

5-2018

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## Recommended Citation

Leininger, Jordan, "Pilgrims, Patriots & Porters: How Beer Influenced the Creation of the United States" (2018). *Capstone Projects and Master's Theses*. 317.

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California State University, Monterey Bay

# **Pilgrims, Patriots & Porters: How Beer Influenced the Creation of the United States**

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Capstone Project  
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May 2018

## **Abstract**

Beer has played an integral role in human history. Since the beginning of the human agrarian lifestyle, beer has been a safe source of water as well as a nutritional beverage, and has also played important roles to humans both economically and socially. The United States is no different; the influence of beer is demonstrated in the settling and creation of the United States of America. Methods utilized in this study include articles and books found through the CSUMB Library databases, and consultation and personal communications with experts. The purpose of this Capstone is to educate readers of the direct influence beer has had on the Colonial Era, specifically in the settling and creation of the United States.

## **Introduction**

Beer has been a staple in mankind's diet and has been a crucial part of human survival for millennia. Beer has evolved immensely over time. For instance, in ancient times, humans used a variety of ingredients like fruit, honey, and different grains, while modern day brewers have taken ingredients to an all-new level. Based on fermentation methods and ingredients, and traditions, beer has had numerous names throughout the centuries. Unfortunately, some ancient brewing methods are lost to us and therefore, it is impossible to determine into which style they fall. Today, beer has two styles: ale and lager. Within these two styles, multiple types are created like pilsners, ambers, IPA's, porters, and stouts. The distinction of ales and lagers is based off of their method of fermentation. Lagers are fermented cold, while ales are fermented warm. Temperature dictates where the yeast goes during the fermentation process. Since lagers are cold, the yeast falls to the bottom while the warmth causes the yeast to rise to the surface during fermentation. For purposes of this study, beer will be defined as any malt-based, fermented, alcoholic beverage.

Since the beginning of the human agrarian lifestyle, beer has been a safe source of water as well a nutritional beverage. Beer has also been shown to be just as important to humans both economically and socially. The influence of beer is profoundly demonstrated in the settling of North America and creation of the United States of America. North America's Colonial Era is rich in beer history. From the Pilgrims landing in Plymouth to the American Revolution, beer makes its way into the history books. One of the United States' tastiest holidays (i.e. Thanksgiving) was made possible because of beer. The Pilgrims landed in Plymouth because their beer rations were running low.<sup>1</sup> Great American patriots, such as Sam Adams, drank beer in taverns while planning Revolutionary events like the Boston Tea Party and the Midnight Ride of Paul Revere.<sup>2</sup> Concerning my research, both non-beer historical works and historical works addressing beer are crucial to my research, and will benefit my study because the historians wanted to tell a comprehensive story. The fact that all of these works mention how important beer was is imperative because of its consistent information. The works of the beer historians go into greater detail and provide primary and secondary sources pertaining to beer. My capstone will piece together both categories of study, the historical context, and the influence of beer.

The purpose of this Capstone is to educate readers of the direct influence beer has had on the Colonial Era, specifically in the settling and creation of the United States. Landmark events would not have happened, or may have transpired differently if beer was not involved. Ultimately, if it were not for beer, the United States would not be the country that it is today.

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<sup>1</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 10.

<sup>2</sup> Amy Mittelman, *Brewing Battles: The History of American Beer* (Algora Publishing, 2007, 12).

## Historiography

When I first started my research in the fall of 2016, I personally reached out to Dr. Patrick McGovern about my project and asked for advice and references. Recognized as the "Indiana Jones of Ancient Ales, Wines, and Extreme Beverages," McGovern holds numerous degrees in history, chemistry, neurochemistry, and archeology.<sup>3</sup> Dr. McGovern has collaborated with Dogfish Head Brewing of Delaware to recreate ancient ales from McGovern's study of King Midas' Tomb. Through their studies, McGovern and his team did a chemical analysis of a residue inside a clay jar. This residue ended up being a beer.<sup>4</sup> Through science, McGovern and Dogfish Head Brewing recreated this 2700-year-old beer naming it Midas Touch.<sup>5</sup> Since McGovern deals with ancient history he was not too familiar with colonial brewing. As a suggestion, McGovern recommended that I read *Brewed In America: A History of Beer & Ale in the United States* by Stanley Baron.

*Brewed in America* became one of the most important sources for my research. Baron provided a significant amount of beer related history from primary and secondary sources from the United States Colonial Era through to the 1900's. Purchasing *Brewed In America* through Amazon.com led to the suggestion of *Beer In America The Early Years - 1587-1840* by beer historian Gregg Smith. Not only does Smith use Baron for his study, he does his own extensive research on American beer history. Again, Baron shows up again in my research within beer historians and researchers Eline Poelmans and John Swinnen's *A Brief Economic History of Beer*. In this under-researched history, Baron is the leading historian.

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<sup>3</sup> Patrick McGovern, "Dr. Pat," *Biomolecular Archaeology Project*, accessed November 12, 2017. [https://www.penn.museum/sites/biomoleculararchaeology/?page\\_id=10](https://www.penn.museum/sites/biomoleculararchaeology/?page_id=10).

<sup>4</sup> McGovern.

<sup>5</sup> "Midas Touch," *Dogfish.com*, accessed November 12, 2017. <https://www.dogfish.com/brewery/beer/midas-touch>.

Another resource that has been crucial is the History Librarian, Eddy Hogan, who introduced me to numerous sources. Hogan's suggestion of books available in the CSUMB Library led me to finding other books I needed. As I was picking up the books Hogan suggested, I looked around the areas the books were located and found other excellent books for my research. These books ended up being very pivotal to my research on the Pilgrims.

The last method of research I have implemented the use of the Internet. Through the Internet I have been able to search for primary and secondary sources. These sources include George Washington's beer recipe<sup>6</sup> and the Mayflower Compact.<sup>7</sup> The Internet has provided excellent sources and online archives such as the Library of Congress, other works by Dr. McGovern, and very important databases such as JSTOR and Google Scholar. Through these databases I have been able to compile enough evidence to show that beer has had a great impact on the Colonial Era and the creation of the United States of America.

The Colonial Era of what is now the United States of America has been well studied for over 200 years. Looking back at this era from 1500's to the signing of the Constitution of the United States in 1787, many different aspects of colonial life have been researched and many misconceptions have been dispelled throughout the years from new emerging evidence. One aspect of the Colonial Era that has not been as well examined is how the consumption of beer influenced the creation the United States. Survival and daily life during the Colonial Era was indeed very difficult due to disease, starvation, the elements, and, in some instances attacks, from Native Americans. Some may be surprised to learn that beer not only helped the colonists and founding fathers, but also had a profound influence on the creation of the United States.

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<sup>6</sup> "To Make Small Beer," *New York Public Library*, accessed December 5, 2017. <https://www.nypl.org/about/divisions/manuscripts-division/george-washington-beer>.

<sup>7</sup> Henry Martyn Dexter, *Mourt's Relation or Journal of the Plantation at Plymouth*, (Boston, J. K. Wiggin, 1865). Retrieved from the Library of Congress, <https://lccn.loc.gov/03008746>, 6.

Unbeknownst to these colonists, drinking beer saved their lives, provided nutrition, and helped fuel a revolution.

The examination of the Colonial Era and beer can be broken down into two categories of study; the historical context in which these people lived and how beer influenced this time period. These two categories can be broken down further into at least three fields of study and expertise: historians/anthropologist, business/economic experts, beer historians, and the use of primary documents of the time. In the field of Colonial history, historians such as Claudia Durst Johnson, Dorothy Denneen Volo and James M. Volo, anthropologist James Deetz, historian Patricia Scott Deetz, and Nathaniel Philbrick specialize in specific times and places from the landing of the Pilgrims in Plymouth to the American Revolutionary War. Beer historians such as Stanley Baron, Gregg Smith, Amy Mittelman, and economic historians and beer historians Eline Poelmans and John Swinnen research and write about beer's importance in a general sense. Not surprisingly, every one of these texts addresses the importance of beer from a survival, health, economic, or revolutionary standpoint.

In *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*, well known anthropologist James Deetz and his wife, historian Patricia Scott Deetz go into great detail about the Plymouth Colony. Deetz begins the book by tackling the Thanksgiving myth. The importance of this book derives from bridging the old history of Plymouth with the new history on the subject. The Deetz' cover everything concerning the Plymouth Colony from their daily diet, court cases, sex, how the household was run, furnishings, religion, up through modern day (2000s) existence of Plymouth. Through the old history and new history of Plymouth, the Deetz' are able to give a far better look at how things were during the 1600's in the Plymouth Colony. This book is very valuable to my study because not only does it go into great detail about the day

to day live of those in the Plymouth Colony; it mentions beer and other alcohol throughout the text. This is imperative to my research because it is not written by a beer historian, or written to show the importance of beer during the colonial era. This book gives facts and analysis about how beer was a staple in not only the Plymouth Colony but in English daily lives and other colonies in America.

