IN THE SHADOW OF OLD MAIN: CAMPUS LIFE, CONSUMER CHOICE AND
FOODWAYS AT ILLINOIS STATE UNIVERSITY
1860-1932

Jessica D. Griffin

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This thesis reports the results of archaeological analysis of glass packaging excavated from ISU’s Old Main to learn about food culture, consumer choice and commodity networks from 1860 to 1932.
Excavated deposits from the cisterns of the first building of Illinois State University in Normal yielded a diverse assemblage of glass packaging from food, beverage and medicine from the late nineteenth and early twentieth century. Located at the intersection of two railroad lines, in the agricultural prairie of central Illinois, the Old Main building was a catalyst for local urban growth from 1860 until it was razed in 1958. This work builds on the growing field of the archaeology of academia and the rising interest in food culture studies. Analysis of the foodways assemblage, with insight from the extensive historical record, provided an opportunity to explore the consumer choices of the University community in a growing and changing national marketplace. A focus on food holds great analytical promise for archaeologists attempting to understand the development of commodity networks, and their transformative effects on American patterns of consumption.

Findings of this investigation indicate that glass packaging from food bottles and jars are the greatest percentage of the assemblage, followed by pharmaceutical bottles. Alcohol and soda bottles were also represented within the assemblage. This research also
found that the University community obtained the majority of these artifacts from the Midwest region, with a significant contribution from the Northeast. Geographic Information Systems technology was also used to refine maps of the excavation area and to create maps showing the origin from which artifacts traveled to Old Main through the commodity network.
IN THE SHADOW OF OLD MAIN: CAMPUS LIFE, CONSUMER CHOICE AND FOODWAYS AT ILLINOIS STATE UNIVERSITY

1860-1932

JESSICA D. GRIFFIN

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IN THE SHADOW OF OLD MAIN: CAMPUS LIFE, CONSUMER CHOICE AND FOODWAYS AT ILLINOIS STATE UNIVERSITY

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CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACKNOWLEDGMENTS</td>
<td>i</td>
</tr>
<tr>
<td></td>
<td>CONTENTS</td>
<td>ii</td>
</tr>
<tr>
<td></td>
<td>TABLES</td>
<td>iv</td>
</tr>
<tr>
<td></td>
<td>FIGURES</td>
<td>v</td>
</tr>
<tr>
<td>I.</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II.</td>
<td>TOPIC AND SITE BACKGROUND</td>
<td>8</td>
</tr>
<tr>
<td>III.</td>
<td>HISTORY OF GLASS</td>
<td>28</td>
</tr>
<tr>
<td>IV.</td>
<td>THEORETICAL FRAMEWORK</td>
<td>39</td>
</tr>
<tr>
<td>V.</td>
<td>METHODOLOGY</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Oral History</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Archival Research</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Artifact Analysis</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Artifact Blogging</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>GIS Analysis</td>
<td>69</td>
</tr>
<tr>
<td>VI.</td>
<td>RESULTS OF INVESTIGATION</td>
<td>85</td>
</tr>
<tr>
<td>VII.</td>
<td>DISCUSSION AND CONCLUSION</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>Canning jars and Preservation</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>Extract Bottles and Cooking</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>Olives and Condiments</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Alcohol Bottles and Recreation</td>
<td>112</td>
</tr>
</tbody>
</table>
# TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1: Spreadsheet created to find correlations between the letter codes and artifact types</td>
<td>63</td>
</tr>
<tr>
<td>5.2: List of artifacts from Barr's Diagnostic Glass Table (1983:114-135) that were not found within the Illinois State Museum Old Main Collection</td>
<td>66</td>
</tr>
<tr>
<td>6.1: Counts of Identified Artifacts Organized by Category</td>
<td>86</td>
</tr>
<tr>
<td>6.2: Artifacts Calculated by Region</td>
<td>91</td>
</tr>
<tr>
<td>6.3: Artifact Counts from the Top 5 Contributing States</td>
<td>93</td>
</tr>
<tr>
<td>6.4: Counts of Artifacts from Top Five Contributing Cities</td>
<td>94</td>
</tr>
<tr>
<td>6.5: Artifact Types Calculated From Each Region</td>
<td>95</td>
</tr>
</tbody>
</table>
# FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Old Main building, south side, late 1920s.</td>
<td>10</td>
</tr>
<tr>
<td>2.2</td>
<td>Aerial campus view, Illinois State Normal University, 1930</td>
<td>14</td>
</tr>
<tr>
<td>2.3</td>
<td>The removal of the Old Main dome in 1946</td>
<td>16</td>
</tr>
<tr>
<td>2.4</td>
<td>Old Main following the removal of the tower, stairs and porch in 1955</td>
<td>17</td>
</tr>
<tr>
<td>2.5</td>
<td>The demolition of Old Main in 1958</td>
<td>18</td>
</tr>
<tr>
<td>2.6</td>
<td>Map of 1981 excavation area from Barr</td>
<td>20</td>
</tr>
<tr>
<td>2.7</td>
<td>Floor plan of Old Main from Harper (1946:21).</td>
<td>21</td>
</tr>
<tr>
<td>2.8</td>
<td>Students on the Old Main south porch stairs in 1948</td>
<td>22</td>
</tr>
<tr>
<td>2.9</td>
<td>Map from 1985 Old Main archaeological salvage operation proposal</td>
<td>25</td>
</tr>
<tr>
<td>5.1</td>
<td>Sample identification card</td>
<td>60</td>
</tr>
<tr>
<td>5.2</td>
<td>Map of 1981 excavation area from Barr (1983:38) with colored lines to illustrate the difference between true north and magnetic north.</td>
<td>73</td>
</tr>
<tr>
<td>5.3</td>
<td>Barr's Plan View Excavation Unit Map, (1983:39) with colored lines to illustrate the difference between true north and magnetic north.</td>
<td>74</td>
</tr>
<tr>
<td>5.4</td>
<td>These images show the photogrammetry process used to pinpoint the locations of the archaeological units within the flowerbeds in the ISU Quad</td>
<td>76</td>
</tr>
<tr>
<td>5.5</td>
<td>GIS rendered map of satellite image of excavation area with Harper’s (1946) floor plan in black and Barr’s (1983:38) excavation units and measurements</td>
<td>77</td>
</tr>
</tbody>
</table>
5.6: GIS rendered map of the south cistern excavation units with Harper’s (1946) floor plan and Barr’s (1983:39) Plan View Map excavation units in red and superimposed grid in yellow.

5.7: Photograph from the 1981 excavation showing the lowest stair extending beyond the wall of the south cistern

6.1: Counts of Identified Artifacts Organized by Category

6.2: Counts of Food Artifacts

6.3: Pharmacy Bottle Types and Counts

6.4: Counts of Alcohol Artifacts

6.5: Counts of Soda Artifacts

6.6: Map of US Showing Count of Artifacts Contributed From Each Region and City

6.7: Map of US Showing Count of Artifacts Contributed From Each State and City
CHAPTER I
INTRODUCTION

“As Old Main grew, so did the town of Normal. It grew up under the shadow of Old Main’s tower” (Harper 1946:17).

This investigation begins on a hilltop in the vast prairie of Central Illinois in McLean County, where there once stood a grand University building with a shining dome and clock tower. Construction began in 1857, based on the dream of bringing education and literacy to the developing Midwestern region; a dream brought to fruition by the will of determined men (Marshall 1956). The Main building was completed in 1860 and that majestic Victorian structure inspired growth in its shadow, and over time, Illinois State Normal University expanded to several buildings, within a flourishing town now known as the town of Normal. The building was torn down in 1958 because of safety concerns.

In the 1980s, archaeologists excavated portions of Old Main and recovered many artifacts. The following work is an archaeological investigation of the Old Main site and the artifacts recovered from the excavation of the cisterns and other features. The oldest artifacts were dated by archaeologist Keith Barr to the late nineteenth century, when the building came into use, and the documentary and archaeological evidence suggest the south cistern was closed off in the early 1930s, which provides a period of approximately
70 years for this investigation (Barr 1983:75). The focus of this research is to interpret Old Main in the context of the social, technological and economic changes, by analyzing the material culture left by the Illinois State Normal University (ISNU) community, in the water collection cisterns of the Old Main building.

The late nineteenth and early twentieth century was a time of tremendous change, technologically, socially and economically. The era was influenced by progressive movements to prohibit alcohol, widen public education, advance women’s suffrage, develop national infrastructure and improve public health. Electricity changed how people lived and built their communities. A Great War and the Spanish influenza killed millions of people, shaking the national psyche and bringing America international prominence. These events affected people at all social levels, and changed the way people lived, worked, studied, ate, and socialized. The ramifications were felt by all people, even in rural communities like Normal, and on University campuses like ISNU.

Public universities are evolving, densely populated landscapes with dynamic social networks and complex human interaction. At Illinois State Normal University, with the Old Main building at its center, the students, faculty and staff (hereafter referred to as the university community) experienced the same social and economic changes during this period, and made consumption choices based on what made sense for them. Studying the objects used by the members of the university community can provide clues about the social behaviors, consumer choices and institutional life at Illinois State Normal University.
This introduction section outlines the resources, questions, methods and key concepts of this investigation. Several questions were addressed during this investigation. Briefly, these include: What could be learned about this period by examining the Old Main material culture assemblage? How does the use of the consumer goods illuminate our knowledge of campus life at ISNU? What types of products did the university community consume and deposit in the cistern? How did the changes in the manufacture and use of glass containers influence consumption during this period? How did the growth of disposable consumer packaging challenge community members in Bloomington-Normal before municipal trash pickup began in 1946 (Jelks 1996: 21)? Can the artifacts show how the university community may have participated in the national commodity network? Did the members of the university community use more products that were made within the Midwest region, or to what extent did they embrace the growing national marketplace? What similarities exist between the Old Main artifacts and the artifacts recovered from other excavated sites in McLean County, Illinois?

These questions were addressed with analysis of both the artifacts and the documentary evidence. Chapter 1 details the historical background of Illinois State Normal University, the Old Main building and the archaeological excavation conducted by Keith Barr in 1981. Like most public institutions, a university has a well-documented history. Several books have been published about this University over the last 155 years, most recently Educating Illinois by John Freed in 2009. These works describe the founding of the University, how it expanded over time, the demolition of Old Main in 1958, the continued growth of the University and the important people who taught and
attended. However, the written record provides just one part of the story. There are certain aspects of the past that cannot be found in documents. Some of the remaining parts of the story can be pieced together using the material culture, which are tangible remains of human behavior.

The majority of the artifacts examined for this investigation were made of glass, a common packaging for commodities. Chapter 2 focuses on the unique story of glass in human history. Glass artifacts from this period are informative because many products had special bottle shapes and sizes, and catalogues from the period are available that describe the uses for each bottle type. Bottles often bear the embossed markings of their company name, product type and place of manufacture. This makes them uniquely valuable for investigations of consumer behavior, market interaction and commodity networks.

Chapter 3 examines the theoretical framework pertaining to the archaeology of institutional life, and considers how the lives of individuals are shaped by and reflected in institutions (Skowronek and Lewis 2010; Stubbs 1992, 2010; Mustonen 2007; Lindauer 1996; Mullins 2004; and Seifert 1996). This theoretical framework also considers the growth of consumerism and the methods put forward for studying consumer choice in an archaeological context. These conceptual approaches consider the life history of objects, the motivations for consumer behavior, and the development of national commodity networks, (Skibo 2008; Orser 1989, 1996, 2002; Cook et al 1996; Miller 1984, 1986, 1993; Dietler 1998; Mullins 2008; Caple 2006).
Chapter 4 describes the research objectives and methodology for analysis of the artifacts and documents. The artifacts of greatest interest for this investigation were the consumer goods purchased by individuals, like the ISNU students, faculty and staff for their own individual consumption. These goods include bottles from food, alcohol, soda and medicinal products. These consumer goods were distinguished from artifacts recovered that were likely obtained and used by the University to meet institutional needs. Institutional objects include architectural materials such as nails and bricks, ink, ceramic dishes and flowerpots, furniture, light bulbs, hardware, and fire extinguishers (Barr 1983:64). Artifacts that were not considered individual consumer goods were excluded from detailed analysis. The consumer goods were analyzed to establish product types and the companies associated with production of these commodities.

In addition to the artifact analysis, I conducted several oral history interviews with former students and faculty members, gathered historical documents, photographs, and maps and studied the newspapers and yearbooks from this period. These sources have informed the interpretation of the artifacts and the social behaviors that brought them to the Old Main building. This included the role played by a national commodity network that made it possible for products and containers manufactured across the country to find their way to the campus of ISNU. Through my investigations, I have gathered statistical data that can inform interpretations of the consumer choices, commodity networks and social relationships of campus life at ISNU.

This methodology also incorporated a geospatial analysis, with Geographic Information Systems technology. The GIS technology allowed for a digital remapping of
the Old Main site, with greater levels of detail and precision than were available to previous generations of archaeologists. GIS was also used to map the commodity network data, to form interpretations about consumer choices.

Chapter 5 outlines the statistical results of the artifact analysis. It discusses the totals for each artifact group, and the relative percentages of artifact groups relative to one another. It also details the numerical breakdown of different product types within each artifact category. The place of origin for artifacts was also calculated, providing insight into the degree to which members of the university community consumed products from around the country. The commodity network data was then used with GIS technology to visualize the commodity network that connected Old Main to the greater national marketplace. The GIS technology enabled the visual exploration of the geospatial data from the commodity network, by mapping sites of manufacture and distribution for artifacts.

Within the glass assemblage of consumer goods, two types of glass containers provided the bulk of the collection: food containers, including bottles and jars, and medicine bottles. Of these two groups, more than half are objects related to food, including the storing, preserving, packaging or serving food. These objects reflect a need for the consideration of food culture and foodways. Foodways is a term used by folklorist Jay Anderson to described “the whole interrelated system of food conceptualization, procurement, distribution, preservation, preparation, and consumption shared by all members of a particular group” (Deetz 1996: 73). The issues of food culture have played a prominent role in the interpretation of the Old Main site. The medicine bottles also
demonstrate the need for a consideration of the advancements and developments in health care and medicine during this period.

Chapter 6 is the discussion and conclusion section of this work. After analysis, I used the data to discuss the social, economic and cultural changes that may have influenced the ISNU student and staff behavior. Chapter 6 provides a summary of the major findings, offers interpretations based on the data and suggests future research. The discussion deals with comparisons of documentary data with archaeological findings and similarities with the other McLean County sites. The final section includes a concluding discussion and interpretation regarding the available foodways and medicinal choices of the ISNU university community. The goal of this research was to construct a meaningful description of some of the consumer choices and behaviors exhibited by the academic community of ISNU from 1860 to the 1930s, and contribute this knowledge to the growing field of the archaeology of academia and institutional life.

The Old Main building has become part of the cultural memory of Illinois State University, a treasured symbol of the possibilities that can be realized with enough determination and dedication. Even though it no longer stands on the campus, its foundations persist under the surface, refusing to be forgotten, both haunting and teasing archaeologists who are driven to dig for the past and the truth. Even as some of the relics from Old Main are studied, there is so much more, waiting to be discovered.
CHAPTER II
TOPIC AND SITE BACKGROUND

Illinois State University is the oldest public university in Illinois. The Illinois General Assembly passed an act to establish a “normal school” on February 18, 1857, and proposals were submitted to locate the new school in Batavia, Bloomington, Peoria, and Washington, Illinois (Marshall 1956:18). Bids were opened by the State Board of Education in Peoria on May 7, 1857 and the offer from Bloomington, Illinois, was accepted on May 15, 1857 (Marshall 1956: 24). The normal school was located in the village of North Bloomington, which later was renamed Normal in honor of the school on April 6, 1858 (Harper 1946:17). According to Harper (1946:17), “As Old Main grew, so did the town of Normal. By 1865, it could boast of 1800 inhabitants. It grew up under the shadow of Old Main’s tower.”

When it was established, it was called Illinois State Normal University. A normal school was a school created to train high school graduates to be teachers. The term "normal school" originated in the early nineteenth century from the French école normale (Edwards 1991: 238). The French concept of an école normale was to provide a model school with model classrooms to model teaching practices to its student teachers (Edwards 1991: 238). The children, the teachers of the children, the student teachers, and
the teachers of the students were all together in the same building (Edwards 1991: 238). It was not until 1964 that the name was changed to Illinois State University, in order to reflect its growth into a large liberal arts university with an established College of Business.

The University was founded in part by Jesse W. Fell, a prominent Illinois businessman and land owner, who had his friend, Abraham Lincoln, draw up the legal documents to establish the university (Marshall 1956: 24). Charles Hovey assisted in the organization of Illinois State Normal University, teaching the first classes and serving as president from 1857 to 1861.

It must be noted that while Old Main was the first building constructed on the current campus, it was not the first building used by the University. That honor belongs to Major’s Hall, in the town of Bloomington, which held the first classes on October 5, 1857 (Townley 1945:33). According to the *Daily Vidette* on October 15, 1981, in a special Homecoming issue about University history, “G.P. Randall, an architect from Chicago, designed Major’s Hall with six rooms. These rooms were used as offices, classrooms, and assembly room. Major’s Hall was built in North Bloomington, a mile south of Illinois Wesleyan University’s only building” (Thompson 1981:5). According to Hasbrouck (1924:192) “The Normal School had been opened at old Major’s Hall in Bloomington, in the third story of the building at the corner of Front and East Streets, in October 1857, with 19 pupils and three teachers; Charles E. Hovey, as principal, Ira Moore and Mary Brooks as the other instructors.”
The Old Main building was the first structure built on the campus of Illinois State Normal University, and stood as the first public teacher training university in Illinois. According to Harper (1946:17), “it stood on a slight plateau, two miles north of the McLean County Court House and one mile north of Sugar Creek. Its tower could be seen for miles. All passengers on the Alton or Illinois Central made a point of seeing this magnificent structure” (See Figure 2.1).
The building consisted of a split-level basement and three upper levels. Originally, the basement level contained the janitor’s chambers, including a parlor, kitchen, a cellar and three bedrooms. It also contained a storage room, a laboratory, a chemical lecture room, one playroom for boys and one for girls for the Model school, as well as the boiler and the furnace rooms (Harper 1946:20). Cook (1882:250) wrote, “The part of the basement formerly occupied by the janitor was fitted up for the gentlemen’s dressing room.” An Open House brochure from May 21, 1934, obtained from the University Archive, states that “in the basement are the book store; store rooms and janitors’ rooms; a women’s restroom; and the new Student Lounge, completed just this spring by joint effort of students and faculty. This new lounge is located in the southeast corner of the building in the suite of rooms formerly used as lodging quarters for the janitor.” These seemingly contradictory accounts obfuscate the matter on whether the janitor was living in the basement, and if so, for what length and period during the 70-year span of this investigation. For that reason, this investigation tries to take into account the likelihood of some domestic activities within the Old Main building.

Originally, the first story contained administrative offices, as well as the University President’s office, a reception room, a faculty lounge, and storage rooms. In later years, this floor also contained a post office and the telephone operator’s room. According to Harper (1946), the second story contained the Normal School, including a large assembly room with seating for three hundred people. There were also eight large recitation rooms, and two smaller rooms. The third story contained Normal Hall, with seating for one thousand people. It also housed the Museum of Natural History and the
University Library. The Natural History Museum was also the headquarters for the State Natural History Society of Illinois, founded in 1857 (Harper 1946:27). The collections included various specimens collected by John Wesley Powell on his expeditions to the western United States, a few of which are now located in the Felmley Science Building, more are at IWU and even more of the collection is now at the Smithsonian Institution. In 1885 the “surplus specimens were removed to the state house at Springfield and to the University of Illinois at Urbana” (Hasbrouck 1924:193).

Enrollment for the Normal School grew each year since its founding, with women often making up the majority of the student body. Hasbrouck (1924: 196) states that “the first year, 1857, recorded an enrollment of 53 men and 74 women and the totals for the next few years ran along this way: 122, 161, 152, 205, 304 and 282. After the close of the Civil War the enrollment mounted above the 400 mark and wavered between 400 and 500 for several years.” In 1907, the attendance had risen to 826, and by 1922 attendance reached 3,749 (Hasbrouck 1924: 196, 198).

The issue of racial integration arose early in the University’s history. University President Edwards “saw no objection to educational opportunities for Negroes in the normal departments and had boldly stated his opinions” by advocating for African American children to be admitted to the Model School (Marshall 1956: 131). In 1867, President Edwards hosted an institute at ISNU for the teachers of primary schools and following the success of the event, the “members of the institute were so impressed that they unanimously resolved that all children of lawful age, without regard to race or color, should be freely admitted on terms of entire equality to the public schools of the state”
President Edwards efforts to ensure equality were met with hateful commentary from the Chicago *Times*, which printed on February 22, 1868, “Here is an institution supported at great expense by the taxpayers of Illinois, and run in the interest of nigger-radicals, and radical niggers” (Marshall 1956:130).

