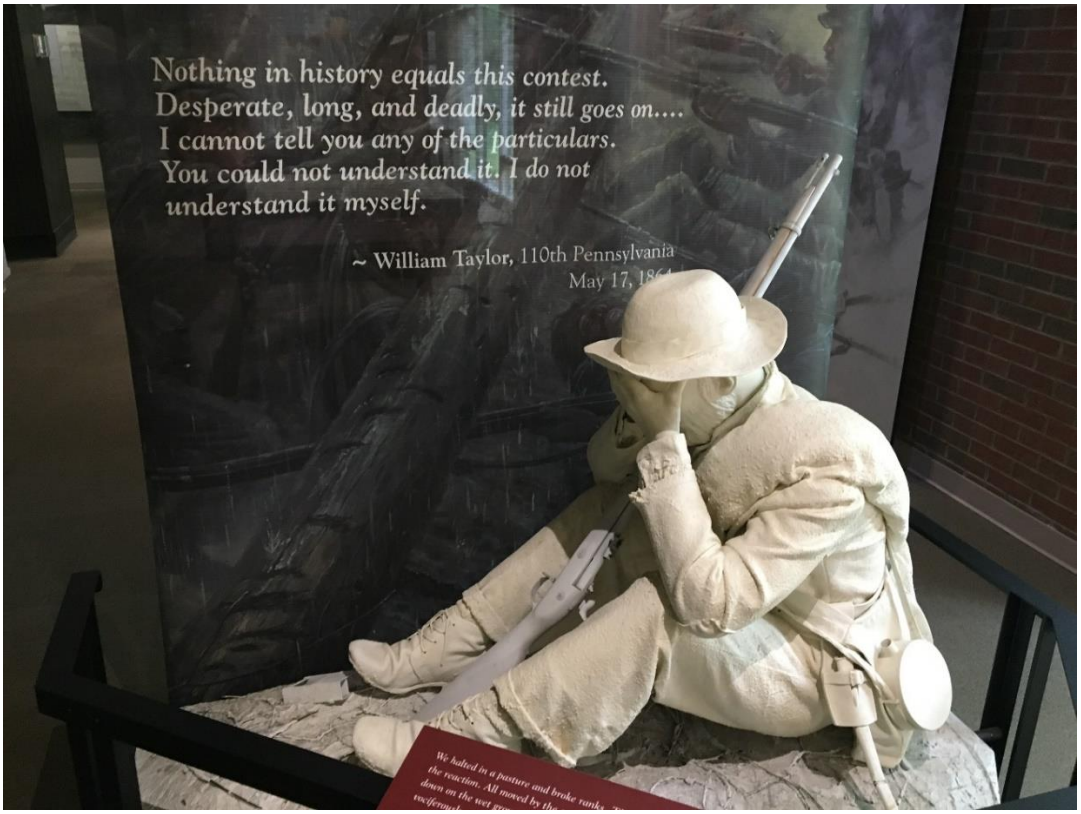

Figure 92 "Nothing in history equals this contest. Desperate, long, and deadly, it still goes on…I cannot tell you any of the particulars. You could not understand it. I do not understand it myself." – William Taylor, 1864. The psychological isolation and chaos of war (Chancellorsville Battlefield - Fredericksburg & Spotsylvania National Military Park, 2019). Photo courtesy the author.

The Milam Street Artifact Assemblage itself is not the destination of this study. The artifact collection is merely the vehicle used by this dissertation to illuminate examples of how 19th-century Americans drew upon that century's technology and how 21st-century Americans are still impacted, and caught up in, that story today. Just as Tolstoy's *War and Peace* is not a tale about Napoleon or Russia, but a coming-of-age story set on the stage of Napoleonic-era Russia, this dissertation is not only a study of

artifacts, but a study of humanity in Houston and Texas. It is a study of humanity both during the Civil War and throughout the aftereffects of the Civil War, all set on the stage of a region's shared connection to an assemblage of artifacts that has affected the lives of Houstonians for two centuries (figure 92).

Furthermore, returning to *The Ragged Rebel*, my reading elucidated a major folly that my research had fallen into up to this point. As an archaeologist with military experience it is tempting to trust the interpretation of military history to modern historians who have military service experience or to rely on one's own military experience when interpreting the military past. But this temptation presents a new problem when studying past conflicts as it provides the historian or historical archaeologist with a false sense of familiarity with the past military force, leading to subconscious anachronisms being applied to interpretations of historical texts and artifacts.

The Civil War armies of the Union and the Confederacy were not the modern U.S. Army. Many of the strategic, operational, and tactical doctrines have changed significantly during the intervening 160 years. The motivations of the nation and the common soldier have changed as well. There is just enough similarity to create research lethargy, but plenty of strangeness if one looks with an active eye. Only in studying this strangeness can a historian be sure to be studying the actual Confederate or Union Army (as close as one can get through the clouded lenses of texts and artifact interpretation) instead of studying the Civil War as played by the modern U.S. Army, with modern thoughts, tactics, doctrines, stratagems, reasons for fighting, and structures thrown into

the mix. Are we remembering the dead as they were or creating a mockery of the past – recreating the past in our modern image to serve the desires of the present (figures 93-94)?

Figure 93 An early Civil War monument from the 1880's stands on the Manassas battlefield (Manassas National Battlefield Park, 2018). Photo courtesy the author.

Figure 94 A more-modern monument to Stonewall Jackson, depicted with bulging muscles, stands on the Manassas battlefield (Manassas National Battlefield Park, 2018). Photo courtesy the author.

The peoples of the past were the same yet different, humans yet wholly alien, just like us yet completely unlike us in many ways. If one reads a historical text and instantly thinks that they understand its meaning and feel familiar with the people and culture therein detailed, one should think again. The Milam Street Artifacts and their history were studied with this thought process in mind.

Concerning Research and Dissertation Methodology

Approaching study pertaining to the Milam Street Artifacts from an eclectic set of research interests, I utilized the artifacts as a backdrop while revealing the *people* who once made, traded, used, discarded, and rediscovered them. Beyond merely a personal account of an artifact-centered learning exploit, this dissertation is presented through a people-centric lens, and thereby illustrates the social importance of archaeology – as a provider of knowledge not only about others, but about *ourselves*. By looking at human beings in environments and periods different than our own, we build researched, yet unavoidably imaginary backgrounds against which we can see ourselves and hopefully better-understand our lives and values from a different viewpoint.

Even though portions of this dissertation reveal a personal account of artifact and historical discovery, as a scholar trained in classical history and a Texas soldier concerned with those who came before, accuracy has been both focal point and crucible for the present work. As I demonstrate in the following chapters, I studied the history of mid-19th-century America, the Civil War, Houston, and the lives of the Texans that engaged in the war, with utmost care and attention to detail.

I understand that some readers may find this research account too sundry, while others will welcome the liberal use of anecdotes and diverse avenues of scholarship. I deliberately allowed this study to cross disciplinary boundaries at times in order to enrich *my* experience, while concurrently satisfying the natural curiosity of the reader through use of vetted narratives that I encountered during research. Rest assured, never forgotten was the main purpose of this dissertation – the investigation of a collection of

Confederate material supplies abandoned in Buffalo Bayou after the Civil War. In this sense, this work fits rather well with the objectives of microhistory, the trend stemming from the 1970's that aims at asking large questions in small places (Joyner, 1999, pp. 1-361).