Historian and author Nathaniel Philbrick introduces readers with the journey of the Pilgrims sailing to North America aboard the Mayflower in the book titled, *Mayflower: A Story of Courage, Community, and War*. Philbrick enlightens readers about what it meant to be a Pilgrim. To understand the Pilgrims journey to North America, one must understand the Pilgrims origins. From the sailing aboard the Mayflower to King Philip's War, Philbrick goes into great detail about the Pilgrims way of life. Everything from the Pilgrims' social life, relations with the Wampanoag<sup>8</sup>, the first Thanksgiving, survival, and war is presented in great detail. This book is of great importance to my research because it gives great detail about the Pilgrims and their voyage aboard the Mayflower. Another strength this book provides is that it mentions beer on the first page. This book was not written as a beer history book, but shows how beer was important to the Pilgrims and influenced their diet and landing on Plymouth Rock. Not only is *Mayflower* alone an excellent source by itself; it strengthens the other sources on Pilgrim I am using for my research.

All of these sources contain information about the plight of the Pilgrims, their myths, survival, daily life, and religious practices. These scholars' perspectives are all written through the day-to-day life of the Pilgrims. Documents and accounts of common folk, governors, and sailors have all mentioned beer. Many of the English colonists coming to North America arrived

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<sup>8</sup> Nathaniel Philbrick, *Mayflower: A Story of Courage, Community, and War*, (New York: Viking, 2006,) 155. The Wampanoag were an Indian Nation in the New England area lead by the Sachem Massasoit. Massasoit helped the Pilgrims during their struggle of establishing a colony in Plymouth.

with the mentality that drinking fresh water was dangerous due to the pollution of water sources in England. That mentality instilled the notion of drinking beer instead of water. Multiple accounts tell of the Pilgrims begrudgingly drinking the fresh New England waters because they were out of beer.

Not only is beer prominent in the world of the Pilgrims, other uses of beer are found during the Colonial Era. In the *Daily Life in Colonial New England*, prominent literary scholar Claudia Durst Johnson dives deep into the history of colonial New England. Johnson begins with the original settlers of New England (Native Americans such as the Wampanoag). Johnson explains the reason for English colonizers to immigrate to North America; thus began the numerous settlements of Massachusetts. Eventually, Boston became an important harbor, and is key to beginning the American Revolution with the events of the Boston Massacre and Boston Tea Party in the 1770's. With the every day lives of New Englanders during the Colonial Era, much information is divulged such as everyday diet, religion, commerce, government, entertainment, sex, slavery, education, and much more. Beer does not make a large contribution to this book, but it does find its place. One particular instance of beer in this book is how the brewing industry provided new jobs in the form of brewers, coopers, malters, and other beer related enterprising. I found this way of looking at beer very important to my research because I had not thought of the importance of beer from the job point of view. This opens up more doors in my beer research in Colonial America.

In *Daily Life During the American Revolution*, historians Dorothy Denneen Volo and James M. Volo go in to great detail about every day life in the colonies during the Revolutionary War and the events that led up to it. Through this in depth look, life in the colonies is broken down into great detail of clothing, food, beverage, religious and political beliefs, literacy rates,

fashion, entertainment (in home and in public), war, Native Americans, and much more. The Volos share what was an everyday experience during the American Revolutionary War compared to events and battles during this time. Because of this version of history, I am able to see what happened from the people's perspective. Through this perspective, and it not being a beer-focused source, I have found that beer played a part in the American Revolution.

Beer historians have gathered many clues and important pieces of information from the works of Deetz, Volo, Philbrick, and Johnson. Beer historians such as Baron, Smith, Mittelman, Poelmans and Swinnen have compiled very extensive beer and brewing histories of the Colonial Era. Most notable of the list are Smith and Baron. Baron began work in the 1960's. In *Brewed In America*, he introduces readers to the importance of beer in the colonies of North America. Through the use of primary sources, Baron shares importance of beer in the colonies that can be traced as far back to the Roanoke colony in the late 1500's. Baron takes readers on a journey from the earliest colonial settlements through to the 1900's and gives examples of beer in every day life and its nutritional value. Baron's research demonstrates the importance of beer to colonists, even to the ultra religious peoples such as the Puritans, who drank and relied on beer over other forms of alcohol such as wine and brandy. This source is extremely important to my research because its use of numerous primary sources. From these sources and accounts of colonists, I am able to prove my theory that beer was a driving force in the creation of the United States.

Smith's book *Beer In America The Early Years - 1587-1840* takes an in-depth look at beer and how it plays a large role in the colonial life in North America. Smith explores the colonies and their growth and how each one is connected with the issue of the dangers of drinking water instead of beer. Beer provides nutrition while killing deadly microbes during its

brewing process. Due to decades of polluting local water sources in England, colonist travelling from England learned not to trust water and drink it. Colonist knew the benefits of beer and preferred its taste to water. Smith's book will be another crucial source for my capstone. Smith provides numerous other sources that I may use.

In *Brewing Battles*, historian Amy Mittelman explained the history of American beer. Throughout the book, beer and American History go hand in hand. From the earliest colonial settlers, to modern United States, the history of American beer is ever relevant and exciting. Mittelman goes into great depths of events in colonial history that are beer related. Some of these events involved Sam Adams. Adams, despite popular belief, was not a brewer but in fact owned a malt house. Malt is a grain known as malted barley, an ingredient used in brewing beer. Mittelman shares the importance of Sam Adams and his patriotic stance against taxation from the British Government. Adams and other patriots such as John Hancock planned protests and events such as the Boston Tea Party in taverns like the Green Dragon Inn while drinking beer. Mittelman's writing will be of great use to me because it shares experiences of important people in the American Revolution and how they revolve around beer. These experiences strengthen my theory of the importance of beer during the American Colonial period.

Many beer historians gather information from Baron. In modern research done by professors Eline Poelmans and John Swinnen's research article titled *A Brief Economic History of Beer*, delve into the origins of beer and its progression throughout time. These origins of beer can be traced as far back as 7,000 years in China. Other than learning about beers origin within different societies, Poelmans and Swinnen educate readers on how beer was more than just a beverage. In numerous societies beer has shown to be drunk by both the rich and the poor, and not just for pleasure. Beer has been drunk for the necessity of life. Not only in ancient times did

civilizations depend on beer because of its nutrients; they depended on it as a water supply. This article is important to my research because it looks at beer from an economic, social, and medical perspective along with great sources I can use for research.

Through Baron's work, numerous accounts and primary sources have been found concerning colonial beer history. Numerous historians such as Philbrick attest to the Pilgrims' voyage on the Mayflower not being an easy feat especially when water stores were low and spoiling. Surviving on beer aboard the Mayflower, the Pilgrims decided to land in Plymouth instead of Virginia, contrary to popular belief. The decision to land in Plymouth was made because there was not enough beer aboard the ship to get the sailors back to England.<sup>9</sup> Baron shares a passage written from *Mourt's Relation*, by Edward Winslow and William Bradford of rations being low and stating, "especially our Beere."<sup>10</sup>

Although this research is limited to the Colonial Era, there is much research dating back to ancient history. Ancient alcohol expert Dr. Patrick McGovern has led the way in the study of the origins of alcohol, especially in beer. McGovern and his team of researchers have found ancient beer ingredients through chemical analysis in King Midas' Tomb. These analyses have helped with establishing theories about how important beer has been to ancient peoples and societies. McGovern's findings have further helped researchers in hypothesizing how humans began the agrarian lifestyle. One such theory is the Beer Before Bread Theory. This theory states that humans made the shift from the hunter-gatherer way of life into the agrarian life for the purpose of growing grain for beer, not bread.<sup>11</sup> McGovern lays the foundation of alcohols beginning in his book *Uncorking the Past: The Quest for Wine, Beer, and Other Alcoholic*

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<sup>9</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States*, (Boston: Little, Brown & Company, 1962), 7.

<sup>10</sup> Baron, 7.

<sup>11</sup> Nickolaus Hines, "Civilization As We Know It May Have Started Because Of Beer," last modified April 12, 2018. <http://all-that-is-interesting.com/history-of-beer>.