Several years later, the issue of admitting African Americans to the University arose, and President Edwards asked the State Board of Education for guidance. The Board ruled that “neither the Board nor the Faculty of the University has any right to recognize distinctions of race or color in determining who shall or who shall not be admitted to the several departments of the University, the equal rights of all the youth of the state to participate in the benefits of our system of public education, of which the Normal University is a part, being, as we think, fully established and guaranteed by the organic laws of the state” (Proceedings of the Board of Education, Normal, December 5, 1871: 4). The early acknowledgement of the equality of African American students, both in the Model school and within the University, remains a source of pride for Illinois State University.

In the last years of the nineteenth century, the University sought to expand, “lest the walls of Old Main should burst. Other buildings came to dot the campus, clustering around the original building like chicks about a hen” (Harper 1946:29). According to Plummer (2001:1), in 1892, “North Hall was built for the practice school at a cost of $24,000. It was located immediately north of Main” adjacent to what is now College Avenue. In 1897, “Cook Hall was built as a gymnasium for $76,000. Governor John P. Altgeld, a native of Germany, insisted that all state buildings should be built as castles. It
was first known as the gymnasium, then as the "old castle," and later it was named for John W. Cook, the fourth president of ISNU” (Plummer 2001:1).

The expansion of ISNU campus in the early twentieth century is detailed by Plummer (2001). Edwards Hall was built in 1909 and initially called the Manual Arts, then the Industrial Arts building and was only later called Edwards, after Richard Edwards, the second University President (Plummer 2001:2) (See Figure 2.2). Moulton Hall was built in 1912, was called the Metcalf School, and later was designated as University High School, and finally named Moulton in 1963 for Samuel W. Moulton, president of the Illinois Board of Education, 1857-66 and 1867-1877 (Plummer 2001:2). Fell Hall in was built 1918, as the first dormitory on campus and was named for Jesse W.
Fell. According to Hasbrouck (1924: 197), “Fell Hall is a dormitory for women, providing 83 rooms for 83 women and accommodates 150 students in the dining hall.”

The McCormick Gymnasium was built in 1925, was originally called Felmley, but was renamed in 1930 after Henry McCormick, a faculty member from 1869 to 1919 (Plummer 2001:2). The Felmley Hall of Science was built in 1930 and was named for David Felmley, ISNU’s president from 1900 to 1930 (Plummer 2001:2).

As the campus expanded, Old Main’s infrastructure was updated. In an early university history, Cook (1882:250) mentions that steam pumps and electricity were already in use, as well as “numerous wash-bowls supplied with water from the cisterns in the roof, and many other conveniences are close at hand.” While Cook states the cisterns were collecting water in the roof, they likely piped water up from the water holding cisterns underground. In 1901, city water was piped into Old Main, but the water collection cisterns were not closed off until 1932 (Proceedings 13 July 1901:9; Proceedings 17 Nov. 1930:11). The archaeological data suggest that during this 30-year span, the subterranean cisterns were used as garbage pits (Barr 1983:72). Many artifacts were deposited into the cisterns, including glass bottles, ceramic dishes, metal hardware, and architectural items (Barr 1983: 72).

During the 1920s and through the Great Depression, major structural maintenance for Old Main was limited because of campus expansion (Barr 1983:26). The entrance stairways were replaced in 1932, and pieces of the old iron stairway were recovered from the cistern, suggesting that University employees used the cistern for trash deposition (Barr 1983:75). In 1932, deterioration of the tower became apparent, after it began to lean.
to one side, so steel pillars were installed to support the tower from the basement to the attic, although this failed to solve the underlying problems (Barr 1983:26).

![Image](https://example.com/image.jpg)

**Figure 2.3: The removal of the Old Main dome in 1946. Image courtesy of Illinois State University Archive. Image number ISUAPSC - 1745A - 5 - 1946**

By 1946, the deterioration of the tower had become irreparable, and the tower and top floor were removed, and a new flat roof was placed over the second floor (See Figure 2.3). Old Main’s bell was placed at the north end of the Quad, and it is still there today.
As the ISNU campus doubled in size after World War II, maintenance for Old Main was not a high priority. In 1953, the iron stairway to the front entrance collapsed and the wooden porch was falling apart, so they were replaced with a temporary wooden stairway (Barr: 1983:30). Missing its distinctive porches and bell tower, replaced with a flat roof, and shabby wooden stairs, Old Main lost much of its grandeur (See Figure 2.4).

Figure 2.4: Old Main following the removal of the tower, stairs and porch in 1955. Image courtesy of Illinois State University Archive. Image number ISUAPSC - 888C – 1955.

A few years later, University President Dr. Bone researched the restoration of Old Main, but discovered it to be unfeasible because of the advanced deterioration of the wood and brick in the building (Barr 1983:30). As the Centennial anniversary for the University approached, it was clear the Old Main building was entering its final days. During June and July of 1958, the Old Main building was torn down, and a memorial cenotaph monument was built in its place on the quad (See Figure 2.5).
Over the next 23 years, Old Main drifted out of the minds of the ISNU community. That changed in April of 1981, when utilities workers began to install new electrical lines in the vicinity of the Old Main foundations (Barr 1983:1). The installation process created a trench approximately 10 meters long, which disturbed a brick feature under the sidewalk that connects Edwards Hall with the Old Main cenotaph. This brick feature aroused the curiosity of members of the Midwestern Archaeological Research Center on campus, who obtained permission for an investigation. The electrical work could not be delayed, however, so the investigation of the feature was brief by necessity, lasting less than an hour. Photographs and measurements were taken, and the brickwork was examined. The bricks consisted of “hand molded, soft mud, “slot bricks” used in the
nineteenth century for the foundations and inside jobs that would not show” and were set in the common bond pattern (Barr 1983: 2). The brick feature was determined to be the edge of the west water-filtering cistern that had been beneath the stairway to the west entrance of Old Main (Barr 1983: 2, 4).

Further construction that summer uncovered a subterranean “room” that survived the demolition and contained numerous artifacts including a clay tobacco pipe, marble molding and several glass bottles and glass bottle fragments (Barr 1983:6). Judging by its location on the quadrangle in maps drawn by Barr, this room may have been the north cistern, yet it was not systematically excavated at the time of its discovery. However, Keith Barr recovered several of these objects before the room was closed off.

A systematic archaeological excavation of Old Main was undertaken on October 21 and continued until November 19, 1981 (Barr 1983:11-12). The project was orchestrated by Barr, in partnership with the Midwestern Archaeological Research Center, its Director Dr. Edward Jelks, with assistance from volunteers (Barr 1983:11-12).

The Old Main excavation crew dug test pits, a test trench and excavated a portion of the south cistern within the five flowerbeds in the ISU quadrangle (Barr 1983:40-62). The first phase of the excavation work attempted to locate the four corners of the Old Main foundation, and map these points for future reference, yet the northwest corner was not found as a result of previous construction projects that had disturbed the site (Barr 1983:82). The south cistern was the only cistern excavated at that time, and it contained heavily concentrated cultural materials, with 76 percent of all artifacts recovered located directly above or within the cistern ruin (Barr 1983:40-63) (See Figure 2.6).
Figure 2.6: Map of 1981 excavation area from Barr (1983:38). Image courtesy of Milner Library.
Figure 2.7: Floor plan of Old Main from Harper (1946:21). Image courtesy of Illinois State University Archive.
The Illinois State University Bulletin *Old Main*, written by Charles Harper in 1946, provides floor plans for each story of Old Main (See Figure 2.7). Harper’s work was used during the 1981 excavation in determining the location of the cisterns. Examination of the basement and the first floor plans provided by Harper (1946) showed the south cistern to have been located below the porch and south entrance stairs of Old Main, facing toward the quadrangle.

These floor plans and photographs of Old Main, obtained from University Archives, show there was an exterior stairway leading down to the basement level on the south side of the Old Main building that led to an outdoor hallway under the south porch to a basement entrance (See Figure 2.8). It would have been from this hallway that the cistern would have been accessible, according to the floor plans.

![Figure 2.8: Students on the Old Main south porch stairs in 1948. Arrow points to the location of the cistern, outside the building, and underneath the porch stairway, so the cistern would have been accessible at any time. Image courtesy of Illinois State University Archive. Image number ISUAPSC - 16D-1948](image-url)
This means a person could dump objects into the south cistern without entering the Old Main building. Therefore, the south cistern could have been used as a place of disposal by anyone on campus, day or night. However, it is unlikely that the cisterns would have been used for trash disposal by people who were not affiliated with the University in some way. This could be because people outside the University might not have known about the cisterns’ reuse, or because they had little reason to bring their garbage to a building on ISNU campus for disposal.

Furthermore, the cistern must have had a cover of some type to prevent accidents and injury to students and staff. This suggests that the cistern cover would need to have been intentionally removed or pushed aside in order for the object to be dumped into the cistern. A public access cistern of this type might even have had a lock. From this we can infer that all the objects found in the cistern were deliberately dumped there and not accidently dropped in or lost.

The Old Main artifacts were identified, quantified, and briefly analyzed before entering storage, first at the University, and then at the Illinois State Museum Research and Collection Center in Springfield, IL. Barr determined a terminus post quem from “a clear glass ‘McKee Type’ lantern lens patented in 1917” on the cistern floor, which Barr supposed to mean that “everything had to have gone into the cistern sometime after 1917” (Barr 1983: 73). Using other datable artifacts including ceramics, Barr determined that majority of the artifacts were made before or during 1920 (Barr 1983: 74). Barr suggests two separate periods of time during which the south cistern was used for trash, the first starting in 1917 through 1920, followed by a gap of several years, then more was
dumped in 1931 and 1932. Barr notes that after the initial years of dumping, the cistern could have been closed off until the winter of 1931, when the old iron stairway to the entrance of Old Main was replaced with new wooden stairway. “When the steps were dismantled the top of the old filtering cistern beneath must have been exposed. Someone undoubtedly looked inside and saw it was nearly full of the trash thrown in about 1920. Nevertheless there was still enough space inside to accommodate more refuse,” (Barr 1983: 75). Two pieces of the old iron stairs were discarded into the cistern during this second period of dumping, along with a glass prescription bottle dated to 1932, and 18 pieces of linoleum tile from the renovation of the women’s bathroom in April 1932 and several other items (Barr 1983: 75). With these data, Barr suggests there were two periods of fill for the south cistern, but all artifacts in the cistern would have been dumped starting in 1917 and ending in 1932 (1983:88). The Old Main archaeological exploration results were published by Keith Barr as his Master’s thesis in 1983.

Documents at the Illinois State Museum Collection and Research Center suggest that a second archaeological excavation took place in the summer of 1985, when a steam tunnel plan threatened the remains of Old Main’s north cistern. The ISU Foundation and the McLean County Historical Society funded a salvage archaeology project. Documents from the Illinois State Museum contained correspondence from Robert Walsh, Chairman of the Anthropology department, to Richard Godfrey, the Director of University Advancement, that advocated for a salvage excavation before the construction proceeded.
The Illinois State Museum documents also included a four-page salvage excavation proposal with map, (see Figure 2.9), and signed by Virgil Noble, Director of the Midwest Archaeological Research Center.

Another correspondence document from the Illinois State Museum, written in May of 1986 by Susan Gillepsie, Professor of Anthropology, to Richard Godfrey, confirmed that the excavation had taken place, and that Larry Sears, a history teacher at Bloomington High School, was tasked with writing the official report on the excavation. Upon inquiry, neither the University Archive nor the University Facilities and Maintenance department had a copy of this report. In a phone conversation with Larry Sears, he
confirmed that he had written this report, however he did not have a copy of the report in his possession. He also did not know where any copy of the report could be obtained.

Despite efforts to locate the field notes and final reports, these documents have yet to be found, limiting a comprehensive understanding of the Old Main excavations. The location of the artifacts from the 1985 excavation is also not known for certain, but during artifact analysis, several objects, include a clay pipe and a beer bottle from the Indianapolis Brewing Company, had typewriter labels which include the year 1985. It was not clear, however, whether these artifacts were excavated in 1985, or whether the labels were written in 1985.

**The Old Main Project**

My research of the Old Main building began with the Old Main Project, directed by Professors James Skibo and Gina Hunter. As a research assistant, I conducted oral history interviews of 15 people who had attended ISNU in the 1930s and early 1940s. Each person shared a story about his or her experience in the Old Main building. Elizabeth Smith described the time she went up to the tower, while Dolly Seacord remembered having her homecoming queen picture taken on the porch stairs, and Ellen Hendrix remembered students working late in the Index yearbook office in the basement of Old Main. Each of these participants provided a peek inside the building and an idea of what life was like as a college student during the Great Depression and Second World
War. Their contributions were useful for interpreting the layered meanings of the material culture from the Old Main excavation.

The goal of the Old Main project is to tell the building’s story through the analysis of excavated remains, oral histories, and historical documents, and make these resources available to the public through an interactive website. The Old Main project is focused on public awareness and community involvement, through partnership with the Department of Sociology and Anthropology and the assistance from ISU Alumni Relations, Milner Library, the Dr. Jo Ann Rayfield Archives at Illinois State University, and the Illinois State Museum Research and Collections Center.
CHAPTER III
HISTORY OF GLASS

Glass is unique because it is made almost exclusively in state level societies, because it requires knowledgeable specialists to produce it. Ketchum (1975) writes in detail about the history of glass making, and notes that glass making goes back to the height of the Egyptian civilization, with a glass house archaeologically dated to 1400 B.C. (Ketchum 1975: 26). Yet, according to Phillips, (1981:20) the first glass artifacts “were actually made in western Asia… in the region of Mesopotamia.”

Glass is made from a mixture of silica – usually sand – and an alkali, such as potash, lime or carbonate of soda (Ketchum 1975: 30). This combination is known as “batch” and is intensely heated until it melts, when the alkali, “serving as flux to produce a fusion of the other materials. The resultant mixture is a viscous near-liquid, which may be molded or blown into many shapes” (Ketchum 1975: 30).

The earliest vessels were likely bottles made in molds. According to Phillips (1981: 22), “almost all pre-blown glass looks rather like pottery – often opaque or, at the most, translucent.” The Syrians invented the blowpipe around 300 B.C. and new forms and methods soon followed. Romans pushed the technology even further, inventing
cameo, mosaic, filigree, and cased glass techniques (Ketchum 1975: 26). After the Roman civilization declined, glass making was largely abandoned in Western Europe, except for a few glass blowers working in small shops on the rural fringe of Germany. Interest in glass making continued in the Eastern Roman Empire, centered in Byzantium, now Constantinople. When the Renaissance began in Italy, glassmaking techniques were revived and Venice became a center for glass production. By the time Constantinople fell to the Turks in 1453, the glass made in Venice was the finest in the world, and the practice had spread to the modern lands of France, England and the Netherlands.

Glassmaking in North America dates to the Jamestown colony, when European glassmakers established a shop in 1608 (Ketchum 1975: 14). Glassmaking in the Colonies was generally discouraged by the British Empire, which preferred to sell manufactured products to the settlers and obtain raw materials from them. In spite of this, many more attempts at glass making were established in the Colonies, with the practice becoming more common during the seventeenth and eighteenth centuries. During this time, the methods for making glass had advanced slowly, but remained a largely manual process, with production limited and glass remaining expensive.

By the nineteenth century, glass making in the United States had grown and the Midwest had become a center for its production (Phillips 1981: 181). Many glasshouses in America experimented, by mixing varying amounts of lead and oxide in their glass. With a glass blowing method common to bottles in this period, a pontil was also used. The pontil is a long, solid metal tool, often made of iron, which is used to take off blown glass from the blowing iron and allow the top to be finished. As the glass cools, it
solidifies, and it is broken off the iron rod, which leaves a circular pontil scar, usually found on the bottom of glass vessels (Phillips 1981: 292). “The rough mark was considered the sign of handmade glass, but since the nineteenth century it has often been ground flat” (Phillips 1981: 292). The distinctive pontil mark is commonly seen on bottles made in the United States before 1850, becoming less common thereafter (Ketchum 1975: 34).

While free hand blown bottles could be made in a wide variety of forms, they had disadvantages. This method of glass manufacture was slow, and free-formed bottles were not identical in capacity, which was important to merchants. “Commercial interests also needed a bottle that could be personally identified with the name of a product or producer,” which was not possible with the free-blown bottle method (Ketchum 1975: 34).

As the nineteenth century continued, American glassmakers were influenced by styles from the European continent, and the American glass industry benefited from the immigration of skilled glassmakers to America. The first hinged molds used in the United States were of the “non-shoulder type” meaning they were simple metal cylinders that formed the body of the bottle and enabled embossing on the bottle, but they still needed to be finished by hand (Ketchum 1975: 38). Many of these flasks were made of bottle glass, and they appear in dark colors, including olive green, amber, brown, yellow and occasionally aquamarine.

The increasing demand for mass produced glass continued, which led to the introduction of the full-sized bottle molds. These molds were hinged with two or three
sections. They produced bottles that were completely shaped, except for the bottle mouth, which still required some hand finishing. Another innovation in bottle molds was a removable plate, which had the desired embossed design that allowed the same mold to be used for many different embossed bottles (Ketchum 1975: 38). “The development of the plate mold coincided with the patent medicine boom of the 1870s, and it reflected the interest in advertising that enveloped commercial interests during that period” (Ketchum 1975: 38).

Some bottles from the nineteenth century were made with a pressing method. This method involves a glob of hot glass, gathered on a pontil and “held over the open mold. The proper quantity was then cut off and allowed to fall into the mold, which was then pressed together manually like a large pair of pliers” (Ketchum 1975: 38-39). Mechanical presses began to appear in 1825, and Americans are credited with that advancement. In November of 1830, the Kensington Glass Works obtained a patent for a “mechanical press sufficiently sophisticated to make all kinds of bottles, decanters and other pressed hollow glassware, with the neck or aperture smaller than the cavity or inside diameter of the vessel” allowing the mass production of glass tablewares (Ketchum 1975: 39). Only a limited number of bottles were made in that method, however.

According to Miller and Sullivan (1984: 83), “the increasing market for glass containers helped provide the capital necessary for mechanization and the drive for its success.” The semi-automatic bottle machines, developed in 1880s, required workers to supply the molten glass, and needed semi-skilled operators to manage them. Yet these semi-automatic machines displaced some glassmakers, and “the use of machines was
limited by strong glass blowers unions in their respective countries,” (Miller and Sullivan 1984: 85).

During the late nineteenth century, advancements in the finish portion of the glass containers, together with the improvement of convenient, reliable closures, helped to increase the demand for glass containers (Miller and Sullivan 1984: 83). There were newly patented closure methods, including the mason metal screw-on lid, patented by an American, John Mason, in 1859. As bottling molds advanced, there were two important closures, including the crown top for bottles and the Phoenix cap for jars, which were patented in 1892 (Miller and Sullivan 1984: 83).

According to Busch (1987:68) in 1899, U.S. glass container production totaled 7,780,000 gross, compared to 1,480,000 gross just twenty years earlier. The advancing mechanization of glass production made possible the invention of Owens automatic bottle making machine in 1903. Owen’s fully automated machines gathered glass “directly from the furnace and all processes in molding and blowing were independent of human labor” (Miller and Sullivan 1984: 83). The desire to reduce labor costs and eliminate the production limits of semi-automated machines created incentives for the widespread commercial adoption of automatic bottle-blowing machines. The rate of production in the United States “increased 50 percent between 1899 and 1904” and “by 1919 the amount of glass containers produced was 180 percent higher than the number produced in 1904” (Miller and Sullivan 1984: 83). A study in 1927 established that “semi-automatic machines were 42 and 171 percent more productive per man-hour than
hand production, and automatic machines were between 642 and 3806 percent more productive than hand manufacture (Miller and Sullivan 1984: 86).

Newman (1970) studied the dating techniques of bottles based on recorded changes in bottling manufacturing techniques. Even as he refined these techniques, he cautioned archaeologists about using them too rigidly, as much variation could occur between different artifacts and different sites. According to Newman, (1970:70) “One cannot simply use the date a replacement [glassmaking] technique was developed as a terminal date for an archaeological level containing a bottle made with the replaced technique because of: delays in particular bottle manufacturers changing over to the new technique; the use of existing stocks of bottles made by an earlier technique after a new technique was developed; storage time at the manufacturer’s factory prior to shipment to the bottler; delays in filling the bottles with the contents to be retailed; transportation time to the site; and the possibility of re-use of the bottle prior to final discard.” With this disclaimer established, Newman described how many improved manufacturing techniques were adopted quickly by glassmakers because competition was high and demand for glass packaging was growing rapidly during the nineteenth and early twentieth centuries.

According to Busch (1987) growth in bottle manufacturing had enormous economic consequences. Bottle prices declined as bottle manufacturing increased. “Lower prices combined with changes in American life to expand the bottle market. Urbanization and a rising standard of living expanded substantially the markets for products that were formerly produced at home, such as liquor and canned food, and for
products that were previously consumed in small quantities, such as patent medicines and carbonated beverages” (Busch 1987:68). This caused the usage of glass containers to grow along with the demand for packaging of all kinds. This had an enormous impact on the national marketplace, as Busch (1987:68) describes, “With the development of roads, canals, steamboats, and railroads, more packaging was needed to protect and preserve goods during shipment. Sealed glass containers helped to assure consumers that the contents were pure and sanitary. Brand names on bottles reinforced consumer confidence. Packaging was also adopted to make it easier for customers to bring home and store their purchases.”