*Beverages. Uncorking the Past...* examines beer from an archaeological perspective. McGovern reveals the importance of alcohol from its inception by ancient humans. Alcohol is explored from a spiritual, medical, and societal aspect in the every day lives of ancient humans. Through McGovern's research, historians get a better glimpse at how the every day life of ancient humans was made possible. Although McGovern's research does not cover my era of study, McGovern's research is imperative to human history. Just like ancient humans relied on beer to survive, Pilgrims and other settlers throughout time relied upon it. Drinking water has been a dangerous to many civilizations. The Pilgrims had this deep engrained distrust for water and drank beer for sustenance. As McGovern has laid the foundation for the origins of alcohol, I will lay the foundation for beer's hand in the creation of the United States.

Primary documents are crucial to any historical research. *Mourt's Relation* is one of the most important documents available concerning the Pilgrims. Many important pieces of history, beer history, and evidence about the Pilgrims can be found in *Mourt's Relation*. There are only two known written accounts of the first Thanksgiving, and both can be found in *Mourt's Relation*. One could argue that if it were not for beer, there would not have been the first Thanksgiving. Another valued primary source regarding the Pilgrims is the Mayflower Compact. This compact was written aboard the Mayflower ship after beer stores were low and the Pilgrims could not complete their journey to Northern Virginia. Once the decision was made to land in Plymouth, the Pilgrims created the Mayflower Compact to institute their new government for the new settlement.<sup>12</sup> Written by two Governors of the Plymouth Colony, William Bradford and Edward Winslow, *Mourt's Relation* recounts November 1620 to November 1621. Originally a booklet, *Mourt's Relation* is one of the main primary sources documenting the Pilgrims voyage

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<sup>12</sup> Henry Martyn Dexter, *Mourt's Relation or Journal of the Plantation at Plymouth*, (Boston, J. K. Wiggin, 1865), retrieved from the Library of Congress, <https://lccn.loc.gov/03008746>, 6-8.

and settling of the Plymouth Colony. Published in London by George Morton, this booklet has great detail about the Pilgrims voyage and their reasons for landing at Plymouth. Not only does this booklet contain important historical information about the settling of Plymouth, it contains the only first hand accounts of the first Thanksgiving by Bradford and Winslow. This is a very important source for my research. This document is found in just about every source concerning the Pilgrims. Not only it is written by two prominent members of the colony, it gives abundant information about the settling of Plymouth. In addition to the information on the first Thanksgiving, it contains one the earliest pieces of documentation of the Pilgrims that has survived, the Mayflower Compact. The Mayflower Compact was written by the Pilgrims aboard the Mayflower to establish a government in Plymouth. This was necessary since the Pilgrims could no longer complete their voyage to settle in Northern Virginia. One of the best pieces of information *Mourt's Relation* provides is the beer references. Beer is mentioned at least seven times. Having a primary source reference like this is a great advancement in my research.

Not only are primary documents important to historians, scientific data helps support the findings and claims of historians. Regarding beer and its consumption by mankind throughout history, science literature shows why it was so important. Through scientific studies on beer such as the *Effects of Moderate Beer Consumption on Health and Disease: A Consensus Document*, beer “contains trace amounts of minerals such as calcium, iron, magnesium, phosphorus, potassium, sodium, zinc, copper, manganese and selenium, fluoride and silicon.”<sup>13</sup> In the article *Acute Effects of Beer on Endothelial Function and Hemodynamics: A Single-blind, Crossover Study in Healthy Volunteers*, researchers studied beer’s effect on cardiovascular disease (CVD).

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<sup>13</sup> Giovanni de Gaetano et al. “Effects of Moderate Beer Consumption on Health and Disease: A Consensus Document,” *Nutrition, Metabolism and Cardiovascular Diseases* 26, no. 6 (2016). <https://www.sciencedirect.com/science/article/pii/S0939475316300047?via%3Dihub#!>, 444-445.

“These findings suggest that consumption of regular beer has a measurable acute beneficial effect on these CVD biomarkers.”<sup>14</sup>

### Decision Theory

The theoretical construct of how and why historical events took place becomes a complex and fascinating study, with the examination of the influence of beer on the Colonial Era and creation of the United States being no exception. Historians and philosophers inherently ask, “what if this event transpired in a different manner?” This is known as Counterfactual History.<sup>15</sup> Historians can always ask questions like this, but in reality, the question that should be asked is *why* an event happened. Regarding beer and the Colonial Era and the creation of the United States, there are several questions to examine. Some of these questions include:

- Why did the Pilgrims land at Plymouth when that was not the original plan?
- Why didn't Europeans drink water? Why was beer so much more preferable?
- Why did those planning the American Revolution drink beer instead of other types of alcohol?

These questions can be examined with Decision Theory (DT). According to Katie Steele and H. Orri Stefánsson, “Decision Theory is concerned with the reasoning underlying an agent’s choices, whether this is a mundane choice between taking the bus or getting a taxi, or a more far-reaching choice about whether to pursue a demanding political career.”<sup>16</sup> The origins of DT can

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<sup>14</sup> Kalliopi Karatzi, “Acute Effects of Beer on Endothelial Function and Hemodynamics: A Single-blind, Crossover Study in Healthy Volunteers,” *Nutrition* 29, no. 9 (2010): 1122-1126, [http://www.nutritionjrn.com/article/S0899-9007\(13\)00108-1/abstract](http://www.nutritionjrn.com/article/S0899-9007(13)00108-1/abstract).

<sup>15</sup> Peter Menzies, “Counterfactual Theories of Causation,” *The Stanford Encyclopedia of Philosophy*, Feb. 10, 2014, <https://plato.stanford.edu/archives/win2017/entries/causation-counterfactual/>.

<sup>16</sup> Katie Steele and H. Orri Stefánsson, “Decision Theory,” *The Stanford Encyclopedia of Philosophy*, Dec. 16, 2015. <https://plato.stanford.edu/entries/decision-theory/>.

be traced back to the French mathematician, scientist, philosopher, theologian, and inventor, Blaise Pascal. Born in Clermont, France on June 19, 1623.<sup>17</sup>

Pascal's work on DT stems from his work called Pascal's Wager (PW) discussed in his work, *Pensées*. As a devout Catholic, the PW was written in the mid 1600's, and is a way for people to decide on the existence of God. Through this rational decision process, a person weighs the pros and cons of God existing and not existing.<sup>18</sup> This decision making process is where DT was born. DT essentially attempts to answer the question "Why does a person make the choices they do?" These choices are made in a theoretical or rational fashion. When a person is faced with a dilemma or a simple choice, the person weighs what options of what may happen, if it solely benefits them, or if it's altruistic.<sup>19</sup>

The works of Pascal has influenced more recent theorists and social psychologists such as Daniel Kahneman and Amos Tversky. Kahneman was born in Tel Aviv, Israel in 1934. In 1961, Kahneman received a PhD in Psychology from the University of California, Berkeley.<sup>20</sup> Tversky was born in 1937 in Haifa, Israel and obtained his PhD in Psychology from the University of Michigan in 1965.<sup>21</sup> Kahneman and Tversky began working together in 1969, but it would not be until 1974 that the two began working on their DT based research.<sup>22</sup> Although their research uses decision theory, they named it Prospect Theory (PT). Kahneman and Tversky define PT as,

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<sup>17</sup> David Simpson, "Blaise Pascal (1623–1662)", *Internet Encyclopedia of Philosophy*, accessed March 18, 2018. <http://www.iep.utm.edu/pascal-b/>.

<sup>18</sup> Simpson.

<sup>19</sup> "Pascal's Wager," Princeton, accessed March 18, 2018. <https://www.princeton.edu/~grosen/puc/phi203/Pascal.html>.

<sup>20</sup> "Daniel Kahneman." *Social Psychology Network*, last modified February 23, 2009. <https://kahneman.socialpsychology.org>.

<sup>21</sup> New World Encyclopedia contributors, "Amos Tversky," *New World Encyclopedia*, accessed March 21, 2018. [http://www.newworldencyclopedia.org/p/index.php?title=Amos\\_Tversky&oldid=99462](http://www.newworldencyclopedia.org/p/index.php?title=Amos_Tversky&oldid=99462).

<sup>22</sup> Kahneman, Daniel. "Biographical". *Nobelprize.org*, accessed March 21, 2018. [http://www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/2002/kahneman-bio.html](http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2002/kahneman-bio.html).