Even as bottle production was growing rapidly, bottle resale and reuse was still a common practice. According to (Busch 1987:69) demand for bottles had grown so much that it was still greater than the supply and “to meet this demand in 1899, a number of houses petitioned the bottle blowers’ union to operate part of the summer, when glassworks traditionally closed due to the heat. More than a billion new bottles were produced that year, but old bottles retained enough value to be saved and used again. By the 1890s the secondhand bottle business was firmly established and thriving in America’s cities.”

Even with this thriving trade, however, as many as 65% of bottles produced in 1883 were not getting back to their original manufacturers, and the issue of bottle loss was described as “the monstrous evil which every year saps the life from this otherwise prosperous trade” (Busch 1987:70). Besides bottles that were thrown away, broken or misplaced, a significant part of this loss was attributed to imitators, or “bottle louses” that
used the bottles of competitors to package their own products (Busch 1987:71). “The bottle louse had plenty of opportunity to appropriate bottles left for collection or simply abandoned by customers. Dishonest dairymen ensured a supply of milk bottles by collecting their competitors’ empties from the doorsteps when they made their morning deliveries” (Busch 1987:71).

Another common source of bottle loss was the family pantry, as every fall the “good housewife begins to bottle her ketchup and make her preserves. The shapes of beer and soda bottles made them particularly popular for home preserving” (Busch 1987:71). Many of the bottles and jars within the Old Main assemblage could have been reused by consumers to preserve food, including the olive jars, pickle jars, horseradish bottles, ketchup bottles, mustard jars, as well as the canning jars.

This behavior began to change in the early twentieth century, as “consumers discarded empty bottles because they accumulated more than they needed. Housewives still used large quantities of glass containers for storage, home brewing, and preserving, but the number of bottles coming into the home was increasing. Some of these glass containers contained prepared foods that the housewife formerly made herself, so the need for glass containers in the home was decreasing while the supply was increasing” (Busch 1987:72). It was true for many prepared foods during this time, including jams, pickles, and condiments, that the price was falling and availability was growing, which reduced the need for frugal homemakers to make and store their own preserved foods. While this trend reversed during the World War I and World War II, as
government agencies and civil organizations campaigned for food conservation, it remained the overall trend during the twentieth century.

As supply outpaced demand, many bottles were simply discarded after their product was consumed, even as bottle detectives, bottlers and bottle dealers worked hard to keep their glass out of dumps. “Used bottle dealers operated primarily in cities, even as far west as San Francisco, but the cost of collecting and shipping bottles from sparsely populated areas was generally too high to make the business profitable” (Busch 1987:72). Because the town of Normal is 135 miles away from Chicago and nearly 40 miles away from Peoria, the glass assemblage from Old Main might have been easier to discard than pay the cost to ship them back to a major city for recycling.

This may also mean that many of bottles for the locally produced goods, like milk or prescription medicines, consumed by members of the University community, were not discarded because those bottles were returned more easily to the local merchant or manufacturer. Busch (1987) states that local druggists often encouraged their customers to return their bottles when their medicine was done, by “charging customers for new prescription bottles, then refunding the charge if the bottle was returned, or omitting the charge if the bottle was refilled” (1987:69). This would cause local products to have their bottles deposited less frequently in the cistern than nationally branded bottles, leading to an assemblage that does not reflect the true extent of the use of locally produced goods.

Hill (1982:291) studied artifact assemblages at four sites across the US, collectively spanning 1865-1928, with a focus on the phenomena of manufacture-deposition lag, a term she described as “the difference between the time of manufacture
and the time of deposition of an artifact of class of artifacts.” Hill accomplished this by applying the underlying principles of South’s (1977) Mean Ceramic Date Formula to determine the manufacturing date range for bottles, and compared that with documentary evidence regarding the occupation of the site.

Using these two data sources, Hill was able to determine the average amount of time that elapsed between bottle production and bottle deposition within the archaeological sites studied. According to Hill, “the final step in this method is to calculate the amount of lag by subtracting the bottle’s mean manufacturing date from the sites’ documented terminal date. It is important to rely on documentation for a site date rather than on dates projected from other classes of artifacts, such as ceramics or coins, because manufacture-deposition lag is likely to affect all manufactured artifacts” (1982:294).

Even though these four sites represent different behavioral, temporal and spatial conditions, Hill outlined some general patterns in the manufacture-deposition lag of the bottles. “Overall, the amount of lag declines through time, although the average lag of the Silcott [archaeological site] bottles is not significantly different from that of the Edgewood site. However, since the bottle and other products at Silcott came from as far away as 2000 miles, it still can be postulated that the amount of time required for manufacturing, bottling, and distributing had been considerably reduced between 1865 and 1928” (Hill1982:325).

Hill’s assessment fits well with Busch’s argument that as supply of bottles grew over time, and the selection of bottled products increased, consumers had less need to
save bottles for reuse. In the twentieth century, consumers were more likely to discard their bottles after a single use, which reduced the manufacture-deposition lag time, as shown by Hill. The primary exception, Hill notes, is food bottles. “In the category of food, the lag remains relatively constant through time. Perhaps behavioral patterns related to food are more traditional and resistant to change than other patterns” (Hill 1982:325).

The work of these authors shows that many factors can influence the behavior of manufacturers and consumers, as well as the formation processes that contribute to an archaeological site like Old Main. These contributing factors were considered and accounted for during analysis of the Old Main glass assemblage, and have been instrumental in shaping the interpretation of those artifacts.
CHAPTER IV
THEORETICAL FRAMEWORK

This investigation is focused on the analysis of artifacts recovered from Old Main, to reveal insights into the social relationships, consumer behaviors and economic changes of campus life from 1860 to 1932. To accomplish this, I have drawn on ideas from Skibo (2008), Orser (1988, 1989, 1996, 2002), Cook (1996), and Miller (1984, 1986, 1993). Their concepts of relational analysis, material culture studies, consumerist archaeology, economic scaling and consumer agency were used to construct a consumer studies approach that accommodates the emerging landscape of academic archaeology.

One concept useful to the analysis of Old Main artifacts is a behavioral chain. Skibo (2008) introduced the concept of the behavioral chain to get beyond the general understanding of an object’s life history. In the study of cultural uses for technology, the researcher should “focus on specific activities and their constituent interactions, throughout its life, which we refer to as the ‘behavioral chain’” (Skibo 2008:9). By following the complex chain of activities of the artifact, we can trace the human activities and choices that the artifact represents.

According to Skibo “a behavioral chain analysis consists of identifying activities and then isolating components of specific interactions, such as the type of people
participating (social group), the location, frequency of performance, and other artifacts or externs” (2008:10). For the Old Main analysis, consideration of the origin and manufacture of objects is significant, as well as their journey to the town of Normal as commodities in the national commodity network, their golden moments of being chosen by a consumer, followed by their consumption and use, and their eventual abandonment in the cistern. However, for the Old Main artifacts the behavioral chain did not end in the cistern, because they were excavated by Barr (1983), entered the collection of the Illinois State Museum, and were then the subjects of this research. All of these experiences are part of the behavioral chain related to these artifacts, and influence the story they tell researchers.

For one of the eight milk bottles found at Old Main from the Snow and Palmer Dairy of Bloomington, the behavioral chain started when the bottle was manufactured in a glass factory, then it was shipped to the dairy for filling. Once the bottle was full of milk, it was sold at a local store or delivered to the customer’s door by a horse pulled milk wagon (Kemp 2010). Many milk bottles were returned by the customers and reused by the dairy, often dozens of times (Busch 1987:70). Bottles like these could have also been used by families for home preserving of fruits, vegetables and condiments, so these links in the behavioral chain need to be considered if one were to attempt dating the glass bottles (Busch 1987:71) (Hill 1982:294).

Eventually, perhaps after years of reuse, the Snow and Palmer milk bottle was no longer needed, and was tossed into the cistern by a member of the University community.
The behavior of depositing the milk bottle in the Old Main cistern is the link in the
behavioral chain that makes it most important for this research, because it links the
consumption of this product with the history of Illinois State University. We will never
know why it was thrown away at Old Main, when it could have just as likely been thrown
anywhere, broken into a thousand pieces, or returned to the local dairy. This milk bottle
could have ended up in some other place so many ways. Yet because of how this
particular behavioral chain worked out, this bottle was excavated by Barr, given to the
Illinois State Museum, and included in the Old Main artifact assemblage for this research,
which are all further links in the behavioral chain.

Orser suggests the study of the physical and social attributes of artifacts is
necessary to understand fully the social unit, either the individual or group that utilized
the artifact. Through the study of the physical attributes of artifacts, archaeologists have
examined the complimentary social attributes that an artifact can possess. However, “the
sociological issues of concern to anthropological historical archaeologists cannot be
examined until the physical attributes of historic artifacts are known” (Orser 1996:237).

Keith Barr based his analysis strategy on the classification “of cultural material on
a type-ware-class-group designation assigned by South (1977: 92-96) for use in the
analysis of historic period archaeological remains” (Barr 1983:101). Barr organized his
data into groups based on artifact associations, including a “kitchen group,” an
“architecture” group, and an “activities” group. Artifacts within his thesis are not
described in much detail, but statistical tables were given to show artifact types and
counts.
Orser (2002) suggested that South’s analytical methods based on artifact patterns and supported with quantitative and statistical data collection is an inadequate method for artifact interpretation. Orser stated that South’s ideas were adopted widely in CRM “where archaeologists were often under pressure to complete their interpretations quickly” and the use of “quantitative patterns made it possible for them to excavate a site, classify its artifacts, compute percentages within each category and check them against South’s patterns” (2002: 508). In short, South’s method was a quick way to compile artifact data, but lacked a cohesive or social interpretation for explaining the artifacts and their role in society.

With South’s methods, archaeologists could apply an existing pattern to a site or declare that a new artifact pattern had been uncovered for any site that did not fall neatly into an established artifact pattern (Orser 2002: 508). The irregular nature of this methodology means that the patterns themselves are relatively meaningless. South’s method was widely used in plantation archaeology; however, Orser stated that there are two reasons why South’s concept is flawed. “First, the eclectically constructed concept does not provide an effective scale of analysis (after Marquardt and Crumley 1987:2) that is suited to the complexities of plantation organization; and second, the concept provides no mechanism for investigating historical change,” (Orser 1989: 28). Orser suggests that even though South’s method is diachronic, “the pattern concept permits only synchronic, functional analysis. Plantations were distinct, complex, historical, and spatial entities that, by their very nature, embodied change” (Orser 1989: 28).
I support the perspective that universities, like plantations, cannot be fully understood through South’s statistical measurements of artifacts and prescribed patterns. The archaeology of academia is a growing field and constructing a pattern for university life would obscure the critical differences between institutions on the individual level of consumption of commodities. Like plantations, universities and institutions of education are complex, distinct, hierarchical places, comprising their own micro-level society with people of different classes, races, genders and social status. Universities especially are known for being places that support and promote social and historical change, at times acting as a catalyst for societal progress. Therefore, I contend that South’s method, employed by Barr, was inadequate for addressing the unique environment that comprises a university.

Michigan State University excavated the remains of its first boarding hall, called Saints’ Rest, starting in 2005 (Lewis 2010:10). Michigan State University opened its doors in 1857, the same year as Illinois State University, and the school was originally called Michigan Agricultural College. Saints’ Rest burned down in 1876, after which the remains of the building were covered over and the site was not reused for another building. According to Lewis, “Observing the student presence at Saints’ Rest required an understanding of context. The content and spatial arrangement of an assemblage reflects the behavior that produced it, but links between the two can only be recognized if we understand how the archaeological record formed. As much as we might prefer otherwise, past activities cannot be observed directly, because the record they leave is static. Only by constructing bridging arguments linking activities to their byproduct can
we breach this gap” (2010:34).

In order to recognize the students and their behavior in the Saints’ Rest artifact assemblage, they needed to organize artifacts spatially within the site to show activity areas, even as these areas had collapsed during the fire and fallen into the basement level. “The student presence was the most readily identifiable because it represents the most recent occupation, the remains of which had passed into the archaeological record in a rapid, cataclysmic event that preserved objects and their spatial context” (Lewis 2010:34). Once the spatial context of the building was revealed, the behavioral patterns became visible. “Although the artifacts we recovered were in themselves mundane and mute, when examined in their larger behavioral context their presence and patterning revealed information not otherwise available” (Lewis 2010:34).

The students and staff of Illinois State University chose to purchase certain products for consumption from the marketplace, and those choices represent a link in the behavioral chain. Another way to consider these consumer choices is to reflect on how they show individual economic decision making in a time when modern concepts of consumerism emerged. “Consumerism is the complex of technologies, organizations, and ideologies that facilitate the mass production, mass distribution and mass consumption of goods. A consumer society is one organized around the provision of its members – particularly those of the middle and working classes – with a seemingly limitless array of ever-changing products serving diverse utilitarian and symbolic functions” (Majewski and Schiffer 2001:27).

The growth of the industrialized marketplace at the turn of the nineteenth century
created a new cultural behavior; shopping as the recreational acquisition of mass produced consumer goods. This cultural change was possible because of a growing global marketplace that reached outside major cities through the railroad system. This investigation attempts to address individual level consumer behavior through the analysis of individual level consumer goods, which reflect the choices available to the University community during this period.

Cook (1996) suggests that individual consumers demonstrate agency in making purchasing decisions. The decisions of what to buy and consume is based on more than social status, class, gender or ethnicity. Their choices were influenced by many factors, such as what goods and services were available at the time, what people could afford, their cultural values, individual abilities, standards of taste and personal preferences. Yet, Cook remarks “Consumer behavior studies tend to focus on research that provides quantitative data that can be grouped to reveal “patterns” of expenditure and by extension of consumption. The focus has moved not merely away from individual acts but has become intentionally dissociated, distanced, not linked to any specific commodity or population segment” (Cook 1996: 52).

Cook linked the rise of consumer goods with the market revolution and its three defining characteristics: “1) the ceaseless introduction of new products, 2) widespread reliance on cash economies and monetary debt and 3) advertising” (1996: 54). Cook goes on to state that “consumption is rife with symbolism” and the act of purchasing objects constitutes the socially defined “ritual” that is shopping (1996: 53). Product information for objects analyzed, such as prices and advertising campaigns in newspapers, magazines
and yearbooks were used to develop conclusions about how the community of Illinois State Normal University might have been impacted by these forces and is discussed in later chapters.

Dietler (1998:300) suggests that “demand is never an automatic response to the availability of goods” and “must be understood as an aspect of the political economy of societies, which follows the political logic of consumption in specific historical circumstances. Consumption is always a culturally specific phenomenon and demand is always socially constructed and historically changing.” Even as the national marketplace of available goods was growing, the people of ISNU were selective, and did not embrace every product that was available to them. Therefore, this investigation is limited to the objects from the cistern, and does not include other products that were available during the period but were not part of this assemblage.

Mullins (2011:134) advocated for archaeologists to adopt “consumption as a conceptual framework that could encompass any archaeological scholarship that examines how people socialize material goods.” In socializing goods, Mullins suggests that people choose, use and lose goods in a variety of ways, some conscious and others unconscious. “This conceptual framework embraces the agency of consumers and recognizes that goods assume meaning in a tension between structural and localized processes that cannot be described as being either wholly deterministic or disconnected from consumer symbolism. Consumption defined this way revolves around the acquisition of things to confirm, display, accent, mask and imagine who we are and who we wish to be, which breaks from seeing consumption as a largely reflective process that
instrumentally displays social status, evokes ethnicity, exhibits gender or confirms other essential identities” (Mullins 2011:134-135).

When considering consumer behavior at sites like Old Main, Mullins (2008) points out “Most research on turn-of-the-century marketing has focused on department stores, mail order sales and advertising. Such shifts in sales clearly impacted how consumer desire was marketed and experienced. Yet most everyday consumption in the urban Midwest was conducted in much less grand, local venues like corner groceries” (Mullins 2008:89). Mullins assertion is valuable for investigating the Old Main assemblage, because many of the consumer goods deposited in the cistern would have been obtained from local groceries and corner stores.

Zachmann (2010) demonstrated that data about local businesses could be obtained from the city directories at the McLean County Museum of History, when he researched pharmaceutical bottles from the Davis Mansion in nearby Bloomington. Zachmann used these archival resources to reconstruct the local market for pharmaceuticals in Bloomington and Normal during the nineteenth century. Although none of the same pharmacy bottles found at the Davis Mansion appeared in the Old Main assemblage, Zachmann’s work provided a model strategy for consumer behavior in local markets.

Archaeological analysis shows how engaged the people of the University community were in a growing marketplace of mass produced goods intended for individual consumption. After these new products were consumed, the packaging remained, including glass bottles, soda bottle caps, food cans, and other trash. Sometimes

47
bottles had a secondary use, but eventually the bottles were tossed away. The act of disposing of objects in the Old Main cistern represented a social and political behavior taking place outside the Old Main building, yet slightly hidden below the south porch, amid a bustling academic landscape. The decision of how and where to dispose of objects represents another form of agency. Individuals made choices all along the behavioral chain of each artifact, and we must consider why the cistern was chosen for disposal.

The people who dumped objects in the cistern struggled with a dilemma that continues to elude people today; the question of what to do with a disposable product’s packaging after its contents are consumed. Before city garbage pickup was available to the town of Normal in 1946, people burned or buried their garbage on their property, or transported their trash to the local dump (Jelks 1996: 21). Glass was a special burden for disposal, because it does not burn, and broken glass can hurt people and animals that are walking in streets or fields.

University students would have had a difficult time disposing of glass objects if they were living in boarding houses or the dormitories. Students, faculty and staff may have used these consumer goods on campus during the school day and even within the halls of Old Main. Dropping these objects down the cistern would have offered the university community a way to discard used glass packaging without further hassle. These artifacts have an economic, social, and political component related to their consumption and disposal that this investigation has attempted to reveal.

Individual consumer choices are difficult to grasp in this artifact collection, because the number of people using the cistern for dumping is unknown. Because the
cistern was located outside of the Old Main building, anyone in the university community could have used it to dump objects. Yet the size and time span of the assemblage suggests that it was used as a dumping place numerous times or by numerous people.

The findings from this analysis must not be taken as a generalization of the larger community during this time, because several factors make the university community distinct from the rest of the town. The ISNU community was not representative of the greater Bloomington/Normal community, because the student body represented a concentration of a younger people, gathered from the rest of the Illinois. As an institution for training teachers, ISNU has historically had a higher female to male gender ratio than the general population, as Cook (1882:255) notes that "two hundred ladies and one hundred gentlemen attended the school in 1864."

In addition, the University community is different from other archaeological sites because it is a long-term occupation with a high level of individual turn over, with most students staying four years or less. It is also unique among other sites from this area, because of the absence of the family unit. Adults and children were both present within the model school, but they were not from the same family, and married women were forbidden from attending ISNU and discouraged from teaching. We must remain cognizant that the objects used and discarded into the cistern existed in a community within a community, and these layers of meaning require attention.
CHAPTER V
METHODOLOGY

The following section examines the methods used to conduct the various aspects of the Old Man archaeological analysis. These methods go beyond the lab, and include the investigations into the several elusive aspects of the Old Main history.

Oral History

The first stage for my work in the Old Main Project began with the oral history interviews. Fourteen elderly community members, both ISNU alumni and former faculty, were invited to talk about their memories of Old Main. These participants agreed to have their stories recorded, so that their memories of Old Main and ISNU might be preserved for future researchers. Many of the interviewees attended ISNU during the Great Depression, and this stark background provided essential context in understanding their unique college experiences. Questions within the interviews ranged from the Old Main floor plan, favorite classes, interactions with classmates and professors, extracurricular activities, youthful and sometimes deviant behavior with subsequent institutional
punishments, college romances, living arrangements, dining habits, part time jobs, and pinching pennies in tough times.

One persistent theme within the stories was how lucky the participants felt they had been to attend college during the Depression. They said they worked hard in school and to make ends meet, because going to college was such a rare privilege that the opportunity must not be wasted. Even after all these years, they still felt very fortunate and grateful for the time they spent at ISNU.

Their stories also reflected how they lived and ate while attending ISNU in the early twentieth century. While there was one dormitory on campus, Fell Hall, built in 1918, it was just for women, and the majority of the students lived in boarding houses nearby. There was no student center on campus for students to buy their meals, and the dining hall only provided meals for those living in Fell Hall. Many of the students who came to ISNU from the surrounding agricultural communities were frequently sent food by their parents from the family farm, either dried or canned fruit, vegetables and meat. Additionally, some meals were provided by the boarding house owner, often the evening meal. The students could also prepare meals for themselves in the boarding house kitchen, using the food sent by their families or purchased in town. A few participants also mentioned a handful of local restaurants where students went for social occasions, where a hamburger could be had for as little as 5¢.

Oral histories were also used by Robert Dirks in his 2011 book *Come and Get It: McDonaldization and the Disappearance of Local Food from a Central Illinois*
Community, covering foodways and local businesses, which proved to be useful source for other personal accounts of life in McLean County during the period of study. For example, Dirks notes the experience of Preston Ensign during the Great Depression, and wrote, “Preston saw poor Illinois State Normal University students at the [Federal] Café, and he knew one of them who lived mostly on milk and crackers. Such meager diets were not uncommon among college students at that time” (2011:144). These personal stories were invaluable for unraveling the deeper meanings of the artifacts and reconstructing the social behaviors that shaped campus life at ISNU.

Archival Research

Archival research was conducted at the Illinois State University Archives, the Illinois State Museum, the McLean County Museum of History and ISU’s Milner Library. This research revealed information regarding the early years of the Normal University, with the majority of the information coming from the ISU Archive. Materials relating to Old Main were examined for information about the construction and layout of the building, and life within the building. The early Index yearbooks, the Vidette campus newspaper and the Pantagraph community newspaper were examined for useful details about how the students, faculty and staff used and felt about the Old Main building. Accounts of student life, regarding interaction with the larger community and consumer behavior were given special attention. Postcards featuring Old Main and describing accounts of daily life from students were also found within a local antique shop.
The Proceedings of the Board of Education of the State of Illinois from 1857-1917 were examined for activities regarding construction, maintenance, and improvement of the building. After 1917, these were continued as the Proceedings of the Normal School Board from 1917 to 1941, and as the Proceedings of the Teacher’s College Board from 1941 to 1958. These documents indicated dates for piping water into Old Main, for repairing the stairway and replacing the linoleum tiles, and the closing off the cistern, all of which was indispensable for dating these materials within the excavated assemblage.

Many of these archival sources suggested the Old Main building was a source of great pride once it was completed in the late nineteenth century, and was revered as a great local historical landmark in the first decades of twentieth century. Students were awed by it when they first arrived, often because it was quite large when compared to their agricultural communities. These students treated the building with care and looked forward to their eventual graduation from its hallowed halls.

The documents and oral history interviews also indicated a change in attitude regarding the Old Main building as the twentieth century progressed. As the campus expanded, some students went large lengths of time during their university careers without having to enter the Old Main building. Maintenance was deferred on Old Main and new buildings were built, and Old Main began to deteriorate noticeably. After the roof and tower were removed due to safety concerns in 1946, Old Main lost much of its grand appearance and became less of a source of pride. In the 1950s, Old Main’s lack of air conditioning and cramped office space made it seem punishing for both students and
staff. The documents and interviews indicate that by the time it was announced that Old Main would be demolished, there was no effort made to save it.

The archival evidence also included examination of photographs of Old Main along its lifespan. These photographs included campus events, including Homecomings, graduations, and pep rallies. The photographs also confirmed an earlier inference that the cisterns would only have been accessible from the exterior of the building. This fact suggests that depositing objects within the cistern would have been possible day or night, and by anyone familiar with the Old Main building. However, the available photographic evidence did not indicate the presence of a privy near the Old Main building, although it is still assumed there must have been one on campus in the era of Old Main’s construction.

Local histories were also consulted, including, former ISNU president John W. Cook’s history of ISNU, published in 1882 and titled, A History of Illinois State Normal University, Normal, Illinois. Also consulted were Jacob Louis Hasbrouck’s work History of McLean County, Illinois published in 1924, and Edward Pierson and Hasbrouck’s 1921 work, McLean County, Illinois, in the World War, 1917-1918. Later ISU histories were also consulted including Helen Marshall’s 1956 work Grandest of Enterprises, and John Freed’s 2009 work, Educating Illinois: Illinois State University, 1857-2007.

In regards to early student life and foodways, Hasbrouck (1924:139) wrote, “The student population was housed in many “clubs” or co-operative boarding houses, where some property owner, often a woman, would take a number of students for boarding and
rooming them. The club commissary would be in charge of a steward who had charge of
the buying of provisions and collecting from each member of the club his or her own
proportionate share of the cost of the raw materials. The woman who owned the house
would do the cooking and serving of the meals for an agreed upon consideration.” This
small detail confirms accounts from the oral history interviews, and suggests a
coordinated effort among students and boarding house owners to share costs and provide
a sense of community when students were away from their families while going to school
at ISNU.

Artifact Analysis

Before analysis could begin on the Old Main glass artifacts loaned from the
Illinois State Museum, it was necessary to understand the analysis and organizational
methods used by Barr after his excavation. As part of his investigation, Barr divided the
artifacts into groups based on their primary material, and then into groups based on the
activities associated with each object. For his analysis, Barr used the classification of
cultural material on a type-ware-class-group designation assigned by Stanley South (Barr
1983:101). Barr organized his data into groups, including a “kitchen group,” an
“architecture” group and an “activities” group. Artifacts within his thesis are not
described in much detail, but statistical tables are given to show artifact types, counts and
locations.
Artifacts like the dinnerware, bottles and glassware, tableware, teaware, flatware and food cans were lumped into the kitchen group with a total of 1,336 artifacts, even though there was no kitchen on Harper’s (1946) floor plan of Old Main. The largest category within the kitchen group in Barr’s data table is “unidentified containers” with 564 pieces, representing 42 percent of the kitchen group (Barr 1983: 64). On page 42 of his thesis, Barr (1983) used the word artifact to refer to a “glass container fragment” so we can infer that this is the number of artifact pieces, and not complete objects such as whole bottles, tea cups and so on.

Barr’s 1983 thesis contained a spreadsheet titled Diagnostic Glass, where he sorted glass items based on their product group, including liquor, soda, food, pharmacy, shoe polish, cologne, ointment, pomade, chemical lab and ink. The majority of these functional typology groups are similar to the classification system outlined by South (1977) and Bauher-Perlin (1982). Barr’s table contained 301 items, each measured based on base to lip height, base diameter, bore width, volume, embossing, color, shape, and manufacturing technique. Broken bases, lips and some embossed fragments were also measured. Barr’s primary goal was to use bottle-manufacturing techniques in dating the bottles, and to construct a date range for the Old Main cistern assemblage.

Barr determined that among the food and medicine bottles, virtually every bottle examined was either hand blown or machine made in three-piece plate-bottom molds (Barr 1983: 72). Barr referred to Deiss (1982:93) when he suggested these molds came into production about 1858, while hand blown glass bottle technology was obsolete by 1915, providing a wide timeframe for the glass bottles to be deposited within the cistern.
The information gathered by Barr was the starting place for reinterpreting the collection to address issues of consumerism or consumer choices made the University community.

To facilitate the new artifact analysis, Barr’s Diagnostic Glass spreadsheet was retyped into Microsoft Excel. This approach allowed Barr’s data to become a digitally searchable database. Within Excel, more rows were added to accommodate more identified artifacts, and more columns were added for new information regarding the production company and the place of manufacture for identified products. This database format was used to start the process of bottle analysis in the Old Main assemblage.

The Old Main artifact collection was loaned by the Illinois State Museum in Springfield for analysis. Artifact analysis was conducted with the assistance of Dr. James Skibo. The assemblage had been organized in boxes based on their primary material, including metal, glass, ceramics, faunal material and a separate box with a selection of complete glass bottles previously loaned for the Old Main project. There were five boxes of metal, 11 of ceramics, 1 box of wood and faunal remains, 1 of miscellaneous artifacts and debris, as well as 40 boxes of glass. Two additional boxes of Old Main materials were obtained from Illinois State Archaeological Survey and given to the Illinois State Museum. These two boxes contained surface collection materials, which were primarily ceramic earthenware, most likely broken flowerpots.

The Old Main collection was inventoried by the Illinois State Museum in 1999, when it was acquired. The 40 boxes of glass were numbered 1-40 and were arranged by their lot number. The meaning or relative location of the lot numbers could not be
indentified from Barr’s thesis, and no other field data were available about the collection. The boxes tended to contain many brown and plastic bags containing broken glass bottle fragments, without individual labeling. Many bags were identified on the inventory as “brown bag, no #, misc glass sherds” without many clues regarding color, product type or identifiable features. Boxes often contained both complete bottles and bags of broken glass fragments.

A new system to facilitate in analysis and reconstruction of bottles was devised, and the objects within the boxes were given an identity based on its original location in the 40 box collection, based on box number (1-40), lot number (1-63) and the original inventory sheet lettered A to Z in the order of the lot numbers. A new spreadsheet for the data was created in Excel to keep track of each item based on its original location and expand on the ISM printed inventory. The assemblage was opened based on box number, and each bag or item was given a paper card to identify it, with descriptive information about each bag or item’s characteristics. Bags of broken glass were opened, and embossed fragments were identified based on product type and brand. This “origin number” system reads as: original glass box 10, lot 8, bag N, or GB10-L8-N, for an amber pharmacy bottle reconstructed from a bag of fragments, to read the embossed words “Rawleigh's TRADE MARK/ FREEPORT, ILL.” This item was not listed in Barr’s Diagnostic Glass table, and so was added into the new database.

Items in Barr’s Diagnostic Glass table were also given uniquely identifiable numbers to facilitate in finding their mate within the assemblage. These numbers start
with the year of Barr’s thesis, 1983, then follows a letter for the product groups, F for food, L for liquor, S for soda, PH for pharmacy, SP for shoe polish, C for cologne, O for ointment, P for pomade, CH for chemical lab and I for ink. These are followed by the number it was in his Diagnostic Glass table printed in his 1983 thesis. This system reads 83-S-4 for the Hires root beer bottle, listed fourth in the soda group, found on Barr’s thesis page 116. Items that were not listed within Barr’s Diagnostic Glass table do not have this identification number.

Items found in Barr’s Diagnostic Glass table were identified from the Old Main collection based on the similarity among measurements, embossed information, color, shape, and lip finish type. Objects that appeared in Barr’s Diagnostic Glass table had this identified number added on their new identification card as the 1983 Diagnostic glass #. These numbers were also recorded in the new database as each item was removed from the boxes and examined.

The new artifact identification cards were designed in a uniform, fill-in the blank format, so that all the desired details could be easily gathered by each member of the archaeological lab staff, regardless of previous experience or training (See Figure 5.1). The cards were filled out for every bag or artifact, as each of the 40 boxes of glass was unpacked and compared with the ISM inventory. This ensured that all objects within the boxes were given an identification card to note which box it originated from, so that all objects could be accounted for as the artifacts were resorted into the new organizational system.
On the cards descriptions were written, measurements were taken and any provenance information was noted at the bottom, as well as who filled out the card and on what date. Once filled out, the cards were used to facilitate the data entry process, by simplifying the information that was to be entered into the new digital database. After this information was entered into the database, each card remained with its artifact in the ISM collection boxes.

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<td>Notes: _________________________________________________________________</td>
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**Figure 5.1: Sample identification card that was completed for each object within the Old Main collection.**

Product types were primarily identified from the bottle types, based on illustrations from the Illinois Glass Company catalogue of 1920 and 1906 obtained from the SHA bottle identification website. Some embossed details provided company information for the product and place of origin for the product. Glass manufacture mold numbers, patent numbers and logos also helped to identify glass companies and product manufacturers. Broken glass items were reconstructed to facilitate analysis as time
allowed. Many more glass fragments were contained in the assemblage than could have been reconstructed given the limited time and resources available for this investigation.

The digital format of the new database offered space for images of the objects, and images were obtained by searching the identifiable features of bottles and fragments, most often product shape and embossed words. Images were obtained using a Google web and image search engines, which produced useful pictures of complete bottles and company information from the SHA bottle identification website, other bottle collector resources, eBay, Google books, and manufacturer websites. Images of complete bottles and advertisements were added into the database to help the next investigators visualize what the bottles and fragments represented as consumer products.

The use of internet search engines, particularly Google Image, Scholar and Books searches, in the identification of archaeological materials has not been widely addressed in recent literature. However, this research investigation serves to illustrate how internet resources can be helpful in the artifact classification process, as well as the identification of specific manufacturers and in illuminating the connections within a large-scale commodity network.

Many of the complete bottles and a few bags of glass fragments were labeled with masking tape with a number and some letters. These letter codes included B, BB, C, CC, CJ, F, FS, I, L, MG, O, OO, OV, P, RC, RM, SB, T, TM and TP. The meaning of the alphanumerical system was not described in Barr’s thesis and these numbers did not appear to correlate to the Barr’s Diagnostic Glass table, as many bottles that had labels were not
within that table. It is unknown when these masking tape labels were added, but they were present before the Illinois State Museum’s inventory. A spreadsheet was made to find a correlation between the letter codes on the masking tape labels and bottle types, and some general patterns emerged (See Table 5.1). Using the bottle identification resources, including the Illinois Glass Company catalogues, these codes were determined to represent bottle forms. BB was likely to stand for beer bottle, as SB was likely to stand for soda bottle. Bottles marked with C included condiments like pickles, mustards, ketchup and olives. CC was on one artifact and it was an amber glass ointment jar. CJ was on canning jar bases. Bottles labeled with B included pharmaceutical, extract and polish bottles. F was only on flask bottles. FS was on a variety of bottles, including liniment, extract, pickle jars, and horseradish bottles. The letter I appeared on ink bottles. L appeared on liquor bottles. The code MG appeared on three library paste jars and one pickle jar. O appeared on one olive oil bottle and one mustard bottle. OO was only found on olive oil bottles. The code OV was primarily on oval bottles, mostly pharmaceuticals and a whiskey bottle.

P was on mostly paneled pharmaceuticals and extract bottles. RC was labeled on round bottles, including chemical and pharmaceuticals bottles. RM was found on round wide mouth bottles and jars, including olive jars, pomade jars and a small sample size bottle for Dr Kilmer's Swamp Root Kidney Cure. T was on tumbler-style glass cups, which frequently were sold as packaging for jelly or preserves. TM was found on one jar for malted milk powder. TP was found on one bottle for tooth powder.
Table 5.1: Spreadsheet created to find correlations between the letter codes and artifact types.

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63
It was ruled out that this masking tape label system was a way of counting the bottles, however, because there were four pharmaceutical bottles marked 8P. In addition, the numbers were not always sequential within one letter code, as there were artifacts labeled MG 3 and MG 5, but no artifacts labeled MG 1, MG2, or MG 4. In spite of this inconsistency, if artifacts had a masking tape label, this number was added as “item number” on their new identification cards and to the new digital glass database.

Identified artifacts were classified based on the type of product they had contained, into the same groups used by Barr’s Diagnostic Glass table. Data was collected on all glass artifacts within the collect for inventory and statistical purposes, however, the focus of this investigation centered on the groups of Food, Alcohol, Soda, and Medicine. Details regarding the manufacturer of these products were collected, along with their locations of production. When details about the product within the packaging was limited, details regarding the manufacturer of the glass packaging were collected, as this still represented a place within the commodity network. All this data was assembled into the digital Excel database.

The artifacts that had ascertainable places of manufacturer were classified into groups based on their distance from Old Main, including Illinois, Midwest, Northeast, South, West, Canada and Europe. The cities of manufacture were also noted when ascertainable. The intention was to investigate what regional patterns emerged regarding consumer choices in food and medicine during the 70-year research period. Particular
attention was paid to determine whether consumers favored locally produced goods to those available through the expanding national marketplace.

Once all the information for each artifact was gathered, written on its card, and entered into the database, the artifacts were sorted into a new organizational system. The new organizational groups were based on the condition of the artifacts and on the color of the glass. Complete and partially reconstructed bottles were sorted apart from the loose broken glass bags, and all the artifacts were organized by their lot numbers. When the entire collection had been analyzed, there were 14 boxes of complete and reconstructed glass artifacts. This makes it easier for future curators seeking exhibitable artifacts to find them within the Old Main collection.

Bags of broken bottle glass were sorted by color, including clear, amber, green, milkglass and blue glass, and then organized into boxes by lot number. After analysis, there were eight boxes of broken clear glass, two boxes of broken amber glass, five boxes of broken green glass and one box of milkglass. The amount of blue glass from the Old Main assemblage was so limited that it was placed with other objects in the miscellaneous box. The reason for sorting the broken glass by color was to facilitate in the reconstruction of glass objects from the fragments, as fragments of the same color are more likely to be from the same or similar artifacts.

Some types of glass did not fit easily into the two major groups of broken and complete glass, or their inclusion would have made analysis of the consumer goods more difficult, and so these were sorted into their own boxes. Glass from ink bottles and
fragments was sorted apart, and there were two of these ink bottle boxes at the end of the reorganization. There was also one box of flat glass, most likely from windows, and one box of laboratory glass, primarily test tubes, beakers, and pipettes.

Table 5.2: List of artifacts from Barr’s Diagnostic Glass Table (1983:114-135) that were not found within the Illinois State Museum Old Main Collection.

<table>
<thead>
<tr>
<th>Category</th>
<th>Product</th>
<th>Barr #</th>
<th>1983 #</th>
<th>Barr Function</th>
<th>Image of complete bottle</th>
<th>Weight</th>
<th>Height</th>
<th>Diameter</th>
<th>Horsemen’s maker’s mark</th>
<th>Color</th>
<th>Shape</th>
<th>Finish</th>
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<tbody>
<tr>
<td>ALCOHOL</td>
<td>Tissue</td>
<td>126545</td>
<td>1-41</td>
<td>French triangle box</td>
<td></td>
<td>87</td>
<td>15</td>
<td>67</td>
<td>J &amp; Co. 388</td>
<td>amber</td>
<td>triangle</td>
<td>packing</td>
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<td>Tissue</td>
<td>126545</td>
<td>1-41</td>
<td>French triangle box</td>
<td></td>
<td>275</td>
<td>67</td>
<td>15</td>
<td>Federal Distillers Detroit, Mich.</td>
<td>amber</td>
<td>triangle</td>
<td>packing</td>
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<td>Glass</td>
<td>126545</td>
<td>4-0</td>
<td>Snagins’ packing</td>
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<td>145</td>
<td>58</td>
<td>34</td>
<td>B/D Chem. Co., New York</td>
<td>amber</td>
<td>square</td>
<td>patent/extract</td>
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<td>4-0</td>
<td>Snagins’ packing</td>
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<td>6</td>
<td></td>
<td>amber</td>
<td>square</td>
<td>patent/extract</td>
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<td>MAC</td>
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<td>75</td>
<td>10</td>
<td>Diamond Ink Co., 1358</td>
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<td>Inkwell</td>
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<td>Master Ink</td>
<td>Sanford’s Ink, One Tin/Fl. and Master Ink</td>
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<td>75</td>
<td>10</td>
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<td>9-126</td>
<td>Slide panel</td>
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Within the original 40 boxes of glass from the ISM collection, there were some that contained bags of materials other than glass, and these bags were sorted differently than the glass. Ceramic materials, including tableware and flowerpot fragments, were sorted apart, into one box of ceramic materials from the glass boxes. Metal materials,
including light bulb bases and canning jar lids, were also sorted apart, into one box. Bags that had provenance from the excavation and contained mixed materials, like ceramic, glass and metal, were sorted into their own boxes. The desire to preserve provenance was paramount, so these bags were kept with their mixed materials intact, rather than having their contents sorted apart. After analysis and sorting, two boxes contained mixed materials with excavation provenance. All other artifacts that did not fit in any of the aforementioned grouping were placed in one miscellaneous box.

Once all labeling, analysis and sorting was done, the material from the original 40 boxes of glass was organized into 39 boxes, and a complete inventory was done. During the inventory, it was noted that 17 artifacts listed in Barr’s Diagnostic Glass Table had not been found anywhere within the ISM Old Main Collection (See Table 5.2). It is not known whether these artifacts were part of the collection when it was sent to the Illinois State Museum in 1999, as these items do not appear on the 1999 inventory. After the inventory process was completed, each box had an inventory placed inside of its contents, and full inventory was made in digital and hard copy. Then the Old Main collection, with its new inventory, was returned to the Illinois State Museum Research and Collections Center.
Artifact Blogging

An additional effort was made to highlight the Old Main artifacts in a way that incorporated the spirit of public outreach and engagement. A blog was created to share images of artifacts and connect those artifacts to historical documents, advertising, and company histories, to reconstruct how individual products might have been perceived in the past, and how these factors could influence consumer choice.

The idea took shape during the artifact analysis, as internet resources were used to assist in identifying glass bottles and fragments that contained unique markings or embossing. By describing key features of the artifacts, similar objects could be found in images online. In some cases, however, images and information regarding certain artifacts were scarce. These artifacts were typically from smaller or local companies that did not have a wide distribution network, meaning there are fewer specimens still in existence today. It was concluded that there was a need for information on these artifacts, as it represented a gap in the most public knowledge resource. The way to fill this gap would be to provide a starting point for other researchers who had found similar objects, or for an interested public to learn more about the artifacts of Old Main.

A blog was designed, with imagery of the Old Main building, an explanation of and link to the Old Main Project, and links to news articles and other publications. Each blog post begins with an image of an excavated artifact, and follows with advertisements of the product during of the period of study, historical documents that relate to the
company or the product, and any other interesting facts or resources that could be found online.

Blog posts to date include a drinking glass embossed with the face of President William McKinley and his election slogan of 1896, “Protection and Plenty”; an Armour meatpacking company beef extract milkglass jar; a Listerine bottle; a Vaseline jar; a Mellin’s Infant’s Foods jar; a Logan Johnson fruit syrup bottle; a bottle from the Union Depot Pharmacy of Bloomington, Illinois; a soda bottle from H. Quosick of Bloomington; and a bottle from A.E. Stout, Druggist of Normal, Illinois.