“decision making under risk, and develops an alternative model, called prospect theory.”<sup>23</sup> Much like Pascal’s work, PT deals with rational decision-making, possibility, and with the weighing of the pros and cons.<sup>24</sup>

Regarding this study, DT can be used as a framework for examining Colonial Era life and the creation of the United States. Why did the Europeans, colonists and revolutionary Americans make the decisions they did? These people had to weigh options. For Europeans it was a fairly simple decision: drink water and run the risk of getting sick or even dying due to the numerous water-borne illnesses present in the water supply or find an alternative source for hydration. Another example of DT was when the Pilgrims had to think about landing while beer supplies were running low. Do they continue to search for their original landing site, or do they land so that the boat and its sailors can return to England with enough beer? Why did the revolutionists like Sam Adams drink beer over hard alcohol while planning a revolution? Beer was lower in alcohol and one could drink more over a longer period of time compared to whiskey and rum. Had the revolutionaries been drinking whiskey and rum, would they have had the same outcome?

The decisions made by these diverse peoples have had a large impact on U.S. and world history. We can always ask what if the Pilgrims had sufficient beer stores or what if Sam Adams drank whiskey and rum all night. The reality is, that doesn't matter. What has happened is the reality, and to understand these events and why they happened, we must analyze the decisions made. As Americans, the decisions made by the Pilgrims and the Founding Fathers have made a lasting impression on the world.

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<sup>23</sup> Daniel Kahneman and Amos Tversky, “Prospect Theory: An Analysis of Decision under Risk,” *Econometrica* 47, no. 2 (1979): 263, <https://www.jstor.org/stable/pdf/1914185.pdf?refreqid=excelsior%3A1837dd0c4834a8d0e24157eb3a087ad0>.

<sup>24</sup> Kahneman and Tversky, 265.

## Research Methods

There are many methods that historians employ when conducting research. Their research is not necessarily done through collecting data or surveys, but through the use of the Historical Methods. The Historical Method is done by examination of primary and secondary sources. A primary source is an item such as a document, artifact, a recording, or any other item that contains information about the era of study. A secondary source is a second-hand account of an event and is usually found in scholarly sources. A scholarly source is written by an expert in that field of study and tends to be peer-reviewed. To research primary and secondary sources, historians heavily rely on archives, libraries, and Internet historical databases such as JSTOR. Upon finding primary sources by the means of research, historians analyze the source and apply the findings, then inferences and conclusions about past events are made and how they have influenced social relations over time. Once the body of evidence is collected, historians place everything in chronological order and write their historiography. Similar to a literature review, the historiography compares the authors and the sources letting the writer interpret each source and begin their narrative.

For this study, the CSUMB library and historical databases were relied on heavily. After extensive research and the help of the CSUMB Librarians, several sources were identified that are necessary to complete this work. Multiple secondary sources concerning the Pilgrims, other Colonial settlements, and life during the American Revolutionary War were identified. These sources consisted of the book by Nathaniel Philbrick *Mayflower: A Story of Courage, Community, and War*, James Deetz and Patricia Scott Deetz' *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*, Claudia Durst Johnson's book *Daily Life in Colonial New England*, and Dorothy Denneen Volo and James M. Volo's book *Daily Life During the American*

*Revolution*. Through use of the CSUMB databases, other books and peer reviewed scholarly sources that have been highly useful were identified and crucial to this research such as Amy Mittelman's book *Brewing Battles: The History of American Beer*, and Eline Poelmans' and John Swinnen's article *A Brief Economic History of Beer*. Upon finishing the search for primary and secondary sources with historical methods, an annotated bibliography was created. The annotated bibliography paved the way for this historiography. The historiography and research by experts strengthened the argument of beer's impact on the Colonial Era and creation of the United States. As the historiography was completed, the project was organized chronologically and the history of the era and beer history were separated. Once the body of evidence was analyzed, the writing of the narrative could be commenced and prove the thesis statement.

### **Findings and Analysis**

Drinking beer instead of water in Europe is documented as far back as the 1400s. Rivers and other water sources were highly polluted, and Europeans feared drinking water due to waterborne disease.<sup>25</sup> This reasonable fear of drinking water continued through several generations and well into the 1600s, during the Colonial Era in North America. In England and eventually the colonies, beer was a fundamental part of the everyday diet.<sup>26</sup> For the Pilgrims, "alcohol was to quench one's thirst or to treat the sick."<sup>27</sup> In England, almost all imbibed beer and was brewed at home as well as breweries.<sup>28</sup> Beer was present in the American Colonies from the very beginning, including England's first permanent settling of Virginia's Jamestown in 1607.<sup>29</sup> During this early settlement, individuals relied on incoming ships to bring beer and other

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<sup>25</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 3.

<sup>26</sup> Philbrick, 3.

<sup>27</sup> James Deetz and Patricia Scott Deetz, *The Times of Their Lives: Life, Love, and Death in Plymouth Colony* (New York: W.H. Freeman, 2000), 123.

<sup>28</sup> Deetz, 8.

<sup>29</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 3.

supplies; there were no breweries yet built, nor were they agriculturally sufficient. One settler, Thomas Studly, complained that “there remained neither tavern, beer house, nor place of relieve.”<sup>30</sup> The complaint of not having beer becomes a common occurrence during the Colonial Era. Due to inadequate supplies, it was not uncommon for colonists to trade stolen goods with sailors for beer and other everyday staples. Farmers began planting barley along with food crops with plans of brewing beer.<sup>31</sup> During this time, beer was seen as food, or “liquid bread.”<sup>32</sup> It is important to point out that beer in the 1600’s contained an alcohol by volume (ABV) of around 6%.<sup>33</sup> By today’s standards, that is a very normal percentage of alcohol. Today’s commonly sold beer ranges from as low as 3% up to 18% ABV.

Through the accounts of colonists, it is clear that beer is an every day staple. Not only was beer an important part of a daily healthy diet for the English and English settlers, beer played a large role in the settling of the religious Pilgrims in Plymouth.<sup>34</sup> The arrival of the Pilgrims at Plymouth Rock in 1620 is a landmark event that was directly influenced by beer during the Colonial era. It is widely known that the Pilgrims sailed to North America to flee religious persecution by the Church of England. The Pilgrims were Puritans but were known as Separatists. The Separatists were a branch of the Puritan faith and believed that the Church of England needed to be rid of its many overindulgences and exploitations of its followers.<sup>35</sup>

What is less known is that originally, in August of 1620, two ships, the Speedwell and the Mayflower, were to depart from England carrying the Pilgrims. However, due to fear of sinking from leaks found in the Speedwell, 102 passengers (men, women, and children) set sail aboard

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<sup>30</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 3.

<sup>31</sup> Baron, 5.

<sup>32</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 4.

<sup>33</sup> Smith, 15.

<sup>34</sup> Philbrick page 3

<sup>35</sup> Nathaniel Philbrick, *Mayflower: A Story of Courage, Community, and War* (New York: Viking, 2006), 4.

only the Mayflower a month late in September.<sup>36</sup> From the beginning, the Pilgrims' expedition was plagued with problems. The expedition was short on funds and it had already been noted that their beer supplies were inadequate.<sup>37</sup> Initially, the Pilgrims were to settle in Northern Virginia (now New York state),<sup>38</sup> but because of their late departure, the Mayflower's voyage became an arduous trek through the cold winter of the Atlantic Ocean.

The voyage of the Mayflower lasted over 60 days. Due to winter storms, strong winds, and navigational errors, the Pilgrims arrived in North America along the coast of what is now Massachusetts.<sup>39</sup> The voyage took its toll on the Pilgrims. With provisions running low, including beer, supplies were rationed to ensure the survival of the passengers.<sup>40</sup> In addition, water stores tended to spoil very quickly during sea voyages. Even if fresh water was available, it was unlikely that the passengers would have chosen to drink water.<sup>41</sup> The fact is, water stores were running low on the Mayflower and were becoming very questionable as they began to slime.<sup>42</sup> With supplies dwindling further and hopes of settling Virginia now gone, the Pilgrims decided to land at the (now) famed Plymouth Rock, which then led to the writing of the Mayflower Compact. The decision to land at Plymouth Rock can be partly contributed to the Mayflower's Captain, Christopher Jones. Captain Jones was to return to England after completing the Pilgrims expedition. Jones knew that crossing the Atlantic during the cold, cruel winter months was unwise. Returning to England with enough supplies for his crew was a major concern of Captain Jones. Therefore, he made the decision to cut off the Pilgrims' remaining

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<sup>36</sup> James Deetz and Patricia Scott Deetz, *The Times of Their Lives: Life, Love, and Death in Plymouth Colony* (New York: W.H. Freeman, 2000), 36.

<sup>37</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 7.

<sup>38</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 8.

<sup>39</sup> Smith, 7.

<sup>40</sup> Nathaniel Philbrick, *Mayflower: A Story of Courage, Community, and War* (New York: Viking, 2006), 3.

<sup>41</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 10-11.

<sup>42</sup> Nathaniel Philbrick, *Mayflower: A Story of Courage, Community, and War* (New York: Viking, 2006), 3.

beer stores. Keeping the beer for the sailors was very important. Not only was beer nutritional, it also helped prevent sailors from getting scurvy. Since there were no resupply of citrus, it was crucial the sailors had enough beer to get back to England.<sup>43</sup>

Captain Jones planned to leave Plymouth immediately for England. Unfortunately, winter was here and Jones knew it would be a perilous journey back to England. The decision to stay meant that Jones had to cut the Pilgrims off of the beer stores.<sup>44</sup> With no beer, the Pilgrims had to drink the fresh, local waters of Plymouth. Accounts of Pilgrims are varied concerning drinking the fresh water. William Wood, one of the settlers, offered many complaints about drinking water over beer<sup>45</sup> while famed Pilgrim and later Plymouth Governor William Bradford spoke of clean water sources that were “as good water as can be drunk.”<sup>46</sup> Unfortunately, like other colonies at this time, colonist depended on returning ships for their resupply of beer and other goods. The lack of beer and supplies led to one of the first structures to be erected in Plymouth: a brewery.<sup>47</sup>

Throughout history, alcohol and religion tended to mix as well as oil and water. Drunkenness has been an issue since the creation of alcohol. However, beer turned into the exception to the rule within some religious groups. Not only did the Pilgrims drink beer, beer was vital to other colonies such as the Massachusetts Bay Colony (MBC). The MBC was a group of Puritans escaping the same persecution as the Pilgrims, but had different views of the Anglican Church. Puritans in general hoped that changes would be made within the Anglican Church.<sup>48</sup> Approximately 1,000 people sailed aboard 17 ships and landed at Cape Ann on June

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<sup>43</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 9-11.

<sup>44</sup> Smith, 10.

<sup>45</sup> Smith, 11.

<sup>46</sup> Nathaniel Philbrick, *Mayflower: A Story of Courage, Community, and War* (New York: Viking, 2006), 79.

<sup>47</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 12.

<sup>48</sup> Claudia Durst Johnson, *Daily Life in Colonial New England* (Westport: Greenwood Press, 2002), xi.

12, 1630.<sup>49</sup> Among their rations were 10,000 gallons of beer aboard the ships.<sup>50</sup> Within the Puritan lifestyle, it was customary for commoners, ministers, and government officials to imbibe alcohol within everyday life. Puritan settlers often consumed hard alcohol, cider, wine, and beer.<sup>51</sup> Even having beer at breakfast was normal in the New England life.<sup>52</sup>

Prior to the MBC's voyage to Massachusetts, their leader, John Winthrop created a law that discouraged drunkenness. The law was to regulate the ABV of beer so that it may be consumed for health purposes without the drunken side effects.<sup>53</sup> To help ensure consistent beer availability, colonists pursued growing barley for use in brewing. Unfortunately, these endeavors failed, and the colonists continued to depend on shipments from England for their brewing ingredients. This failure did lead to experimentation of other ingredients such as Indian corn, spruce, sassafras, and birch.<sup>54</sup>

Massachusetts also totes some of the first beer and alcohol laws of the Colonial Era. Such laws derive from the brewers' experimentation of ingredients. Purity laws were created to ensure the quality of beer and to protect patrons. These laws protected the buyers and consumers of bad beer and ensured no problematic ingredients like bad malt or diluting of the beer with coarse sugar or molasses.<sup>55</sup>

The lack of beer in the English Colonies called for ingenuity for crafting beer and with supplying jobs for colonists. In general, the alcohol industry provided many jobs. This was especially true in breweries and distilleries. There are many industries that take part in creating

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<sup>49</sup> Claudia Durst Johnson, *Daily Life in Colonial New England* (Westport: Greenwood Press, 2002), ix-xii.

<sup>50</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 9.

<sup>51</sup> Claudia Durst Johnson, *Daily Life in Colonial New England* (Westport: Greenwood Press, 2002), 128.

<sup>52</sup> Johnson, 102.

<sup>53</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States*. (Boston: Little, Brown & Company, 1962), 9.

<sup>54</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 26-27.

<sup>55</sup> Smith, 27.

beer. Besides farming, one such industry imperative to brewing is barrel making. In Boston, the high demand of beer called for massive amounts of barrels to be used for brewing. This demand provided jobs for many industries and contributed to the local economy.<sup>56</sup> Although the Pilgrims and the settlers of the MBC survived and became successful colonies, they were not alone in the settling of North America.

At this time, the Dutch were one of England's greatest rivals when it came to trading. In the early 1600's, the Dutch were already involved in the fur trade in the Hudson River region. The Dutch also erected the first brewery in Colonial America. Between the year 1612 and 1613, Hans Christianson and Adrian Block were credited for creating the first brewery on the Isle of Manhattan by converting an old log house into a brewery.<sup>57</sup> In 1621, a year after the Pilgrims landed at Plymouth, the Dutch created the West India Company (WIC). Soon after, the Dutch began to search for areas to colonize in North America. In 1623, the WIC formed two colonies, but it would not be until 1626 that a Dutchman by the name of Peter Minuit purchased Manhattan Island, forming New Amsterdam (present day New York City).<sup>58</sup> The preparedness of the Dutch made them more successful at brewing and maintaining supplies. When the Dutch settled North America, they brought a larger beer supply with them. The Dutch were far superior brewers than the English and were one of the first brewers to add hops to beer.<sup>59</sup> As the colonies grew, so did their thirst for beer.

As the British Colonies flourished in North America, the brewing industry did as well. Among colonists, the events that led up to the American Revolution are well known. What many do not know is that beer influenced some of those events. American Colonists were supposed to

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<sup>56</sup> Claudia Durst Johnson, *Daily Life in Colonial New England* (Westport: Greenwood Press, 2002), 66.

<sup>57</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 16-17.

<sup>58</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 19.

<sup>59</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 17.

be equal to those whom lived in England, but that was not the case. The Crown imposed several taxation acts on goods, such as sugar. Paired with other unjust practices, the American colonists decided it was time to have a country of their own, and thus, a revolution was born.

A major proponent of equality for the colonies was the patriot Samuel Adams, one of the most influential Founding Fathers in the American Revolution.<sup>60</sup> Adams family's emigration to the colonies can be traced back to 1636.<sup>61</sup> Adams was not a brewer himself, but inherited his family's malting business. They provided the malt that was used in brewing in the area. Adams was one of the first to propose independence from the Crown and was an expert at rabble-rousing. Adams inspired the people of Boston to stand up to the British.<sup>62</sup> During the implementation of the taxation acts, Adams authored a newspaper article encouraging the colonists to buy and drink local beer, to not be reliant on imports, and to produce their own beer.<sup>63</sup>

The tax that inspired Adams and other colonists to buy and drink local stemmed from the Stamp Act. The Stamp Act was the taxation of paper related items, including licenses, in 1765.<sup>64</sup> This tax directly affected taverns and beer. Particular stamps were required for licenses on imported beer. This drastically raised the price of beer, making beer scarce within the colonies.<sup>65</sup>

In addition, the Stamp Act's effect on beer was a contributing factor to the actions of the Sons of Liberty. The Sons of Liberty could be found throughout the colonies, often harassing

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<sup>60</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 89.

<sup>61</sup> Amy Mittelman, *Brewing Battles: The History of American Beer* (Algora Publishing, 2007), 9.

<sup>62</sup> Volo, Dorothy Denneen and James M. Volo, *Daily Life During the American Revolution* (Westport: Greenwood Press, 2003), 56.

<sup>63</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 89.

<sup>64</sup> Dorothy Denneen Volo and James M. Volo, *Daily Life During the American Revolution* (Westport: Greenwood Press, 2003), 38.