Most comments have come from people who found similar bottles, and found this blog during an internet search for information. One comment on the Listerine bottle post came from “Johnny” which simply says, “I am 12 years old and I just found this same exact bottle.” The benefit to the public is that as long as this blog exists, this resource will be available to anyone seeking information on these artifacts.

**GIS Analysis**

The application of Geographic Information Systems technology to the investigation of Old Main required two projects at different spatial scales. The first project was the remapping of the Old Main 1981 excavation area using Barr’s excavation maps, satellite images of the ISU campus and site level measurements. The second project was the large-scale mapping of the cities, states and regions where consumer
goods from the Old Main cisterns originated. Each project took several months and required unique approaches, datasets, and techniques.

For the reinterpretation of the Old Main site, GIS technology was first applied to increase the precision of Barr’s 1981 excavation site sketches, by adding exact geographic coordinates for the three corners of Old Main Barr located, and approximating the original location of the fourth corner. This began by reviewing Barr’s sketches and text and revisiting the historical documents and maps he consulted, to gather the geospatial data.

Barr (1983:81) states the dimensions of the Old Main building were noted by Burnham (1879) within the pages of *The History of McLean County, Illinois*. According to Burnham, Old Main’s “dimensions are 160 feet in length; the end wings are 100 feet in width, and the central proportions 80 feet” (1879: 436). Barr notes that, “the south cistern appeared to be in the exact center of the building in the floor plans, so the west wall should have been 80 feet, or about 24.4 meters from the middle of the north cistern wall” (1983:82). However, Barr discovered “the west wall of Old Main, when located, was only 23.37 meters from the middle of the north cistern. A small point, contrary to the 1909 Index, Old Main’s west wall was not 80 feet away from the east wall of Edwards, but 78 feet 9 inches” (1983:82). In addition to this discrepancy, Barr also found that “the north and south walls were actually 100 feet 10 inches apart instead of the documented 100 feet” cited in the historical documents (1983: 82).
Barr’s excavation determined that the overall dimensions of Old Main were 153 feet 5 inches east to west and 100 feet 10 inches north to south (1983:83). Barr also determined that the northeast corner was 16.5 inches below the surface, while the southwest and southeast corners were about 7 inches below the surface. Barr speculates that this was done to preserve the existing flowerbeds, built in 1951, and Barr suggests, “this part of the building probably was taken down only far enough so that the foundations could be covered with about seven inches of earth and sod” (1983: 83).

With Barr’s excavation maps and his dimensions of Old Main, GIS technology was used to update his sketches and provide more details useful for future research. A high-resolution satellite map of campus was provided by Illinois State University Facilities Management Department, which was used as a raster base map within the GIS software ArcMap 9.3.1. The satellite image, made and used by the University, contained a digitally embedded measurement scale, accurate to the sub meter, even as image resolution degraded when zoomed in. The satellite image was geo-referenced with Barr’s site map, to align and overlay the two images. This process allowed for more accurate measurements and verifications to take place through measuring on the ground and within the ArcMap software.

The four corners of the building were then triangulated by researchers with measuring tapes on the ISU quad, based on the 1981 excavation drawing’s triangulated measurements. The four corners of Old Main were then captured with a GPS device, providing accurate latitude and longitude coordinates. The location of each corner was then verified within ArcMap with the measuring tool. Harper’s (1946:21) floor plan was
rendered into a vector within Adobe Photoshop by replacing the white background with a transparent background, which allowed the floor plan to lie upon the satellite image without obscuring the landscape. Using the locations of the four corners, and the dimensions of the building, Harper’s (1946) basement floor plan was geo-referenced on to the satellite image.

One issue that was encountered during this process is that the flowerbeds that are the primary reference point in Barr’s 1981 sketch have changed shape. The flowerbeds identified in his map as Flowerbeds B and C have been combined into one long rectangular flower bed, and the square corners of Flowerbeds B, C, D and E have been rounded, making use of his triangulated measurements difficult.

The GIS software helped to overcome this issue, by redrawing the square corners both as if the whole flowerbeds had expanded, and if only the corners had been rounded. Using the measuring tool to triangulate the corners from both versions, it was determined that the flowerbed walls had stayed constant, and only the flowerbed corners had been rounded. By redrawing these corners, the triangulated measurements taken by Barr were confirmed within the GIS software. This issue illustrates why having exact latitude and longitude coordinates are essential, as these coordinates are not subject to landscape changes, because they are persist over time.
The datum for the 1981 excavation grid was described by Barr as “1.8 meters south of the southern edge and three meters east of the western edge of flowerbed A” and was designated N300, E300 (1983:35). The datum’s location was noted within the GIS map using Barr’s excavation map, and confirmed with the measuring tool on the satellite image. Barr measured his excavation grid lines with a “transit bearing set on magnetic north and passing over the datum point” (1983:35).

Figure 5.2: Map of 1981 excavation area from Barr (1983:38) with colored lines to illustrate the difference between true north and magnetic north. Original image courtesy of Milner Library.
In contrast, the satellite image and Old Main’s foundation are referenced upon true north, based on the vertical lines of longitude. The difference is known as magnetic declination, defined as the angle between magnetic north (the direction the north end of a compass needle will point) and true north. Normal, Illinois has a $2^\circ16'$ west magnetic declination.

Figure 5.3: Barr's Plan View Excavation Unit Map, (1983:39) with colored lines to illustrate the difference between true north and magnetic north. Original image courtesy of Milner Library.
declination. Effectively this means that Old Main is at a 2.27° angle when compared to Barr’s excavation grid. If two lines were drawn from the datum, one following magnetic north and one following true north, when these lines reached the northern edge of Barr’s trench at N329, the distance between the two lines is 1.15 meters, significant enough to cause errors in measurements and calculations (see Figure 5.2).

A site grid was created in the GIS over the satellite image, using the sketch tool to create one 1 meter square, which was then duplicated. Those 1 meter squares were fitted together as closely as possible, then multiplied several more times, to create a uniform, square meter grid. This grid was started at Barr’s datum point and laid across the Old Main site. In keeping with Barr’s excavation datum and his grid, the grid lines created within the GIS were aligned with magnetic north.

The digital grid revealed that there was a discrepancy between the Barr’s text and maps, revealed by the GIS results. There was an error in the Barr’s (1983:39) plan view map (See Figure 5.3.) where the northern unit is written as N320 E300. If all the units are drawn on a consistent scale, the distance between the horizontal lines above and below the steps from N324 to N326, on the left side of the map, should represent a two-meter distance. From N326 to the most northing horizontal line would represent a distance of 3 meters, which would make the correct coordinates for that unit E300 and N329, not N320 as it is written in the map. This is also consistent with Barr’s text, where he noted, “we also lengthened it [the trench] to the edge of the sidewalk on the south (322/E300) and to N329/E300 on the north” (1983:57).
The location of the excavated units were determined from Barr’s 1983 Plan View excavation drawing and compared to the ground with the use of photogrammetry (See Figure 5.4). Photographs taken during Barr’s excavation in 1981, obtained from the University Archive, were enlarged and printed on clear transparency sheets. These were attached to a plastic clipboard, and mounted on a camera tripod. By standing the tripod in the location where the photographer had been standing in 1981, and aligning the persistent landmarks, including the cenotaph, buildings, trees and flowerbed walls, the investigator could look through the photo and see the location of the excavation units within the current flowerbeds. With the help of volunteers, the investigator could guide the measurement process and this allowed an approximated measurement of the 1981 excavation units.

Figure 5.4: These images show the photogrammetry process used to pinpoint the locations of the archaeological units within the flowerbeds in the ISU Quad.
Figure 5.5: GIS rendered map of satellite image of excavation area with Harper’s (1946) floor plan in black and Barr’s (1983:38) excavation units and measurements.
The digital remapping of the ISU quad produced a more complete map, by providing critical details that were absent or indiscernible in the maps from Barr’s 1983 thesis (See Figure 5.5). Additionally, the satellite images and GIS technology were not available to Barr during the original Old Main excavation. The GIS map of the ISU quad showed how the Old Main building was located on the current landscape of ISU campus, and showed where the excavation area was located in relation to that landscape.

Figure 5.6: GIS rendered map of the south cistern excavation units with Harper’s (1946) floor plan and Barr’s (1983:39) Plan View Map excavation units in red and superimposed grid in yellow.

The lines Barr used showing the triangulated measurements to the four corners were redrawn on the map to provide future researchers a way to verify the location of the
four corners, but these are only useful if the ISU landscape remains static. The latitude and longitude coordinates for the four corners of Old Main was also noted on the digital map because they are essential for future excavators, as the University landscape is prone to change over time.

Figure 5.7: Photograph from the 1981 excavation showing the lowest stair extending beyond the wall of the south cistern. Image courtesy of ISU University Archive. Image # ISUAPSC -P121G - 1981

The GIS technology also facilitated a closer redrawing of the excavation of the cistern, steps and trench area (See Figure 5.6). Barr’s (1983:39) Plan View Map was rendered into a vector within Adobe Photoshop by replacing the white background with a transparent background, which allowed the plan view map to lie upon the satellite image without obscuring the landscape. Then the remaining black map lines were re-colored to
red to increased visibility against the satellite image and Harper’s (1946:21) floor plan. The new vector of Barr’s Plan View map was geo-referenced to match with the grid lines and Harper’s (1946:21) floor plan.

This process revealed an inaccuracy in Harper’s (1946:21) floor plan, as the stairway leading down to the basement level extended a little way beyond the wall of the cistern. This detail was confirmed with the photographs of the excavation, showing the cistern wall and the lowest stair behind a student standing in the trench (See Figure 5.7). Small details, like the location of the lowest stair, may seem trivial when looking at the entirety of the Old Main site. However, such information may assist future campus archaeologists in their efforts to mitigate any damage caused by University construction.

The second application of GIS in the study of Old Main involved the origin of glass artifacts that were deposited at the Old Main site. This project has endeavored to reconstruct the geospatial commodity network through which consumer goods traveled in order to reach the University community, and after consumption, to be deposited into the Old Main cistern. The glass packaging artifacts from the Old Main building have been the subject of intense analysis, primarily focusing on their company of manufacture for either the product within the package, or the glass packaging itself when company information was unavailable. When the manufacturer is identified, the location of manufacture can also be determined in most cases. With this information, the objective was for the reconstruction of a commodity network based on both regional and national markets. This can answer questions about the place of origin for many artifacts, the role
of local versus national products in the consumer marketplace and the journey these artifacts took in order to end up in the Old Main cistern.

The objective of this project was to place the Old Main building and its artifacts within a geospatial context, where the consumer choices of the University community are reflected in a national marketplace. Archaeologists have referred to a commodity network to describe how artifacts move around in the physical and social environment prior to their deposition in an archaeological site.

First, within the GIS software, a nationwide map was assembled with a US states vector and major US cities vector feature class. These data layers were projected in the Equidistant Conic projection with the North American Datum of 1983 to ensure accuracy and consistency in the map overlay. The Equidistant Conic projection was chosen because the Old Main building and the major artifact contributing cities were located mid-latitude, for which a conic projection is most accurate, and the map was intended to show the length of travel for the artifacts, for which Equidistant provides the least distortion.

A railroad map, titled *Gray's New Trunk Railway Map of the United States* from 1898 was acquired from the Library of Congress website. This particular map was chosen because it offered nationwide coverage, labeled cities, high resolution imagery, and 1898 was the median within the 70 years of the Old Main assemblage. It was also most likely that all routes on the 1898 map would have existed during the early twentieth century, when the majority of the artifacts were manufactured. This map was overlaid on the
states and cities as a JPEG, and georeferenced so that it reflected the Equidistant Conic projection.

A modern railway systems shapefile was obtained from the Natural Earth Data website, added to the geodatabase, reprojected and then clipped to the area of the 48 contiguous US states. For the purposes of this study, the international travel across the rail network was considered unlikely due to tariffs and other high cost deterrents. Then the modern rail network feature was retrofitted using the ArcGIS editor tool to match an overlay of a railway systems map from 1898, in order to make the network analysis historically accurate. This retrofitting process turned out to be very difficult to accomplish entirely, so the modifications were limited to areas where artifacts originated and routes most likely traveled, and areas of the map unlikely to be part of the commodity network were left in their modern state.

The artifact data was mostly obtained from embossed markings on the glass bottles, jars and fragments. The bottle forms were determined with the use of an Illinois Glass Company catalogs from 1906 and 1920, which illustrated hundreds of bottle forms and lists their associated uses, ranging from pharmaceutical, food, ink, soda, and alcohol bottles, all the way to ointment pots, syringes, breast pumps, and retail display shelfware. The catalog was obtained from the Society for Historical Archaeology’s bottle identification website, and was chosen because it reflects a broad range of object types. Additionally this catalog is in keeping with the date of the majority of the artifacts found, as well as predating prohibition, when alcohol bottles were far less likely to have been manufactured.
The focus of the analysis was on the product within the bottles, so when the information for the makers of product itself was determined, be it ketchup, cough syrup, brandy or ink, that information was used to calculate place of origin. When the only information available was about where the bottle was made, that information was included because the bottle itself was still a part of the commodity network, even before the consumer good was packaged inside. The statistical data was derived from the artifact analysis occurring within the archaeology lab. The data was assembled and calculated within the digital artifact database. The artifact data was calculated based on the number of artifacts from cities, states, and regions of the country, and sorted in a frequency table so that it will be simple to add it into the GIS format.

The attribute tables for the cities and states layers were modified by adding fields for the gathered artifact data, and the data was added to the attribute tables. Then the symbology of each layer was adjusted so that the numbers of artifacts were highlighted with graduated symbols for the cities, and a color ramp for the states and regions with greater artifact contributions. A star symbol was used to designate the location of Old Main.

The maps were designed to compare city data with the state and regional data. The states layer was signified with a color ramp to show increasing artifact contributions across each state or region. The railroad network was added to each map to show the commodity network in relation between the states and region contribution maps.

This investigation has discovered that artifacts from the Old Main assemblage show a national commodity network in place during the turn of the twentieth century,
with artifacts coming from all regions of the country. It has also shown that different regions of the country contributed different types of artifacts to the Old Main artifact assemblage, showing comparative advantage for different product types from different regions. It was found that GIS can accurately and compellingly show the concentrations of artifact contributions on a city, state and regional level, and illustrate the commodity networks in use during a historical study. As these maps illustrate the results of the analysis, they can be found in the following results and discussion sections.
CHAPTER V
RESULTS OF INVESTIGATION

Although academic institutions elsewhere in the past undoubtedly shared many characteristics, the material culture from Old Main is not universally applicable to or representative of all academic institutions. This thesis does not attempt to explore evolutionary process but rather seeks to examine historical process as it unfolded at a specific location. Likewise, enhanced understanding of historical process is achieved by identifying unique and noteworthy characteristics in the artifact assemblage and relating this back to the specific context of the Old Main site. The resulting interpretations, derived from a combination of archaeological and historical sources exceed the understanding available from either source independently.

The total glass assemblage from the Old Main site consisted primarily of broken glass fragments, with these fragments numbering in the thousands. These were difficult to quantify because one bottle could have broken into two fragments or dozens of glass fragments. Barr identified one fragment of glass as an artifact, but there was not sufficient time to count each glass fragment for the purpose of this study.
As the glass assemblage was received from the Illinois State Museum in brown paper and plastic bags organized by lot number, this system was continued and the artifacts were analyzed and inventoried based on the identifiability of individual fragments within each bag. There were approximately 900 bags within the glass assemblage, some containing whole bottles, some partially reconstructed bottles, but many bags contained only fragments.

The analysis of the glass assemblage revealed 416 individual identifiable bottles or jars within the foodways and medicinal classification. When including other, non-ingestible artifact types such as ink, cologne, ointment, soap, shoe polish, pomade, cleaning supplies, sewing machine oil, library paste, and bottles from the chemical laboratory, the grand total of individual identifiable glass artifacts is 565 (See Table 6.1 and Figure 6.1). This reveals that 74% of the glass assemblage was foodways and medicinal artifacts.

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOOD</td>
<td>204</td>
<td>36%</td>
</tr>
<tr>
<td>PHARMA</td>
<td>153</td>
<td>27%</td>
</tr>
<tr>
<td>ALCOHOL</td>
<td>35</td>
<td>6%</td>
</tr>
<tr>
<td>SODA</td>
<td>24</td>
<td>4%</td>
</tr>
<tr>
<td>FOODWAYS TOTAL</td>
<td>416</td>
<td>74%</td>
</tr>
<tr>
<td>INK</td>
<td>72</td>
<td>13%</td>
</tr>
<tr>
<td>OINTMENT</td>
<td>24</td>
<td>4%</td>
</tr>
<tr>
<td>CHEMICAL LAB</td>
<td>21</td>
<td>4%</td>
</tr>
<tr>
<td>POLISH</td>
<td>11</td>
<td>2%</td>
</tr>
<tr>
<td>COLOGNE</td>
<td>9</td>
<td>2%</td>
</tr>
<tr>
<td>SUPPLIES</td>
<td>9</td>
<td>2%</td>
</tr>
<tr>
<td>POMADE</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>NON-FOODWAYS TOTAL</td>
<td>149</td>
<td>26%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>565</td>
<td></td>
</tr>
</tbody>
</table>
Organized within a functional typology, the artifact assemblage from Old Main exhibits a domestic character. In order of occurrence, artifacts related to food and pharmacy products comprise the majority of the assemblage, with 204 and 153 artifacts respectively. These are followed by ink artifacts with 72, alcohol with 35, soda with 24, ointment with 24, chemical lab with 21, polish 11, supplies with nine, cologne with nine, and pomade with 3 artifacts.

Figure 6.1: Counts of Identified Artifacts Organized by Category
The analysis of the foodways and medicinal glass packaging has yielded 19 different food product types, 22 pharmacy product categories, 6 types of alcohol and 5 types of soda. To reiterate, architectural artifacts, including light bulb and window glass were not included in this study.

Food products were the most numerous with 204 food artifacts identified. The most numerous food products, in order of abundance, were canning jars, olive jars, extract bottles, pickle jars, preserve jars and horseradish bottles (See Figure 6.2). The extract bottles were embossed with greater frequency than other food bottles in the assemblage, and the brand with greatest abundance was the Chapman & Smith Company of Chicago, manufacturers of the Rolling Pin Brand of baking products since at least 1899 (Chapman 1899).
The pharmacy group consisted of 153 artifacts; however, the largest proportion was pharmacy bottles without any embossing or identifiable markings, consisting of 62 out of 153, or 40% of the pharmacy group (See Figure 6.3). The most numerous of the identifiable pharmacy products were patent medicines, followed by mouthwash bottles, then druggist bottles from identifiable pharmacists, followed by Caldwell’s pepsin syrup. From the patent medicine group, those produced by a Dr. R. V. Pierce of Buffalo, New York constitute the largest portion with five of the 23. The druggist bottles were the most difficult to identify, because unlike the patent medicines, these bottles had a smaller distribution. The consequence of this was that there were fewer published resources to help identify them. The solution was to dig into Google Books for references to the pharmacists within trade
publications like *The Western Druggist* from 1901, and *Annual Report of the State Board of Pharmacy of Illinois* from 1908. These were invaluable resources in identifying the bottles, especially when the bottles were partially broken and fragments were missing.

The alcohol group contained 35 individual artifacts, with beer bottles being the most abundant, followed by whiskey, liquor and then wine (See Figure 6.4). The liquor category was broadly applied to flask bottle types and other alcohol bottle types lacking identifiable markings, while excluding beer and wine bottle types. Within the alcohol group, two brands appear more than once, and they are John J. Keenan & Company of Chicago and The Old Bushmills Company of Ireland, both producers of whiskey.

The soda bottle group was the smallest of the foodways categories, containing 24 individual identifiable artifacts. The soda group was identified by its manufacturer’s name when ascertainable, rather than the type of soda contained within the bottle, which is more difficult to determine with certainty.
The most numerous soda bottles were those lacking identifiable markings, constituting nine of the 24 soda bottles, or 37% of the soda group (See Figure 6.5). The next most numerous of the identifiable soda bottles were from the Hires soda company, which produced root beer in individual serving bottles starting in 1890 (Funderburg 2001: 92).

The primarily domestic character of the Old Main glass assemblage is partially because the material from the cistern represents a collective assemblage. The material was probably derived from numerous households, including those of students, faculty and staff of the university community, as well as from institutional activities taking place on the campus. Unfortunately, these two contexts cannot be archaeologically separated. However, the sheer volume of material suggests that numerous people contributed to the assemblage over time.

**Table 6.2: Artifacts calculated by region**

<table>
<thead>
<tr>
<th>Region</th>
<th>PHARMA</th>
<th>ALCOHOL</th>
<th>FOOD</th>
<th>PHARMA</th>
<th>SODA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>South</td>
<td>2</td>
<td>2</td>
<td>31</td>
<td>39</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>4</td>
<td>35</td>
<td>53</td>
<td>10</td>
<td>109</td>
</tr>
</tbody>
</table>

**Commodity Network Results**

Another aspect of the Old Main assemblage investigation attempted to understand how artifacts traveled through a commodity network to reach consumers. It traced the journey of the artifacts from their place of manufacture to the consumer, and then to its deposition into Old Main. When
these data are approached from a geospatial perspective, some patterns begin to emerge.

Of the 565 total identifiable artifacts, there were 416 individual artifacts from the foodways and medicinal categories. Of these 416 foodways and medicinal artifacts, 200 had determinable brands and locations of manufacture, representing about 48%. The data were organized geospatially, based upon the proximity of their manufacture to the Old Main building. Products were classified by city, state, and region.

The Midwest region has contributed the most artifacts to the Old Main assemblage with 109 artifacts (See Table 6.2). The Northeast region has contributed 78 artifacts to the assemblage, the West contributed four, the South contributed four, Europe contributed four and Canada contributed one. This confirms that members of the University community had access to a wide national and international commodity network, and utilized it to meet a variety of needs.

The Midwest region was the greatest contributing region, with the greatest number of all artifact types. The artifacts that were chosen from the Northeast were pharmacy, food, and soda bottles. The artifacts that were chosen from the South were alcohol and pharmacy products. The artifacts from the West were only from the pharmacy group, and these were limited to four bottles of the same product, California Fig Syrup, which was used as a laxative. The artifacts from Europe included pharmaceutical bottles and alcohol bottles. Only one bottle originated from New Brunswick, Canada, and it was a patent medicine bottle embossed “Fellows Syrup of Hypophosphites.”
The top two states from which the most artifacts originated were Illinois with 68 and New York with 31 (See Table 6.3). Other states that contributed greatly to the assemblage were Pennsylvania with 24 artifacts, Indiana with 12 and Massachusetts with 11. Clearly, most of the bottles were made in states in the Midwest and Northeast regions, over the South and West regions. Possible reasons for this include closer proximity, greater industrialization in the North, with more factories producing more goods, more developed transportation networks including water and rail routes, or a greater brand recognition due to national marketing.

The top cities from which the most artifacts originated were Chicago with 28 and Bloomington with 20 (See Table 6.4). Other cities that contributed greatly to the assemblage were Philadelphia with 14 artifacts, New York with 13 and Boston with six. This trend reflects favoritism for Northern, industrialized cities, clustered in the Midwest and Northeast. Bloomington is anomalous within that group, because of its relatively rural location and agricultural focus.

<table>
<thead>
<tr>
<th>State</th>
<th>ALCOHOL</th>
<th>FOOD</th>
<th>PHARMA</th>
<th>SODA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois</td>
<td>7</td>
<td>25</td>
<td>28</td>
<td>8</td>
<td>68</td>
</tr>
<tr>
<td>New York</td>
<td>7</td>
<td>24</td>
<td></td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Indiana</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>6</td>
<td>5</td>
<td></td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>
However, many of the products that came from Bloomington include products chosen because of their locality to the consumer, such as milk. During the days of minimally effective refrigeration in transport, locally sourced milk would have been essential. Another artifact type originating from Bloomington includes bottles from local pharmacists, which could suggest a personal relationship between medicine provider and consumer that was not as likely to be found with the patent medicines originating from the more distant industrialized cities.

The data can also be sorted by foodways categories, in order to see how many regions contribute each type of product (See Table 6.5). Pharmaceutical products originate from the greatest number of locations, totaling six, including all of the US regions as well as Canada and Europe. Alcohol was a product contributed by three regions, including Europe. Food and Soda were both only contributed by the Northeast and the Midwestern regions of the United States.

These comparisons among producing regions could possibly illustrate a comparative advantage among different regions. This advantage might suggest it was
easier to obtain food and soda from nearby Midwestern sources and the Northeast due to the developed transportation system; an advantage not shared by the West, South or Europe. It might also be that pharmaceutical products were obtained from greater distances because of limited availability of certain products. The fig syrup, for example, may reflect the fact that California’s Mediterranean climate was more conducive to growing figs than the Midwestern or Northeastern climates.

Once the geographic data was gathered and sorted, the next step was to assemble maps that can illustrate the geospatial relationship between the Old Main assemblage and the national commodity network.

Within both maps, the commodity network is shown as the railroad network connecting all the cities, states and regions to one another. The cities that contributed artifacts are shown in red, with graduated sized symbols to illustrate the relative quantity of artifacts contributed from each. Cities that did not contribute artifacts are not shown.

Figure 6.6 shows how the majority of the artifacts originated from the Midwest, shown in purple. The Northeast region contributed the next greatest number of artifacts.
to the Old Main assemblage, shown in green. The Western and Southern regions each contributed four artifacts, so they are both shown in beige.

Figure 6.7 shows the relative quantity of artifacts contributed to the Old Main assemblage by each state. Illinois contributed the greatest number of artifacts, and it is shown with the darkest shade of blue. The colors shift to lighter blues and then greens, as their relative contribution of artifacts decrease. The states that contributed no artifacts are shown in beige.

The railroad network connected the community of Illinois State University to many commercially produced consumer goods from across the country and the world, and yet the assemblage shows a greater representation of goods from the Midwest. This result was unexpected, as the Northeast during this period had a more industrialized infrastructure, more factories and more cheap labor with which to produce consumer goods.
Figure 6.6: Map of US Showing Count of Artifacts Contributed From Each Region and City. The location of the town of Normal and the Old Main building are noted with a yellow star.
Figure 6.7: Map of US Showing Count of Artifacts Contributed From Each State and City. The location of the town of Normal and the Old Main building are noted with a yellow star.
The greater representation of food produced from the Midwest could also be clarified if more knowledge was available regarding the contents of the large number of canning jars from the assemblage. Historical documents suggest that canning jars were widely used by families in agricultural areas to put up summer fruits and vegetables for the winter, especially since World War I (Pierson 1921:166). Oral history interviews confirm this, and further suggest that the canning jars were used to preserve agricultural surplus by families, and sent with their children when they went to college at ISU, before dormitories and dining halls were in place. Unfortunately the majority of the information that could be gathered from the canning jars reflects their place of manufacture, and very little can be determined about their contents.

The larger representation of artifacts originating from the Midwest offers two opposing interpretations. In the first interpretation, consumer choice is weak, as the consumer has less control of their choice of goods. The consumers in the University community have limited product choices from other regions outside of the Midwest. For some reason, the consumers wanted products from the larger marketplace, but were unable to obtain them. This could be due to prohibitively high costs of desirable products, or perhaps that the railroads failed to bring enough goods from other regions during this period to meet the demand of local consumers for national and international goods. The consumer choice was weak because the University community members’ desire for national goods was not met, and they had to settle for local goods instead.

The second interpretation suggests that consumers had a high degree of consumer choice, and chose local goods. For this to be the case, consumers would have had access
to a wide selection from the national marketplace of products that were affordable, and in spite of this, local consumers preferred to buy goods produced within the Midwestern region. It also requires that consumers had enough product knowledge to discern local goods from national goods. This interpretation indicates powerful consumer choice component and a higher degree of agency on the part of the consumer to distinguish and choose locally manufactured goods.

To summarize, the Old Main assemblage of glass packaging illustrates aspects of a national commodity network, and its transformative effects on foodways and medicinal treatments during the 70 years surrounding the turn of the twentieth century. Even though the Northeast had more industrialized infrastructure capable of producing more consumer goods at a lower cost, identifiable artifacts from the Midwest are more numerous in the glass assemblage, suggesting either a consumer preference for local goods, or a limitation of access in the distribution component of the commodity network. Further research is needed before a definitive interpretation of this divergence can be offered.
CHAPTER VII
DISCUSSION AND CONCLUSION

This section is meant to create an interpretive framework for the Old Main assemblage, and present different possible meanings for the types of noteworthy products that were found within the Old Main excavation. It should be noted that the Old Main assemblage is not representative of the entire diet, and preservation bias favors glass packaging more than perishable foods like bread, cheese and vegetables. In addition, generalizations are not being made suggesting that this assemblage reflects consumer choice for all members of the University community, as the artifacts were likely left by only a small portion of the total University community during the 70 year period of study.

As each group of artifacts is described, an effort is made to consider the consumer and social behavior that could account for the presence of the artifacts on campus. The artifacts can sometimes indicate a specific activity, but often many possible behaviors can account for the presence of an artifact within the assemblage.

The most numerous artifact groups were food-packaging types, with 36% of the total glass assemblage falling into the food group. The three most numerous food
artifacts, in order of abundance, were canning jars with 42 artifacts, olive jars with 39, and extract bottles with 24. Canning jars are dealt with first, followed by extract bottles. Olive jars are grouped with other condiment bottles in their description and interpretation because of the activities these bottles can represent.

*Canning jars and Preservation*

The canning jars may be the easiest food artifacts to account for. According to Dirks (2011:140) “The perennial routines of cooking and baking, as well as seasonal canning, pickling, and other food preservation activities were essential to getting farm families through the winter without having to pay for additional groceries. Canning went on throughout the summer and fall as various species of fruits and vegetables ripened.” Dirks notes that commonly canned foods included peaches, apples, tomatoes, green beans, peas, cabbage in the form of sauerkraut, pickled cucumbers, as well as potted beef and pork (2011:140-141). Fruit was often made into jams and preserves prior to canning. “Probably most of Central Illinois peaches wound up canned in heavy syrup, and a considerable portion of its apple crop went into jars as homemade applesauce. [Local resident] Marian Harris made apple butter, grape jelly, and various preserves, including peach, pear, and strawberry rhubarb” (Dirks 2011:140).

The practice of preserving food by canning in glass containers owes its invention to Napoleon Bonaparte and Nicolas Appert. Napoleon sought food that traveled and stored well during his military campaigns, and offered a cash reward to the individual who could discover a way to store food safely. Nicholas Appert, a Frenchman, won
Napoleon’s challenge, and patented his vacuum-packing technique in 1809 (Gdula 2008:24). Appert filled jars with food, and submerged them in vats of boiling water, then covered them with a piece of cork and sealed them with tar (Appert: 1811: 24). According to Appert, “the glass [vessel] ought to be of equal thickness in every part, or it is liable to break in the water-bath” (Appert: 1811: 20). Appert goes on to state that the “form of the champagne bottle is most convenient; it is the handsomest as well as the strongest, and is of the best shape for packing up” (Appert: 1811: 20).

American interest in canning began with the 1812 publication of an English translation of Appert’s book, The Art of Preserving All Kinds of Animal and Vegetable Substances for Several Years, although the practice was not widely adopted for several decades (Toulouse 1969: 368). In 1859, American John Mason patented the threaded glass jar with a metal screw-on lid, making it possible to preserve many types of fresh foods (Bryson 2010:74). Cookbooks began to carry instructions for home canning around 1880 (Toulouse 1969:375).

In 1900, bottle makers and dealers noticed that many of their bottles were not being returned by the consumers. “Large numbers of beer and soda bottles were lost to housekeepers who kept them for their own use, particularly in the fall. The shapes of beer and soda bottles made them particularly popular for home preserving. In 1901 the Pennsylvania Bottlers’ Association found in Philadelphia homes over one million bottles filled with ketchup, sauces, beer, root beer, fruit wines, and other ‘exhilarating drinks.’ Bottlers seldom prosecuted housewives, but they did confiscate the bottles” (Busch 1987:71).
After the United States entered World War I on April 6, 1917, there was a large scale, government-sponsored campaign for food conservation and reducing food waste. Certain foods were restricted during the War, including wheat, milk, sugar, fat and meat. In McLean County, the food conservation effort was organized early by women’s clubs, the Red Cross, local shop keepers, churches, schools and other groups (Pierson and Hasbrouck 1921: 165). During this period, ISNU President David Felmley was appointed to the local Conference Committee of the Federal Food Administration for Illinois (Pierson and Hasbrouck 1921: 206).

Teaching the techniques of canning became a matter of national necessity and practicing these canning methods showed patriotism among the community members. “In July [1917], Miss Naomi Newburn, of University of Illinois, gave a week of canning demonstrations in Bloomington. She urged the necessity for preserving for winter use everything that could be preserved from the home garden” (Pierson and Hasbrouck 1921: 166). These demonstrations were largely attended by women from the community. ISNU also took part in the canning demonstrations, as the home economics courses were expanded to meet the war-time demand, with special courses offered in food conservation (Marshall 1957:267).

The community also created a Municipal Canning Kitchen in the Pantagraph building during the summer of 1918. It was opened June 18 and closed on August 31, after 1,128 cans of produce had been put up there. Women came from all over McLean County and nearby towns in adjoining counties. “It is estimated that 1,200 housewives heard the lectures and demonstrations given twice weekly. In these demonstrations
seasonal fruits and vegetables were canned and dried, the sorting of vegetables was shown, pickles and sauerkraut were made, and meat canning was illustrated” (Pierson and Hasbrouck 1921: 167).

World War I ended on November 11, 1918, and food restrictions were withdrawn in December of 1918 (Pierson and Hasbrouck 1921: 208). Yet, even after the restrictions were gone, the knowledge of canning was ingrained in the national psyche, and people in McLean County continued the practice through the 1920s, 1930s and World War II. According to Dirks, “the Depression in effect began in Central Illinois in the early 1920s when its farm economy, like much of the nation’s, fell into ruin. In McLean County, no one starved, but plans to modernize had to be put on hold, and children at an early age needed to learn about the importance of work and the meaning of frugality” (2011:134).

According to Hasbrouck (1924: 351) “One of the modern developments of McLean County which indicates its progress is the permanent organization of the McLean County Home Bureau, composed mostly of farm women and women from rural communities, who work together for the promotion of the best interests of their homes and families. There have been demonstrations in the uses of the pressure cooker, and sanitary methods of canning foods” as well as sewing, nursing and basket making.

Local resident Kenneth Mann, “recalling how important vegetables were at his house, says his parents canned as many as 200 quarts annually from their garden. They sold extra jars of pickles and sauerkraut to grocery stores all over town” (Dirks 2011:143). Dirks includes an account from Wilbur Barton, whose family home was excavated in 1994, which described how “Wilbur’s mother canned both spring and
summer. She stored slaw and kraut in five-gallon crocks and canned the fruit in one quart and one-and-a-half-gallon Mason jars,” (2011: 145). The excavation of the Barton home in Normal also uncovered numerous canning jar fragments (Jelks 1996:41-49).

Oral history accounts from the Old Main project, including those by Robert Maurer and Edith Carlson Deany, suggested that students brought canned food from their family’s farms when they went away to school. Before the University offered a meal plan or dining hall, students who lived in boarding houses prepared their own meals during the day, and used foods they had brought from home. Canned foods would have been commonplace in the University community, and in the Bloomington Normal community at large.

One last possible use for the mason jars is for making, storing, and the consumption of moonshine, or homemade liquor. Dirks notes that during the Prohibition, “nearly every farm in Central Illinois produced the raw material for corn whiskey, and the farmers cobbled together countless little distilleries to supply speakeasies throughout the region” (2011:98). Sokolov (1998) jokes, “Even in polite circles in moon shining areas, some of this lingo is in current use. And people still joke that a man with a crease on the end of his nose must be a heavy imbiber of moonshine because when you drink it straight from a Mason jar, the glass rim hits you right in the nose” (95).

Unfortunately, we may never know what people were putting in, or consuming out of Mason and other canning jars. However, we can be certain that these jars were ubiquitous during the period of study, incredibly useful, and likely to be reused several times before finally being discarded.
Extract Bottles and Cooking

Another food bottle type that was numerous within the Old Main cistern was extract bottles. Extracts are concentrated liquids, usually sold in small quantities. They can be used as a flavoring agent and as a medicinal product. Some, like beef extract or wine essence, are made by reducing a liquid until it is a syrup. Others, like vanilla and peppermint extract, are made by dissolving a spice or flavoring oil in alcohol. There are many different flavor extracts, including almond, anise, cherry, cinnamon, lemon, orange, peppermint, and vanilla. Vanilla was a popular and commonly used flavor and vanilla extract has been available for more than 200 years.

The extract bottles found in the Old Main assemblage are only discerned from unembossed pharmacy bottles by the embossed word “extract” and associated brand names. Without these identifying features, these bottles share every other characteristic of the blank pharmacy bottles. This suggests that any of the unembossed and unidentified pharmacy bottles could have held extracts, but their paper labels have disintegrated, meaning the true count of extract bottles could be much higher.

The most common use for extracts is in cooking, but some were also used in medicines. In addition, extracts were commonly available during the period of study, and more readily available year round than seasonal produce or exotic spices. According to Lloyd (1892:18) “In all formulae where it is practicable we have introduced fluid extracts instead of crude drugs. This we consider advantageous for several reasons, and fluid extracts may now be readily obtained to represent nearly every plant used in medicine.”
Lloyd also notes, “Oil of lemon, like vanilla beans, may be obtained in the commerce of different qualities and at different prices” (1892:163).

One likely explanation for the presence of the extract bottles within Old Main can be traced to the emerging domestic sciences and household arts movements that were advancing during the late nineteenth and early twentieth centuries. These movements encouraged a scientific approach to household tasks, including food preparation, nutrition, sanitation, money management, sewing, child rearing, and home agriculture. The Morrill Act of 1862 boosted domestic science as land grant colleges sought to educate farm wives in running their households as their husbands were being educated in agricultural methods and processes. Iowa, Kansas, Nebraska, Illinois, Minnesota and Michigan were early leaders in offering programs for women.

Illinois State Normal University took part in these programs too. According to Marshall (1957:234), “in 1904, President Felmley broached the matter of a department of domestic science. Throughout the nation, women’s clubs and farmer’s institutes were urging that schools provide training in household arts, and that teachers be given special training in these fields.” Yet it took a few years for the program to become established.

“When Miss Carrie Alberta Lyford came to Normal University in 1908 as the first home economics teacher, she not only had some very definitive ideas about household science but she was aware of the scarcity of good textbooks. Continually besieged for copies of her choice recipes, she longed to commit them to print and posterity” (Marshall 1957: 244). The result was A Book of Recipes for the Cooking School, published in 1921.
Within its pages, Lyford makes use of bottled flavoring extracts, including vanilla extract in her Soft Custard (1921:124) and lemon extract in her Hickory Nut Tarts (270).

Another possibility for the extract bottles is medicinal use. However, there is some reason to suggest that this use would be limited. As noted by Tilden (1852:13) “This form of medicine had nearly gone into disuse, from the fact that little dependence can be placed in extracts, the active property of the plant being injured in the mode of preparation.” New methods were being developed, as Tilden describes the advances made in vacuum preparations, which reduce the exposure to air. Decades later, medicinal extracts and methods of preparation were still a subject of debate. According to Cooley (1892: 707), “A number of other liquids similarly treated gave corresponding results, and it seems to me, therefore, that medicinal extracts are best prepared by congelation.”

Self-administering by nonprofessionals of these extracts could prove to be lethal, as one account suggests, “I at once secured a number of samples of the lemon extract he had been using, distilled it, and upon examination found it to contain methyl alcohol. A coroner’s jury found that death was caused by drinking lemon extract,” (Searle 1904:17:27). While it cannot be known for certain, the extract bottles in the Old Main assemblage most likely reflect cooking and baking activities taking place during domestic science classes, rather than medical uses.

Olives and Condiments

Another numerous bottle type from the food group of the Old Main assemblage is olive and condiment jars. The olive was one of the first fruit trees cultivated by people.
The remnants of olives found in archaeological contexts, together with pottery, oil lamps, and olive oil processing tools, indicate that the earliest widespread use of olives was in the Early Bronze Age (Liphschitz et. al. 1991).

Olives are a savory food, which are often preserved in water, brine, oil or marinades. Olives cannot be eaten freshly picked from the tree. They must first be prepared and processed to reduce the levels of oleoropein, a chemical in olives that causes bitterness (Ryan 1998:37). Some olives are picked green, while others are allowed to turn black and fully ripen before being prepared. The olives may change color, depending on the preservation method used.

Olives were cultivated in the Mediterranean basin for thousands of years, and were an essential food to the Greeks and Romans, whose military conquests further spread the olive’s popularity. According to Stevenson (1825: 331) olives were first brought to the Americas in 1560, when Don Antonio de Ribera brought them to Peru. Jones (1993:29) used advertisements in newspapers from the American colonies to show olives were sold in New York as early as 1760.

Carrie Lyford, the home economics teacher at ISNU, mentioned a multitude of uses for olives in her cookbook. Lyford used them as a seasoning for sauces (1921:44), within a recipe for tartar sauce (48), as a garnish (115; 228), part of a fish salad sandwich (226), a flavoring for butter (226), as well as an ingredient in green salads (232), and potato salads (237). The olive jars could reflect that some or all of these recipes were prepared by students in the home economics classes.
Pickles are the fourth most numerous bottle within the assemblage, and like olives, they are preserved in brine or liquid, and can be eaten directly out of the jar for a savory snack. Many types of vegetables can be pickled, including cucumbers, asparagus, green beans, beets and Brussels sprouts, and any of these may have been within the pickle jars from the Old Main assemblage. Lyford provided pickles an entire chapter in her book, noting, “A variety of recipes for pickles and relishes are given because of the great diversity of taste and choice of pickles” (1921:69). These recipes suggest that pickles might have been made, as well as eaten on campus, by members of the University community.