<sup>65</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 76.

those loyal to the Crown.<sup>66</sup> Most notable was the Boston branch, who frequented taverns such as the Green Dragon, the “headquarters of the revolution.”<sup>67</sup> Patriots including Samuel Adams and John Hancock planned Sons of Liberty events, such as the Boston Tea Party, at the Green Dragon.<sup>68</sup>

Although it was quite common to brew beer and drink at home, taverns played an integral role during the Colonial Era, especially regarding the planning of the American Revolution.<sup>69</sup> Taverns and inns became places where people of all walks of life could get together, socialize, drink, and enjoy themselves. During the time of the Pilgrims, these taverns and inns were called ordinaries. The ordinaries were for outsiders (i.e. travelers, those not apart of the community) and were heavily regulated. For the Pilgrims, alcohol was strictly for treating illness and to satisfy ones thirst, and drunkenness was not tolerated. Servants and children were not allowed to drink in public.<sup>70</sup>

Conversely, in the Massachusetts Bay Colony, taverns were a common place for government officials to meet and conduct business. Even the colonies governors did official business in Boston taverns.<sup>71</sup> As important as taverns and inns were for these young and growing colonies, the most influential moments transpire during the American Revolution.

Taverns were crucial insofar that it gave the revolutionaries a place to plan their war. Here, American Patriots planned events such as the Boston Tea party.<sup>72</sup> Before and during the American Revolution, taverns provided patrons with the opportunity to share information.

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<sup>66</sup> Volo, Dorothy Denneen and James M. Volo, *Daily Life During the American Revolution* (Westport: Greenwood Press, 2003), 41.

<sup>67</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 207.

<sup>68</sup> Amy Mittelman, *Brewing Battles: The History of American Beer* (Algora Publishing, 2007), 12.

<sup>69</sup> James Deetz and Patricia Scott Deetz, *The Times of Their Lives: Life, Love, and Death in Plymouth Colony* (New York: W.H. Freeman, 2000), 123.

<sup>70</sup> Deetz, 122-123.

<sup>71</sup> Claudia Durst Johnson, *Daily Life in Colonial New England* (Westport: Greenwood Press, 2002), 128.

<sup>72</sup> Amy Mittelman, *Brewing Battles: The History of American Beer* (Algora Publishing, 2007), 12.

Colonists could sit by a fire or candlelight and read the latest publication or converse (or eavesdrop) while drinking a beer. It is from taverns that news of events would spread. Not everyone could read and people relied on the information that they heard from other patrons.<sup>73</sup> Samuel Adams frequented taverns, as did his cousin, John Adams. Before the formation of the First Continental Congress in September 1774, John felt the best place to talk politics was at a tavern while drinking a beer.<sup>74</sup> Unfortunately, the efforts of the Continental Congress did not succeed and war eventually broke out.

The Adams' were not the only patriots whom were lovers of beer. George Washington had a love for porter beer and brewed beer himself. Washington frequented the Queen's Head in New York City. This tavern becomes the home to Departments of State, Treasury, and War when the City of New York was the nation's capital (until 1790).<sup>75</sup>

In 1775, war broke out in the colonies. With the gathering of the Second Continental Congress in Philadelphia in the spring of 1775, preparations were made, such as George Washington being appointed the commander of the Continental Army.<sup>76</sup> In April of 1775, the war officially broke out with the battles of Lexington and Concord. Captain Parker of the Continental Army based his operations out of the Buckman's Tavern next to the battlefield. The Second Continental Congress had strong ties to beer and even served beer in Independence Hall during the War. They also knew beer would be important to the Revolution.<sup>77</sup>

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<sup>73</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 207.

<sup>74</sup> Smith, 86-87.

<sup>75</sup> Amy Mittelman, *Brewing Battles: The History of American Beer* (Algora Publishing, 2007), 12-13.

<sup>76</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 101.

<sup>77</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 99.

November 1775 marks two important beer-related events. The Second Continental Congress declared that each soldier was to receive one quart of spruce beer everyday, a ration.<sup>78</sup> Although beer was hard to come by during the war, brewers did stay busy and some managed to make a profit. In general, supplies were scarce. General Washington frequently penned the Congress for the common supplies needed in war, including beer. During these beer shortages, soldiers attempted to turn to whiskey, but Washington opposed this because it was thought that drinking whiskey during winter was bad for ones health. This led to assertions of prohibiting whiskey sales near military encampments. This also led to the prevention of soldiers being intoxicated in camp and while on duty.<sup>79</sup> The second key event is the creation of the United States Marine Corps on November 10, 1775.<sup>80</sup> The Second Continental Congress approved the creation of two divisions of marines, and Captain Samuel Nicholas recruited and formed the Corps at Philadelphia's Tun Tavern.<sup>81</sup> In the end, thanks to beer on and off the battlefield, the colonists defeated the British and the colonists officially became Americans.

### Conclusion

Although beer was important to the colonists' everyday diet, science was not advanced enough to tell them why. Microorganisms were discovered as early as 1665, but scientists did not understand them.<sup>82</sup> The issue with much of the water supply was the presence of microbes.

“Microbes are tiny forms of life that surround us – too small to be seen by the naked eye. They

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<sup>78</sup> Stanley Baron, *Brewed In America: A History of Beer & Ale in the United States* (Boston: Little, Brown & Company, 1962), 101.

<sup>79</sup> Baron, 101-103.

<sup>80</sup> “Marine Minute,” Marines, accessed April 1, 2018. <http://www.marines.mil/News/News-Display/audioid/50023/>.

<sup>81</sup> “Defending the New Republic,” National Museum of the Marine Corps, accessed April 1, 2018. <https://www.usmcmuseum.com/americanrevolution.html>.

<sup>82</sup> H. Gest, “The discovery of microorganisms by Robert Hooke and Antoni Van Leeuwenhoek, fellows of the Royal Society,” *Notes and Records of the Royal Society of London* 58, no. 2 (2004): 188, <https://www.ncbi.nlm.nih.gov/pubmed/15209075>.

are found in water, in the soil, and in the air.”<sup>83</sup> Many microbes are harmful and cause water-borne illnesses. Brewers did not realize that the brewing process, which included boiling water, killed dangerous microbes.<sup>84</sup> In addition, beer itself contains many of the much-needed nutrients required for a healthy diet. Not only does beer provide water, the most basic necessity to humans, beer contains the micronutrient carbohydrate, which is necessary for energy production and biological work. Beer also contains minerals like calcium and sodium, and trace amounts of vitamins.<sup>85</sup> Beer provided these nutrients when settlers were in new lands with low supplies.

Beer has also been shown to be beneficial in ways other than basic nutrition, if drunk in moderation (females one drink a day, males up to two drinks a day).<sup>86</sup> More recent studies have shown that moderate beer drinking “acutely improves arterial properties in apparently healthy men and that the alcohol and antioxidant contents may have a significant contribution,”<sup>87</sup> meaning, beer consumption may also improve heart health.

As is demonstrated by this initial research, beer has had a large impact on the decisions made by the Pilgrims, Patriots of the American Revolution, and other colonizers from the Colonial Era. Over the millennia, beer has played an important part in human history. On numerous accounts, historical documents have revealed that beer has changed the course of human’s paths. The Beer Before Bread Theory states that man shifted from hunter-gatherers to

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<sup>83</sup> “What are microbes?,” *Pub Med Health* online, last modified September 21, 2016, <https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072571/>.

<sup>84</sup> Gregg Smith, *Beer In America The Early Years - 1587-1840* (Boulder: Siris Books, 1998), 2-3.

<sup>85</sup> “Basic Report: 14003, Alcoholic beverage, beer, regular, all,” *USDA National Nutrient Database for Standard Reference* online, last modified May, 2016, <https://ndb.nal.usda.gov/ndb/foods/show/4123?manu=&fgcd=&ds=>.

<sup>86</sup> Giovanni de Gaetano et al, “Effects of Moderate Beer Consumption on Health and Disease: A Consensus Document,” *Nutrition, Metabolism and Cardiovascular Diseases* 26, no. 6 (2016): 443, <https://www.sciencedirect.com/science/article/pii/S0939475316300047?via%3Dihub#!>.

<sup>87</sup> Kalliopi Karatzi, “Acute Effects of Beer on Endothelial Function and Hemodynamics: A Single-blind, Crossover Study in Healthy Volunteers,” *Nutrition* 29, no. 9 (2010): 1125, [http://www.nutritionjrn.com/article/S0899-9007\(13\)00108-1/abstract](http://www.nutritionjrn.com/article/S0899-9007(13)00108-1/abstract).

farming to grow grains for brewing beer, not bread.<sup>88</sup> The Pilgrims landed in Plymouth because there was not enough beer for the sailors to return to England. Beer was a staple in the Colonial Era. Sam Adams provided ingredients for beer and drank beer in public houses such as the Green Dragon Inn while planning the Boston Tea Party. American troops were to be rationed beer everyday, when available, during the American Revolution.