Another possible explanation for the pickles and olives is hinted by some of the other bottle types from the foodways assemblage, including the preserves, horseradish, mustard, ketchup, mayonnaise, and salad dressing bottles. Their presence on campus suggests that people were eating their lunches, or that some school events may have served food. Oral history interviews with former students, like Dolly Seacord, indicate that it was common practice to bring a packed lunch with them on school days. Raymond Thompson also brought his lunch to campus, noting he ate outside on nice days and indoors during the winter, although the student lounge was not built in Old Main’s basement until 1934, two years after the cistern was closed (ISU Archive). Old Main did not have a dining hall to serve food during the day, although Elizabeth Smith remembered a snack bar in the building, and Erma Satorius recalled a street wagon that came by the campus selling sandwiches, candy and magazines.
The presence of the condiment bottles strongly indicate that people were assembling food for immediate consumption, either in the cooking classes, or for their lunches. Just the 17 bottles of horseradish would take a long time for one person to eat by himself or herself. In that case, these condiments may have been brought to campus and shared among a group, in the home economics class, or perhaps a school-sponsored event, or in a faculty lounge. When the foodways artifacts are considered as a group, it suggests that people prepared and ate food on campus.

Alcohol Bottles and Recreation

While alcohol artifacts represent only 6% of the total glass assemblage, as a prohibited product, their very presence requires some explanation. The existence of 35 alcohol bottles within the assemblage poses an interesting quandary for the investigation of Old Main material culture. Alcohol containers in the Old Main cisterns reveal a specific social behavior, one that goes deliberately against the efforts of the leaders of the town of Normal to restrict alcohol consumption. Hasbrouck (1924:113) wrote, ISNU founder Jessie Fell early on conceived the idea of locating in the budding community some kind of educational institution, and “being a strong temperance man, Mr. Fell provided in every deed for a lot that sold that no liquor should be sold on that lot, thus establishing the new town [of Normal] as an anti-liquor community.” Hasbrouck (1924:190) notes that within the new town charter, “all the deeds for property in the new town of North Bloomington provided that no liquor should be sold on such property and this
was incorporated in April, 1858. This gave Normal from the start a desirable class of citizens.”

ISNU’s fourth president, John W. Cook, confirmed this assertion in his history of the University. Cook wrote that “Mr. Fell took a remarkable step toward bringing to the new town a desirable class of residents by providing in all deeds to purchasers of lots in North Bloomington, that intoxicating liquors should never be sold on the premises; and this stringent prohibition was afterward re-enforced by a town charter, which was intended to be entirely prohibitory” (Cook 1882: 16). It was amended to “perpetually restrain the town or city authorities from ever licensing the sale of intoxicating liquors” (Cook 1882: 16).

Indeed, according to Freed (2009:334) the sale of alcohol was prohibited in the town of Normal until 1973. Likewise, ISU enforced a dry campus policy, with varied success, into the mid 1970s. Yet, alcohol consumption did occur, by both faculty and students, within the history of ISNU as written by Cook. Celebrations for the quarter centennial anniversary were planned for August 24 1882. The event featured a banquet in the Philadelphian Hall of Old Main, and University President “Dr. Edwards asked the blessing, and the assembled company, two hundred and twenty in number, entered upon the serious business of the evening – the discussion of the numerous delicacies spread before them. After this part of the business had been disposed of, the toasts were in order” (Cook 1882: 229).
In the spring of 1877, students were called on to help with the road-building project. Cook states,

“After working about an hour, three of the men were sent to Bloomington to get a supply of liquid consolation, as the day was warm and the work was thirst provoking. Owing to the fact that the committee required so much time to sample the different varieties, it was near noon when they returned in company with a drayman and a barrel of cider. Sitting in the shade of the maples by the roadside, the crowd by this time augmented to one hundred or more, soon emptied the barrel. The remainder of the program consisted in building a memorial mound of earth some six or eight feet high in the middle of the road, making speeches, listening to vocal music by a colored man who, passing by, was captured and urged to sing, although he protested that he had not time to wait, and the final homeward march” (Cook 1882: 167).

These two examples cannot account for all the alcohol bottles recovered from the cistern, however. The description of a banquet within Old Main provides only a vague reference to toasts, but it is suggestive that alcohol was sanctioned for special occasions. Even so, a crowd of 220 people would require dozens of bottles of wine or champagne, while only four wine bottles were recovered from the cistern. As for the “liquid consolation” consumed by the students, it is noteworthy that it came in a barrel, not bottles, and that the alcohol consumption by students took place off campus.

There were 35 alcohol bottles uncovered within the Old Main cistern. Beer bottles constituted the majority of the alcohol bottles, followed by whiskey, liquor and then wine. Barr determined that 26 of the 35 alcohol bottles were hand-blown, and the rest were machine made in three-piece plate-bottom molds (Barr 1983:73). According to
Deiss (1982:93), these molds came into production about 1858, while hand blown glass bottle technology was obsolete by 1915.

Miller (1984:88) states that Prohibition began in the United States in October of 1919, which sharply reduced the production and availability of alcohol bottles. The repeal of the 18th Amendment came in December of 1933, and in January of 1935, federal legislation took effect prohibiting the resale or use of used liquor bottles. This law required that “FEDERAL LAW FORBIDS SALE OR RE-USE OF THIS BOTTLE” be embossed on all liquor bottles sold in the U.S. from 1935 until 1964 (SHA Bottle Identification website). Within the Old Main assemblage, only fragments from one bottle contained this embossing, suggesting that the remaining 3/4 alcohol bottles were produced prior to 1919. It cannot be known, however, when the alcohol was consumed, or when the bottles were deposited within the cistern.

According to Busch (1987:68), “Archaeological excavations have shown that bottles could be kept for decades before they were discarded.” This was caused by the reuse of bottles, as customers and dealers returned empty bottles in a monetary exchange. “In 1899, beer, soda, and whiskey bottles were valued at $3.75 per gross, roughly half their cost earlier in the century, but this was still expensive compared to other products. More than a billion new bottles were produced that year, but old bottles retained enough value to be saved and used again” (Busch 1987:69). Busch (1987:69) also described how bars and saloons served alcohol from bottles, but purchased it by the barrel, and each day the bartender needed to refill the bottles from the barrel. Dishonest practices were also common, as “Distilleries, bucket shops, and saloons provided a ready market for used
whiskey bottles; illegal refilling of branded bottles with cheap whiskey was widespread” (Busch 1987:70).

The oral history interviews suggested that alcohol consumption by students was considered a very serious offense. Dolly Seacord and Robert Maurer, who attended ISNU during the 1930s, both relayed stories of students who were expelled from school because they were caught drinking beer. The Deans from ISNU would go into the bars in the evenings looking for students. Any students who were caught were called in the next day. Verda Maurer told a story about a dance hall on the edge of town, and no student was allowed to go there. Verda and Robert went one evening with their friends who had a car. When Verda returned to her boarding house, the Dean of Women had called while she was out, saying she wanted to see Verda the next morning. Verda called Robert to say she thought she would be kicked out of school. In fact, they wanted Verda to be an honor student for the women’s dorm. After that meeting, Verda said, she “heaved the biggest sigh of her life.” (Old Main Project Website)

Local historian Bill Kemp (2008) confirmed the story of the dance hall phenomena and its link to alcohol. “Jazz Age dance halls and platforms, many scattered throughout the rural reaches of Central Illinois, offered the promise of illicit liquor, the mingling of the sexes and other unwholesome extracurricular activities for the era’s ‘flaming youth’.” But the party couldn’t last forever, as “Crackdowns like those led by Sheriff Morrison and State Sen. Bohrer, the Great Depression and repeal of Prohibition all helped deflate the dance hall craze, though a few local venues survived into the post-war years” (Kemp 2008). These stories establish that alcohol consumption was widely
condemned, so it leads one to wonder why anyone would take such a risk as to drink on campus, or bring alcohol bottles on to campus for disposal.

Beaudry (1996) discussed the archaeological significance of alcohol bottles found in contexts where alcohol consumption was deeply discouraged. Referring to the boardinghouses at the Boott Mills, in nineteenth and twentieth century Lowell Massachusetts, Beaudry wrote “The presence of beverage alcohol containers at the Lowell boardinghouses is undeniable evidence of liquor consumption, but the discovery of empty bottles in a cache beneath a privy floor is evidence of deliberate concealment – of clandestine disposal presumably following upon clandestine drinking” (Beaudry 1996:285). Just as with the students of ISNU, the Boott Mills company policy could not control every behavior of its employees. “It is clear that drinking was prevalent despite unremitting efforts of the corporation to eliminate and prevent it. If a worker wished to drink whiskey, no amount of ‘moral’ lecturing would change that fact,” (Beaudry 1996: 289).

The most common alcohol bottles found in the Old Main cistern were beer, with 13 bottles. They varied in volume from 7oz to 32 oz sizes. The most common size among the group was the 12 oz, with 6 bottles, the single serving-size bottle familiar today. According to Ketchum, (1975) “Late nineteenth and early twentieth century beer bottles are fairly easy to come by” due to their widespread manufacture and consumption. As beer generally has lower alcohol content by volume than other liquors, this may suggest that stronger liquors were harder to obtain, or that the goal of this drinking was symbolic, in seeking a recreational buzz over total intoxication.
It can also indicate that the period when these beers were consumed was prior to World War I. According to Dirks (2011) prior to Prohibition, drinking beer was commonplace in Bloomington, and he attributes this to the influence of the growing German immigrant population. “A Daily Pantagraph article some years earlier had remarked how German culture was having a beneficial effect in Bloomington by making beer, instead of whiskey, the beverage of choice” (Dirks 2011:98). World War I had a negative impact on German cultural acceptance, and Prohibition further reversed the trend that had favored beer. Dirks notes that “Beer became relatively scarce and expensive during the Prohibition. However, nearly every farm in Central Illinois produced the raw material for corn whiskey, and farmers cobbled together countless little distilleries to supply speakeasies throughout the region” (Dirks 2011:98).

These farmers used whatever bottles they could obtain in order to package their illicit beverages. “In the twentieth century, bottle loss to home preserving declined, except during Prohibition. In 1922, the National Bottlers’ Gazette attributed a shortage of soft drink bottles almost entirely to their use for home brew” (Busch 1987:71).

Alcohol bottles could have been thrown into the cistern of Old Main precisely because this further enhanced the act of rebellion symbolized by the consumption of alcohol. It is possible students may have thought authority figures would not anticipate such a blatant disregard for the rules, because drinking was so firmly condemned on campus. Beaudry notes that “Material is not seen here as just a passive product of economic behavior, but as an instrumental component of symbolic actions. The fact that
symbolic behaviors are ephemeral makes their material traces that much more important” (Beaudry 1996: 294).

According to Bezilla’s (1985) account of the history of Penn State University, the 1920s were a time when many college students rejected the laws and social norms of their elders and instead embraced a more mischievous and carefree attitude:

1920s were not years of financial hardship for most students, as Pennsylvania and the nation settled down to nearly a decade of economic prosperity. This relative affluence spawned what has often been called the "mad, bad, glad" era of campus life, a time of hedonistic revelry among undergraduates, many of whom were careful never to let pursuit of a bachelor's degree interfere with having a good time. It was the golden era of the raccoon-coated, hip-flask-toting "Joe College." Students endeavored to unshackle themselves from what they disdained as the old-fashioned ideas and values of their parents and grandparents. Prohibition, enacted by constitutional amendment in 1920, was a target made to order. Consumption of alcoholic beverages became more popular than ever on college campuses. Drinking was a perfect way to protest "puritan" morality, strike a blow for youthful freedom, and have a good time all at once. Smoking cigarettes and wearing short skirts became common among coeds for much the same reason. Such critics of contemporary mores as H. L. Mencken, F. Scott Fitzgerald, and Sinclair Lewis were widely read and admired by the college population. (Bezilla, 1985:125).

This quote illustrates the rebellious attitude of the 1920s that could have been present at ISNU. It is also possible that ISNU students living in boarding houses, before
city trash service began in 1946, had no other method for disposing of alcohol bottles without being discovered by their boarding house owners. Another possibility is that the alcohol bottles originated from staff members who had less to fear from school authorities. While we can never know for certain the reasons why alcohol bottles were thrown in the cistern of Old Main, it does suggest that the popular narrative of ISNU as a dry campus does not reflect the attitudes and experiences for all members of the University community.

Similar to the finds in Old Main, the campus archaeology project at Harvard University, found that alcohol bottles were uncovered at the Old College and Old Yard sites. According to Stubbs (2010:106) “Within the late seventeenth-century assemblage from the Yard, the wine bottle glass constitutes 20 percent of the artifacts assigned to the kitchen group category.” This was a higher percentage than two contemporaneous domestic sites, and some tavern sites. “Given that the College Laws clearly forbade drinking except on rare special occasions, this circumstance is surprising” (Stubbs et. al 2010:106-107).

According to Beaudry, “Situating this archaeological observation in a historical context constructed with the aid of company documents dealing with restrictions on alcohol consumption in the boardinghouses, we create a behavioral link whereby the ordinary fragments of backyard refuse begin to speak for the seemingly inarticulate. The close contextual analysis of artifacts provides a counterpoint or subtext to writings of middle and upper class observers and reformers, subtly raising the volume of worker’s
voice so they can be heard above those who speak to us in such loud chorus through written texts” (Beaudry 1996:285).

Soda and Nonalcoholic Beverages

There were 24 soda bottles in the Old Main assemblage, of various brands and types. In addition, there were nine milk bottles and one bottle of Welch’s grape juice, meaning the total of nonalcoholic beverage bottles is 34. Taken as a group, these non-alcoholic drinks are nearly as numerous as the alcohol bottles, which total 35 bottles. How can we account for these bottles, and the social behavior that brought them to Old Main?

The town of Normal had banned the sale of alcohol from the days of ISNU’s founding, in the belief that this would attract a “desirable class of citizens” (Hasbrouck 1924: 190). Non-alcoholic beverages were freely available, and would certainly be the only drinks allowed on campus. In the late nineteenth century, thanks in part to pasteurization techniques, many new drinks were emerging and establishing themselves by marketing to the growing temperance movement. According to O’Neil (2010: 32), “The temperance movement was a very vocal supporter of ‘soft drinks’ like root beer.”

However, the story of soda water is older still, and sodas were originally sought after for their health giving properties. O’Neil notes, “Naturally carbonated waters, from volcanic springs, were well known throughout history and prized for their unique
properties. The stomach soothing nature of these effervescent waters made them a regularly prescribed treatment for dyspepsia or indigestion” (2010: 4). After much research, Joseph Priestly discovered how to carbonate water artificially in 1767, and his work “quickly caught the attention of the public. These artificial waters eventually transformed into flavored soda when businesses started adding flavors and sugar to the soda composition” (O’Neil 2010: 4). The chemicals that were used to carbonate the water, such as sodium bicarbonate and tartaric acid, resulted in an unpleasant taste, so fruit juices and artificial flavors were added to improve the flavor.

Charles Plinth invented the soda siphon in 1813, which “allowed portions of water to be dispensed, while retaining carbonation in the unused portion. This was a major advancement over corked bottles” (O’Neil 2010: 5). In 1832, John Mathews invented a device to carbonate water in large enough quantities to serve a drug store or street vendor. The device was relatively inexpensive, and improved capacity “helped increase the number of sodas being served from a couple dozen per day to a couple hundred and, in some cases, thousands. The lower start-up costs spurred the growth of soda fountains across America” (O’Neil 2010: 5). This device had some problems, however, as when the “pressure vessel holding the carbonated water failed. When this happened, metal, glass and people were sent flying around the store” (O’Neil 2010: 5). The introduction and subsequent delivery of CO₂ cylinders made the process safer, as the soda fountain operators no longer needed to make their own.
By 1875, the soda fountain could be found across the country, in nearly every American city. In the 1890s, the soda fountain phenomena was getting international attention (O’Neil 2010: 6). Soda fountains were often found within pharmacies and drug stores, and partnering with pharmacists to administer medicines. The soda fountain operator or ‘soda jerk’ often “used sweetened soda water to conceal the taste of bitter drugs like quinine and iron” (O’Neil 2010: 8). Often alcohol was a necessary ingredient in medicines, and “pharmacists and patent medicine manufactures used a good deal of it to make their elixirs, tinctures and extracts. Drinking these medicines straight-up was probably a nasty experience, but diluted with sweetened soda these patent medicines were probably quite acceptable, even pleasurable” (O’Neil 2010: 9). Because of this direct historical connection, the lines between soda, alcohol and pharmacy products, and their consumption, can involve much overlap and confusion.

Other popular ingredients in early soda concoctions were narcotic substances. “These were often called ‘nervines’ and usually contained cocaine, strychnine, cannabis, morphine, opium, heroin, and other neurochemicals” (O’Neil 2010: 8). As a result, many people experienced symptoms of addiction, and were said to have a “soda habit” (O’Neil 2010: 10). Cocaine use was very popular, and thought of as perfect morning pick me up. “A single cocaine loaded soda in the morning was a quick brain boosting beverage, but five to six per day – which was more common – could get a person really ‘jacked up’” (O’Neil 2010:11).
As people left the neighborhood bar for the soda fountain, newspapers took notice, and credited the change to “temperance beverages that rob bar-rooms of a great many customers” (Boston Globe 21 July 1885). O’Neil notes that the change was most likely due to the great strength and lower cost of narcotic soda fountain drinks over alcoholic drinks, which carried heavier taxes. “These ‘temperance beverages’ were far more powerful than anything at the local saloon” (O’Neil 2010:11).

Eventually, the temperance movement became aware that these soft drinks were as much a risk to social stability as alcoholic ones. “The Temperance League regularly declared war upon soda fountains and the medical fraternity for their evil nostrums and drug laced preparations. Druggists used a wide variety of substances in their sodas, many harmless and many medically effective, but the Temperance movement considered anything they didn’t understand as evil” (O’Neil 2010:12).

The temperance movement attempted passing laws, instituting boycotts, staging protests and publishing their own newspapers and pamphlets, with black lists of soda fountains. Their efforts to eliminate intoxicating substances got a boost from the Pure Food and Drug Act of 1906, and following its passage “there was a concerted effort between doctors and pharmacists to weed out those who peddled and prescribed all manner of miracle cures” (O’Neil 2010:12). Medicines were often sold in pill form or bottled from brand names with their ingredients listed, so that pharmacist no longer made up their own medicinal cures behind closed doors.
Around this same time, more sodas were sold within bottles. Bottled sodas were marketed as purer than drinks sold by the soda fountain. However, “the bottles were reused as many times as possible, but were rarely given a thorough cleaning. Once used, the bottles were stacked behind the shop for days, being exposed to all manner of contamination and ‘growth’” (O’Neil 2010:13).

World War I and its restrictions of sugar dealt a tough blow to the soda fountain. Following the War, the government instituted a luxury tax that increased the cost of each drink served at the fountain. “The tax was not applicable to bottled beverages, as there was another tax applied at the manufacturing level. Most manufacturers absorbed the cost and refused to increase their prices. This created a huge demand for bottled soda” (O’Neil 2010:14). The Prohibition of alcohol kept many soda fountains in business as a social gathering place that replaced the local bar, but after Prohibition was repealed, “adults abandoned the soda fountain and went back to the bar.” (O’Neil 2010:14). The market for bottled sodas increased every decade that followed, and the soda fountains that survived became a side feature of the local diner, until even these were all but gone.

Another temperance drink that emerged during the end of the nineteenth century was Welch’s grape juice, represented by a single bottle within the Old Main assemblage. It was developed by a teetotaling dentist, Thomas Welch, who wanted to make an unfermented wine, suitable as a substitute for wine in church services (Pinney 1989:386). Using pasteurization, “in the name of the ‘natural,’ but in fact through the application of
modern technological understanding, an American dentist had shown how to hold the blood of the grape in artificial arrest…” (Pinney 1989: 388).

In 1875, his son Charles saw a commercial opportunity, and utilized temperance movement literature to feature advertisements for the new beverage. “And since temperance and religion might not be attractive enough, grape juice was described as good for everything that might ail one: ‘Dr. Welch’s Grape Juice is especially recommended in Typhoid Fever, Pneumonia, Pluritis, Peritonitis, Rheumatis, for Lying-in Patients and for all forms of chronic disease except Diabetes Melitus’” (Pinney 1989: 389). Charles Welch promoted grape juice as perfect for everyone, whether the need be medicinal, spiritual, temperance adherence, and as a wholesome tasty beverage. His efforts were successful, and Welch’s grew in popularity to become a well-known national brand.

The remaining non-alcoholic beverage bottles found within the Old Main cistern were milk bottles. Eight of the nine milk bottles were from one local dairy, the Snow and Palmer Dairy of Bloomington, and the ninth was only embossed “wash and return.” Before effective refrigeration was available during transport, only local milk would have been available. The origins of milk consumption are tied to early animal domestication and the development of dairying in the Neolithic period, between 8,000 and 10,000 years ago. Archaeologists studying fatty residues in Neolithic pottery have found evidence that “early Neolithic people in [the Carpathian basin] heated milk, probably in order to drink it hot, alone or mixed with some other food (cereals), and thus that most of them were
able to digest the lactose sugar” (Vigne 2007:14). Milk is mentioned prominently in the Old Testament in events that have been estimated to have occurred over 3,000 years ago, “Then he (Abraham) took curds and milk and the calf that he had prepared, and set it before them, and he stood by them under the tree while they ate” (Genesis 18:8, King James Bible).