Had there been sufficient beer stores aboard the Mayflower and the Pilgrims landed in Northern Virginia, there may not have been an American Thanksgiving, as we know today. One can argue that the Pilgrims landing in Plymouth changed the course of Colonial History. For example, would there have been a King Philips War had the Pilgrims not landed in Plymouth? Would the Massachusetts Bay Colony have settled the Boston area had the Pilgrims eventually found success in their colony? There is no doubt about it that beer has influenced the Colonial Era and the creation of the United States. What is intriguing is what would have happened without its influence.

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<sup>88</sup> Jeffrey P Kahn, "How Beer Gave Us Civilization," *The New York Times*, Mar. 15, 2013, <https://www.nytimes.com/2013/03/17/opinion/sunday/how-beer-gave-us-civilization.html>.

## Bibliography

- Baron, Stanley. *Brewed In America: A History of Beer & Ale in the United States*. Boston: Little, Brown & Company, 1962.
- “Basic Report: 14003, Alcoholic beverage, beer, regular, all.” *USDA National Nutrient Database for Standard Reference* online. Last modified May, 2016.  
<https://ndb.nal.usda.gov/ndb/foods/show/4123?manu=&fgcd=&ds=>.
- “Daniel Kahneman.” *Social Psychology Network*. Last modified February 23, 2009.  
<https://kahneman.socialpsychology.org>.
- Deetz, James and Patricia Scott Deetz. *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*. New York: W.H. Freeman, 2000.
- “Defending the New Republic.” National Museum of the Marine Corps. Accessed April 1, 2018.  
<https://www.usmcmuseum.com/americanrevolution.html>.
- Dexter, Henry Martyn. *Mourt's Relation or Journal of the Plantation at Plymouth*. Boston, J. K. Wiggins, 1865. Retrieved from the Library of Congress, <https://lccn.loc.gov/03008746>.
- de Gaetano, Giovanni, Simona Costanzo, Augusto Di Castelnuovo, Lina Badimón, D. Bejko, Ala'a Alkerwi, Gemma Chiva-Blanch, Ramón Estruch, Carlo La Vecchia, Salvatore Panico, George Pounis, Francesco Sofi, Saverio Stranges, Maurizio Trevisan, Fulvio Ursini, Chiara Cerletti, Maria Benedetta Donati, Licia Iacoviello. “Effects of Moderate Beer Consumption on Health and Disease: A Consensus Document.” *Nutrition, Metabolism and Cardiovascular Diseases* 26, no. 6 (2016).  
<https://www.sciencedirect.com/science/article/pii/S0939475316300047?via%3Dihub#!>.
- Gest, H. “The discovery of microorganisms by Robert Hooke and Antoni Van Leeuwenhoek, fellows of the Royal Society.” *Notes and Records of the Royal Society of London* 58, no. 2 (2004): 187-201. <https://www.ncbi.nlm.nih.gov/pubmed/15209075>.
- Kahn, Jeffrey P. “How Beer Gave Us Civilization.” *The New York Times*, Mar. 15, 2013.  
<https://www.nytimes.com/2013/03/17/opinion/sunday/how-beer-gave-us-civilization.html>.
- Hájek, Alan, “Pascal's Wager”, *The Stanford Encyclopedia of Philosophy*. Last modified September 1, 2017. <https://plato.stanford.edu/entries/pascal-wager/>.
- Hines, Nickolaus. “Civilization As We Know It May Have Started Because Of Beer.” May 17, 2016. <http://all-that-is-interesting.com/history-of-beer>.
- Johnson, Claudia Durst. *Daily Life in Colonial New England*. Westport: Greenwood Press, 2002.

- Kahneman, Daniel. "Biographical". *Nobelprize.org*. Accessed March 21, 2018. [http://www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/2002/kahneman-bio.html](http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2002/kahneman-bio.html).
- Kahneman, Daniel and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47, no. 2 (1979): 263-292. <https://www.jstor.org/stable/pdf/1914185.pdf?refreqid=excelsior%3A1837dd0c4834a8d0e24157eb3a087ad0>.
- Karatzis, Kalliopi, Victoria G. Rontoyanni, Athanase D. Protogerou, Aggeliki Georgoulia, Konstantinos Xenos, John Chrysou, Petros P. Sfikakis, and Labros S. Sidossis. "Acute Effects of Beer on Endothelial Function and Hemodynamics: A Single-blind, Crossover Study in Healthy Volunteers." *Nutrition* 29, no. 9 (2010): 1122-1126. [http://www.nutritionjrn.com/article/S0899-9007\(13\)00108-1/abstract](http://www.nutritionjrn.com/article/S0899-9007(13)00108-1/abstract).
- "Marine Minute." Marines. Accessed April 1, 2018. <http://www.marines.mil/News/News-Display/audioid/50023/>.
- McGovern, Patrick. "Dr. Pat." *Biomolecular Archaeology Project*. Accessed November 12, 2017. [https://www.penn.museum/sites/biomoleculararchaeology/?page\\_id=10](https://www.penn.museum/sites/biomoleculararchaeology/?page_id=10).
- McGovern, Patrick. "Midas." *Biomolecular Archaeology Project*. Accessed November 12, 2017. [https://www.penn.museum/sites/biomoleculararchaeology/?page\\_id=501](https://www.penn.museum/sites/biomoleculararchaeology/?page_id=501).
- Menzies, Peter, "Counterfactual Theories of Causation", *The Stanford Encyclopedia of Philosophy*. Feb. 10, 2014. <https://plato.stanford.edu/archives/win2017/entries/causation-counterfactual/>.
- "Midas Touch." *Dogfish.com*. Accessed November 12, 2017. <https://www.dogfish.com/brewery/beer/midas-touch>.
- Mittelman, Amy. *Brewing Battles: The History of American Beer*. Algora Publishing, 2007.
- New World Encyclopedia contributors, "Amos Tversky," *New World Encyclopedia*. Accessed March 21, 2018. [http://www.newworldencyclopedia.org/p/index.php?title=Amos\\_Tversky&oldid=99462](http://www.newworldencyclopedia.org/p/index.php?title=Amos_Tversky&oldid=99462).
- "Pascal's Wager." *Princeton*. Accessed March 18, 2018. <https://www.princeton.edu/~grosen/puc/phi203/Pascal.html>.
- Philbrick, Nathaniel. *Mayflower: A Story of Courage, Community, and War*. New York: Viking, 2006.

- Poelmans, Eline and John Swinnen. "A Brief Economic History of Beer." *ResearchGate*. Last modified February 10, 2015. [https://www.researchgate.net/publication/268043355\\_A\\_Brief\\_Economic\\_History\\_of\\_Beer](https://www.researchgate.net/publication/268043355_A_Brief_Economic_History_of_Beer).
- Simpson, David, "Blaise Pascal (1623–1662)", *Internet Encyclopedia of Philosophy*, Accessed March 18, 2018. <http://www.iep.utm.edu/pascal-b/>.
- Smith, Gregg. *Beer In America The Early Years - 1587-1840*. Boulder: Siris Books, 1998.
- Steele, Katie and H. Orri Stefánsson, "Decision Theory", *The Stanford Encyclopedia of Philosophy*. Dec. 16, 2015. <https://plato.stanford.edu/entries/decision-theory/>.
- Volo, Dorothy Denneen and James M. Volo. *Daily Life During the American Revolution*. Westport: Greenwood Press, 2003.
- "What are microbes?." *Pub Med Health* online. Last modified September 21, 2016. <https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072571/>.

## Annotated Bibliography

Baron, Stanley. *Brewed In America: A History of Beer & Ale in the United States*. Boston: Little, Brown & Company, 1962. 3-148.

In historian Stanley Baron's *Brewed In America*, Baron introduces readers to the importance of beer in the colonies of North America. Through the use of primary sources, Baron shares importance of beer in the colonies that can be traced as far back to the Roanoke colony in the late 1500's. Baron takes readers on a journey from the earliest colonial settlements through to the 1900's and gives examples of beer in every day life and its nutritional value. Baron's research demonstrates the importance of beer to colonists, even to the ultra religious peoples such as the Puritans, who drank and relied on beer over other forms of alcohol such as wine and brandy. This source is extremely important to my research because its use of numerous primary sources. From these sources and accounts of colonists, I am able to prove my theory that beer was a driving force in the creation of the United States.

Deetz, James and Patricia Scott Deetz. *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*. New York: W.H. Freeman, 2000. 1-366.

In *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*, well known anthropologist James Deetz and his wife and historian Patricia Scott Deetz go into great detail about the Plymouth Colony. Deetz begins the book when the Pilgrims have already landed on Plymouth and tackle the Thanksgiving myth. The importance of this book derives on bridging the old history of Plymouth with the new history on the subject. The Deetz' cover everything concerning the Plymouth Colony from their daily diet, court cases, sex, how the household was run, furnishings, religion, up through modern day (2000) existence of Plymouth. Through the old history and new history of Plymouth, the Deetz' are able to give a far better look at how things were in the 1600's in the Plymouth Colony. This book is very valuable to me because not only does it go into great detail about the day to day live of those in the Plymouth Colony; it mentions beer and other alcohol throughout the text. This is imperative to my research because it is not written by a beer historian, or written to show the importance of beer during the colonial era. This book gives straight up facts about how beer was a staple in not only the Plymouth Colony but in English daily lives and other colonies in America.

Dexter, Henry Martyn. *Mourt's Relation or Journal of the Plantation at Plymouth*. Boston, J. K. Wiggan, 1865. Retrieved from the Library of Congress, <https://lccn.loc.gov/03008746>.

Written by two Governors of the Plymouth Colony, William Bradford and Edward Winslow, the book *Mourt's Relation* recounts November of 1620 to November of 1621. Originally a booklet, *Mourt's Relation* is one of the main primary sources documenting the Pilgrims voyage and settling of the Plymouth Colony. Published in London by George Morton, this booklet has great detail about the Pilgrims voyage and their reasons for landing at Plymouth. Not only does this booklet contain important historical information about the settling of Plymouth, it contains the only first hand accounts of the first Thanksgiving by Bradford and Winslow. This is a very important source for my research. This document is found in just about every source concerning the Pilgrims. Not only it is written by two prominent members of the

colony, it gives abundant information about the settling of Plymouth. Not only does *Mourt's Relation* contain information on formation of the first Thanksgiving, it contains one of the earliest pieces of documentation of the Pilgrims that has survived, the Mayflower Compact. The Mayflower Compact was written by the Pilgrims aboard the Mayflower to establish a government in Plymouth. This was necessary since the Pilgrims could no longer complete their voyage to settle in Northern Virginia. One of the best pieces of information *Mourt's Relation* provides is the beer references. Beer is mentioned at least seven times. Having a primary source reference like this is a great advancement in my research.

Johnson, Claudia Durst. *Daily Life in Colonial New England*. Westport: Greenwood Press, 2002. 1-215.

The *Daily Life in Colonial New England*, written by prominent literary scholar Claudia Durst Johnson, dives deep into the history of colonial New England. Johnson begins with the original settlers of New England (Native Americans). Johnson explains the reason for English colonizers to immigrate to North America; thus began the numerous settlements of Massachusetts. Eventually, Boston becomes an important harbor, and is key to beginning the American Revolution with the events of the Boston Massacre and Boston Tea Party. With the every day lives of New Englanders during the Colonial Era, much information is divulged such as everyday diet, religion, commerce, government, entertainment, sex, slavery, education, and much more. Beer does not make a large contribution to this book, but it does find its place. One particular instance of beer in this book is how the brewing industry provided new jobs in the form of brewers, coopers, malters, and other beer related enterprising. I found this way of looking at beer very important to my research because I have not thought of the importance of beer from the job point of view. This opens up more doors in my beer research in Colonial America.

McGovern, Patrick. *Uncorking the Past: The Quest for Wine, Beer, and Other Alcoholic Beverages*. Berkeley: University of California Press, 2009.

When researching and understanding the origins and importance of beer, Dr. Patrick McGovern lays the foundation of alcohols beginning in his book titled *Uncorking the Past: The Quest for Wine, Beer, and Other Alcoholic Beverages*. *Uncorking the Past...* examines beer from an archaeological perspective. McGovern reveals the importance of alcohol from its inception by ancient humans. Alcohol is explored from a spiritual, medical, and societal aspect in the every day lives of ancient humans. Through McGovern's research, historians get a better glimpse at how the every day life of ancient humans was made possible. Although McGovern's research does not cover my era of study, McGovern's research is imperative to human history. Just like ancient humans relied on beer to survive, Pilgrims and other settlers throughout time relied upon it. Drinking water has been a dangerous to many civilizations. The Pilgrims had this deep engrained distrust for water and drank beer for sustenance. As McGovern has laid the foundation for the origins of alcohol, I will lay the foundation for beer's hand in the creation of the United States.

Mittelman, Amy. *Brewing Battles: The History of American Beer*. Algora Publishing, 2007. 4-229.

In *Brewing Battles* written by historian Amy Mittelman, the history of American beer is explained. Throughout the book, beer and American History go hand in hand. From the earliest colonial settlers, to modern United States, the history of American beer is ever relevant and exciting. Mittelman goes into great depths of events in colonial history that are beer related. Some of these events involve Sam Adams. Adams, despite popular belief, was not a brewer but in fact owned a malt house (malt is a grain known as malted barley, an ingredient used in brewing beer). Mittelman shares the importance of Sam Adams and his patriotic stance against taxation from the British Government. Adams and other patriots such as John Hancock planned protests and events such as the Boston Tea Party in taverns such as the Green Dragon Inn while drinking beer. Mittelman's writing will be of great use to me because it shares experiences of important people in the American Revolution and how they revolve around beer. These experiences strengthen my theory of the importance of beer during the American Colonial period.

Philbrick, Nathaniel. *Mayflower: A Story of Courage, Community, and War*. New York: Viking, 2006. 3-461.

Historian and author Nathaniel Philbrick introduces readers with the journey of the Pilgrims sailing to North America aboard the Mayflower in *Mayflower: A Story of Courage, Community, and War*. Philbrick enlightens readers about what it means to be a Pilgrim. To understand the Pilgrims journey to North America, one must understand the Pilgrims origins. From the sailing aboard the Mayflower to King Philip's War, Philbrick goes into great detail about the Pilgrims way of life. Everything from the Pilgrims social life, relations with the Wampanoag, the first Thanksgiving, survival, and war is presented in great detail. This book is of great importance to my research because it gives great detail about the pilgrims and their voyage aboard the Mayflower. Another strength this book provides is that it mentions beer on the first page. This book was not written as a beer history book, but shows how beer was important to the Pilgrims and influenced their diet and landing on Plymouth Rock. Not only is *Mayflower* alone is an excellent source by itself; it strengthens the other Pilgrim sources I am using for my research.

Poelmans, Eline and John Swinnen. "A Brief Economic History of Beer." *ResearchGate*. Last modified February 10, 2015.  
[https://www.researchgate.net/publication/268043355\\_A\\_Brief\\_Economic\\_History\\_of\\_Beer](https://www.researchgate.net/publication/268043355_A_Brief_Economic_History_of_Beer). 2-27.

Professors and researchers Eline Poelmans and John Swinnen's research article titled *A Brief Economic History of Beer*, delves into the origins of beer and its progression throughout time. These origins of beer can be traced as far back as 7,000 years in China. Other than learning about beers origin within different societies, Poelmans and Swinnen educate readers on how beer was more than just a beverage. In numerous societies beer has shown to be drunk by both the rich and the poor, and not just for pleasure. Beer has been drunk for the necessity of life. Not only in ancient times did civilizations depend on beer because of its nutrients; they depended on it as a water supply. This article is important to my research because it looks at beer from an economic, social, and medical perspective along with great sources I can use for research.

Smith, Gregg. *Beer In America The Early Years - 1587-1840*. Boulder: Siris Books, 1998. 1-271.

Historian Gregg Smith's book titled *Beer In America The Early Years - 1587-1840* takes an in-depth look at beer and how it plays a large role in the colonial life in North America. Smith explores the colonies and their growth and how each one is connected with the issue of the dangers of drinking water instead of beer. Beer provides nutrition while killing deadly microbes during its brewing process. Due to decades of polluting local water sources in England, colonist travelling from England learned not to trust water and drink it. Colonist knew the benefits of beer and preferred its taste to water. Smith's book will be another crucial source for my capstone. Smith provides numerous other sources that I may use.

Volo, Dorothy Denneen and James M. Volo. *Daily Life During the American Revolution*. Westport: Greenwood Press, 2003. 1-359

In *Daily Life During the American Revolution*, historians Dorothy Denneen Volo and James M. Volo go in to great detail about every day life in the colonies during the revolutionary war and the events that led up to it. Through this in depth look, life in the colonies is broken down into great detail of clothing, food, beverage, religious and political beliefs, literacy rates, fashion, entertainment (in home and in public), war, Native Americans, and much more. The Volos share what was an everyday experience during the American Revolutionary War compared to events and battles during this time. Because of this version of history, I am able to see what happened from the people's perspective. Through this perspective, and it not being a beer-focused source, I have found that beer has played a part in the American Revolution.