In the Middle Ages, milk was primarily a seasonal food; however, it could be obtained by social elites during the winter months at much higher prices. According to Valenze, (2011:35) “Whether of cow, sheep, or goat, the calving season was in early spring, so milking ran from early May to late September. Yet as early as the eleventh century, English dairies worked hard to defy obstacles of nature. The demands of cities and towns, along with the market activity that sprang from them, ensured that at least some milk would be available year round.”

Through centuries of diligent dairying, milk eventually moved passed a seasonal product, and flourished to become the recognizable commodity we know today. “A paradox informed the birth of the commodity of milk: though dairy products remained rooted in small-scale, rural settings, their potential as capitalized commodities produced for market lay in the urban nature of seventeenth century Holland” (Valenze 2011: 87). This was achieved through a partnership of city and country exchange in the production, distribution, and consumption of milk, necessitated by a growing population and increased urbanization.
The trend towards urbanization increased during the eighteenth and nineteenth centuries, and so did the demand for milk. Jones (1993:36) used advertisements in newspapers from the American colonies to show milk was being sold in New York City as early as 1817. In the mid-nineteenth century, milk was primarily given to babies when mother’s milk was unavailable, but this carried some risks, as milk was dispensed with a ladle from street vendors (Dirks 2011:172). Bacteria grew in the containers, especially during the warmer months of the year, causing “‘summer diarrhea’ a disease that often proved lethal among children. Gastrointestinal disease accounted for up to 25 percent of infant mortality in the United States as late as 1900” (Dirks 2011: 172).

According to Busch (1987:70), “the first known delivery of milk in glass containers was in 1878. Under the returnable system, bottles were considered the legal property of the bottler, and customers were obligated to return them to the bottler for refilling. Returnable bottles were practical when distribution was localized, as was generally the case with soda pop, beer, and milk.” In the town of Normal, at the turn of the twentieth century, consumers could choose from several dairy options. Dirks notes “early supermarkets stocked bottled milk and other dairy products, but most families preferred to purchase them from a ‘milkman’ who delivered right to the door” (2011: 172).

Eight of the nine milk bottles were from the Snow and Palmer dairy of Bloomington. The Snow and Palmer dairy was started by Willis Snow in 1870, who formed a partnership with Harry Palmer in 1897 (Dirks 2011:174). Bloomington passed ordinances to ensure the safety of milk in 1911, which outlawed selling milk from
canisters, and necessitated bottled milk (Dirks 2011: 173). Pasteurization was introduced in 1895, and mandated by the city of Chicago in 1908. “In Bloomington, the Snow and Palmer Dairy was the first to introduce pasteurization to its customers” (Dirks 2011:173). They merged with Beatrice Creamery in 1925, and began selling milk products under the Meadow Gold brand (Dirks 2011:174). The eight milk bottles then can be firmly dated within the 28 years of the Snow and Palmer partnership.

Each of the non-alcoholic beverages, soda, juice and milk, have a unique story to tell. Their origins range from prehistory to the last century. They were promoted over alcohol for their wholesomeness, even though they could sometimes cause addiction or illness, in the cases of soda and milk. One interesting issue remains obscure; if these beverages were allowed on campus when alcoholic drinks were not, it seems rather odd that there were slightly more alcoholic bottles in the cistern than non-alcoholic drinks. This issue is likely to remain unresolved until further research can be done.

Pharmaceutical Bottles

Pharmaceutical bottles contributed 27% of the assemblage, more than four times as many as alcohol bottles. Yet many of these medicines contained alcohol, and these products could have been consumed for their intoxicating effects rather than their medicinal properties. As Barr notes, “One alumna who later taught at the university said it was socially acceptable in the early years of this [twentieth] century for her colleagues to dose themselves regularly with remedies and patent medicines. Such behavior, verified by artifacts, was evidently not uncommon” (1983:88). For this reason, a discussion of
medicine consumption in historical archaeological contexts requires consideration of the role played by alcohol.

Skibo (2008:33), in discussing a nineteenth and early twentieth century logging camp in Michigan, also describes how alcohol consumption was banned, and medicines were sold by the company. “From the perspective of the company, alcohol consumed as either medicine or in the more traditional form could disrupt camp life and hurt worker productivity, so alcohol was universally banned by the camps and medicine consumption was controlled.” In spite of this attempt at rigid social control on the part of the logging company, alcohol bottles were found within the archaeological assemblage, as several whiskey bottles were found around structures and in the privy. According to Skibo, “the loggers increased their actual power by acquiring alcohol elsewhere, sneaking it into camp and then drinking secretly. Alcohol, either secreted into the camp or purchased at the camp van in the form of patent medicine, would have been a way of self-medication” (2008:34).

Skibo (2008) also mentions, “Various patent medicines, such as Hinkley’s Bone Liniment and Dr Kilmer’s Swamp Root, were sold at the van and the ‘medicines’ primary ingredient was often alcohol. Most of the loggers wanted to drink alcohol or ingest the patent medicine, but the company tried to keep consumption in check by selling the medicine in the vans where the keepers could control distribution.” These examples suggest that even as strict rules were laid down, and social controls enforced, these policies did not prevent alcohol consumption.
Even within the Bloomington Normal community, alcohol and medicine were inseparably intertwined. Dirks (2011) notes that in Bloomington, enforcement of Prohibition laws were hindered by local interference and defiance. “When authorities attempted to prosecute a prohibition violator, witnesses swore the beverage at issue was dispensed as a temperance bitter – i.e., a genuine patent medicine” (Dirks 2011:95).

Yet Bonasera and Raymer, (2001) working in the context of Five Points, a nineteenth century tenement community of New York City, dismissed the assertion that medicines would have been consumed only for their intoxicating powers. Bonasera and Raymer “contend that patent medicines and soda and mineral waters were usually consumed in an attempt to mitigate a health problem; not for other purposes, such as alcohol consumption. Specifically, the use of medicines as intoxicants is believed to be limited. If a poor worker possessing limited assets wished to conceal his or her alcohol consumption, it does not seem logical that they would buy a foul tasting medicine that cost more than either whiskey or wine” (Bonasera and Raymer 2001:51). Bonasera and Raymer further note that high poverty, poor sanitary conditions and prevalence of disease in Five Points indicate that medicines were “purchased in an attempt to alleviate health problems” (Bonasera and Raymer 2001:51).

According to Walters (1981) the students at Illinois State University were particularly susceptible during the Spanish influenza epidemics that swept the country between 1918 and 1919, as it was known to be especially deadly to young adults. “The towns of Bloomington and Normal were on the main roads and rail lines between Chicago and St. Louis, both of which reported influenza cases. Because of the war,
masses of people and supplies passed through the county. Illinois State Normal University contained concentrated populations of young adults, as did Illinois Wesleyan University at Bloomington” (Walters 1981:132). ISNU was closed for several weeks, although “The Normal University Library announced that it would remain open, but no sneezing or coughing would be permitted” (Walters 1981:138).

These social factors of high poverty, poor sanitation and prevalence of disease were less intense in the context of ISNU. Even attending college during this period was a sign of relative affluence. It could be that the social pressures condemning alcohol consumption at ISNU were so great that the higher cost and unpleasant flavor of medicines were still more desirable than being caught in possession of an alcohol bottle. Realistically, there is no way to know how these medicines were used, or what types of social behavior were taking place in Old Main. However, one can assume that if there is a possibility for a good time, even a remote and prohibited possibility, you can trust a college student to find it.

The high percentage of pharmaceutical bottles (27%) within the Old Main glass assemblage suggests that the University had access to many medicinal products, both prescription and patent medicines. How they utilized these medicines cannot be known with certainty, but they be inferred based on other archaeological contexts and historical documents.
Local Archaeology Comparison

As a basis for comparison, several other locations have been excavated within the Bloomington Normal area. The excavation of the William Carey Barton Family home was conducted through a partnership of the McLean County Historical Society and the Bloomington-Normal Black History Project, and directed by Edward B. Jelks. The excavation took place in 1994, and utilized oral history from family members to assist in interpretation. Among the foodways artifacts, several found were also present in the Old Main assemblage. These included a Snow and Palmer milk bottle, a H. Quosick soda bottle from a Bloomington manufacturer, a Horlick’s Malted Milk bottle from a Wisconsin company, and numerous canning jars (Jelks 1996:41-49). Pharmacy bottles similar to those found at Old Main included bottles marked Watkins, Vaseline, Pinex, Liquozone, and Foley’s Honey and Tar (Jelks 1996:41-49).

The Wayman African Methodist Episcopal Church in Bloomington, Illinois, was excavated during the summer of 1992, and revealed a privy feature with artifacts providing a date range from the mid nineteenth century to the 1920s (Cabak et. al 1995:62). Because of the contemporaneous nature of the A.M.E. Church, and its status as a community institution rather than a domestic site, it offers an interesting comparison for the Old Main site. The A.M.E Church assemblage included numerous foodways artifacts, including objects related to procurement, preparation, service, storage and food remains. Within their functional typology at A.M.E Church, bottles and jars like those in the Old Main assemblage were classified within the food storage group, including stoneware storage vessels and glass canning, food, and condiment jars (Cabak et. al.
“The predominance of artifacts related to food service and food remains (84.13% of the Foodways category) demonstrate that the consumption of meals was an important activity at the church, yet the low occurrence of food storage artifacts (15.65% of the Foodways category) and the virtual absence of food procurement and preparation artifacts (0.22% of the Foodways category) suggest that meals consumed at the church were not prepared there. This artifact distribution may reflect dinners in which congregation members brought prepared dishes to the church” (Cabak et. al. 1995:64).

Other food related artifacts from the Church included tableware, kitchenware and faunal remains, for which corresponding data from Old Main was not collected for this investigation. The A.M.E. Church report does mention several products as cosmetics that were also recovered in the Old Main excavation, here described as ointments, including Vaseline and Ponds cold cream. The cosmetics group from the A.M.E. Church included 14 artifacts, while the Old Main assemblage included 24 similar cosmetic artifacts.

To determine if the A.M.E Church provided health care to the congregation and community, as suggested by the large proportion of medicinal artifacts, Cabak et al. compared the church assemblage to the Drake farmstead, a contemporaneous site for which data was available. Similarly, a comparison between Old Main and the A.M.E. Church can provide some insights for interpreting the social behavior taking place at Old Main. The Church site had 584 medicinal artifacts, including “573 glass medicine bottles and jars, 9 test tubes, 1 glass syringe plunger and 1 glass eyedropper” (Cabak et. al 1995:66). Within the 573 pharmaceutical bottles, prescription or druggist bottles numbered 447, while patent or proprietary medicines numbered only 115. This shows
that 78% of the pharmaceutical bottles were prescription, and only 20% were patent medicines.

According to Cabak, this can be explained because the “overwhelming proportion of prescription bottles, as opposed to patent medicine bottles, likewise suggests that healthcare at the church was administrated by a physician who was aware that proprietary products, largely composed of sugar, water, alcohol, and sometimes narcotics, had little medicinal value” (Cabak et. al 1995:66). Interestingly, Cabak et al. categorized unmarked and unembossed pharmaceutical bottles as prescription bottles, noting, “These plain, unembossed bottles were ordered in bulk by pharmacists and hospitals and were used to dispense prescriptions” (Cabak et. al 1995:66).

Although none of the same local druggist bottles from the A.M.E. Church were found within the Old Main assemblage, several of the patent medicines did appear at Old Main. These include Dr. King’s New Discovery; Bromo-Seltzer Emerson Drug Company of Baltimore, MD; John Wyeth & Bro Philadelphia; and Kemp's Balsam for Throat and Lungs of Woodward Leroy, N.Y.

Using the A.M.E. Church statistics as a basis for comparison to the Old Main site, the unmarked and unembossed pharmaceutical bottles at Old Main number 62, and when combined with the 8 druggist bottles, they total 70 prescription bottles. When all the types of proprietary medicines are included in the patent medicine group, the total comes to 63 artifacts. This shows that 46% of the pharmaceutical bottles at Old Main were prescription, and 41% were patent medicines. The remaining 3% consisted of commercial tooth powder and hair tonic bottles.

135
This comparison suggests that the university community relied primarily on prescription medicines, and yet used more patent medicines than did the members of the A.M.E. Church congregation.

*Consumer Behavior*

As the members of the University community had to obtain their consumer goods on a regular basis, the circumstances of local stores must be noted. In the nineteenth century, most local shops that supplied foods products were full service general or dry goods shops. According to Dirks (2011:148) “the groceries found in these little frontier emporiums consisted of imported goods such as coffee and tea and items impossible to produce at home such as salt. By 1850, inventories expanded and folks stopping by to trade found loaves of cane sugar, a variety of syrups and spices, dried fruits and wheat flour.”

These dry goods were sold from barrels or sacks, and there were few brand name items from which customers could choose. Customers often brought produce, eggs, or butter with them from their farms to market for the purpose of exchange. Some stores offered credit to customers, to be paid back at harvest or on payday. As the century progressed, some stores offered lower prices to those who paid cash, and others stopped offering credit entirely. One merchant announced that “his store would no longer offer credit because his profit margin was so narrow that he could no longer afford to trust anybody” (Dirks 2011:149).
Brand name products originated in the 1860s in order for companies to distinguish their products from companies, ensure a consistent product quality to consumers, and build customer loyalty (Dirks 2011:156). Self-service groceries gained their start when companies started to individually package and sell their products with a brand name, as Quaker Oats did in 1895. By selling their oats in paper boxes, it saved the grocer the trouble of scooping and weighing each sale. Other products quickly followed suit, including canned foods, sugar, and medicines.

Many stores existed in Bloomington to meet local demand for goods. Dirks (2011) mentioned that in the early twentieth century, prior to the Depression, Bloomington-Normal supported as many as 126 groceries. They ranged from general stores, neighborhood shops, tea and coffee shops, to independent bakers, butchers and green grocers. Hasbrouck (1924:145) wrote of the early 1920s,

“Coincident with the growth of the spirit of the public improvement, the business and commercial interest of Normal have expanded. The business section for the city some 25 years ago included about two blocks of stores of one kind and another, most of them rather old and out of date and representing comparatively small stocks and furnishings. Today the retail section of the city has spread out to take in parts of two other blocks, and the general character of the stores has improved and been modernized to a very noticeable extent. The lines of business have also been enlarged, several prosperous stores now existing handling merchandise, which a few years ago could not be secured in Normal at all. Where formerly the people of Normal though they had to go to Bloomington for any of their requirements in many lines. They now patronize Normal stores and shops.”
The first self-service grocery store in Bloomington Normal was the Piggly Wiggly, which opened its doors in 1918 (Dirks 2011:154). Several others followed, including the Great Atlantic and Pacific Tea Company, or A&P for short. The larger grocery stores could sell at greater volumes and undercut local shops in prices. The Depression squeezed consumers, which caused them to seek lower prices at larger shops, undermining the local business owners. Dirks notes that “in 1941, with the Depression practically over and supermarkets just beginning to appear, only 56 stores remained. Of these 36 were independently owned. The other 20 belonged to three chains, A&P, Kroger, and Piggly Wiggly” (2011:148).

As the regional data suggests, consumers bought more goods from the Midwest than from any other region. In order to determine if this pattern demonstrated agency on the part of local consumers, more information would need to be gathered. This would include data regarding the relative prices of different types of products from different regions, their seasonal availability, their accessibility in local stores, and the preferences of members of the University community. This subject is fertile for greater inquiry, and further research is necessary to determine the extent of consumer agency in this area and time period.

Conclusion

Several questions were put forth at the onset of this investigation. What could be learned about this period by examining the Old Main material culture assemblage? How does the use of the consumer goods illuminate our knowledge of campus life at ISNU?
To these questions, this investigation has shown that this period was one of enormous social and economic change, as people shifted their focus from their local communities to the national stage. National brands and grocery chains grew larger, and began to take business from local brands and shops, yet the assemblage reflects a regional character.

What types of products did the university community consume and deposit in the cistern? They ate food from mason jars, along with olives, pickles, horseradish and other condiments. They baked desserts in domestic science classrooms with flavoring extracts. Medical treatments were gained from both prescription and patent medicines in nearly equal number. Consumers drank alcohol in secret to avoid punishment. Non-alcoholic beverages were freely available, and yet failed to outnumber alcohol bottles.

How did the changes in the manufacture and use of glass containers influence consumption during this period? Conserving food in mason jars was an ingrained habit after two World Wars and a Depression made every morsel precious. Local pharmacies, after abandoning their tonics and elixirs for aspirin pills and name brand bottled cough medicine, no longer needed the soda jerk and his fizzy potions. The sodas were sold more cheaply in bottles, and his soda counter was empty after prohibition ended. Milk bottles were mandated by local ordinance, in an effort to promote sanitation.

How did the growth of disposable consumer packaging challenge community members in Bloomington-Normal before municipal trash pickup began in 1946? (Jelks 1996: 21) As glass packaging could not be burned like other trash, and if left broken on the ground it could endanger people, animals and rubber tires, something had to be done to get the used glass packaging out of the way. Unlike the alcohol bottles, whose
deliberate concealment might be advantageous, the medicine and food bottles posed no risk of social consequence, and yet these outnumber alcohol in the cistern. It is possible all glass bottles were intentionally removed from the garbage by a staff member, after trash collection and before the trash was to be incinerated, either on campus grounds or in the boiler. In fact, the majority of the artifacts within the cistern were those that would not burn, such as glass, metal and ceramic. With these materials withheld from incineration, and with the cistern no longer needed for water collection, it seems likely that they should be used to fill up the empty cistern and save the staff member a trip to the local dump.

What similarities exist between the Old Main artifacts and the artifacts recovered from other excavated sites in McLean County? The Old Main artifacts share some similarities with other archaeological sites within McLean County, most often with the representation of local brands, like local druggist and milk bottles, as well as a few other name brand products. Some useful comparisons can be made between the relative percentages of pharmaceutical products between Old Main and the AME church. However, because Old Main is a large institution, the comparison to the Barton family home was of limited value.

Can the artifacts show how the university community may have participated in the national commodity network? The artifacts do show that the university community participated in the national commodity network, because products were used from every region of the country, as well as obtaining some goods from Canada and Europe. Did the members of the university community use more products that were made within the
Midwest region, or did they embrace the growing national marketplace? Artifacts with identifiable origins are most numerous from the Midwest, followed closely by the Northeast, with the West and South making very limited contributions. The members of the University community purchased many goods from the Midwest, but also took advantage of products from other regions when they were available and if they suited their needs. More research on this topic is needed in order to determine the extent of consumer agency that these individuals exercised.

As we have seen, the members of the University community during this period were not merely consumers, but thoughtful individuals navigating a quickly changing social and economic landscape. These people ate and drank, got ill and recovered, studied and danced. Some fought in the Civil War and others in a Great War, and many more worked diligently to supply them and bring them home. Many became teachers, and passed on to others the lessons they had learned at ISNU. For its part, Old Main was more than just a building in which these lessons were taught. Old Main was the place that brought people together in a common purpose, to seek and disperse knowledge in the world. And even as that building is now a long distant memory, it continues to provide knowledge and inspiration to those that seek it.
REFERENCES

Appert, M. Nicolas


Armstrong, David and Elizabeth Metzger Armstrong


Barr, Keith Leroy


Baugher-Perlin, Sherene

Baugher, Sherene and Robert W. Venables


Beaudry, Mary, Lauren J. Cook and Stephen Mrozowski


Beisaw, April M., and James G. Gibb (editors)

2009 *The Archaeology of Institutional Life*. University of Alabama, Tuscaloosa.

Bezilla, Michael.


Bonasera Michael C. and Leslie Raymer
2001 Good for What Ails You: Medicinal Use at Five Points. *Historical Archaeology* 35(3):49-64

Bond, K. H.


*Boston Globe*


Brothwell, D.R. and A.M. Pollard (editors)


Bryson, Bill


Buchli, Victor, Gavin Lucas, and Margaret Cox.

Burnham, John Howard


Busch, Jane


Cabak, Melanie A, Mark D. Groover, and Scott J. Wagers


Caple, Chris


Champagne, Roger J.


Champagne, Roger J. and Eugene Jabker

Chapman & Smith Company


Cook, John W. and James W. McHugh


Cook, Lauren J., Rebecca Yamin, and John P. McCarthy

1996 *Shopping as Meaningful Action: Toward a Redefinition of Consumption in Historical Archaeology.* *Historical Archaeology* 30(4):50-65.

Cooley, Arnold James

Deetz, James


Deiss, Ronald William


Dietler, Michael


Edwards, Reginald


Edwards, Richard


Felmley, David


Fike, Richard


Fogel, Robert William.

Freed, John B.


Funderburg, Anne Cooper

2001 *Sundae best: a history of soda fountains,* Bowling Green State University Popular Press, Bowling Green, OH.

Gdula, Steven


Goodchild, Michael, F.


Griffenhagen, George and Mary Bogard

Harper, Charles A.

1935 *Development of the Teachers College in the United States, with Special Reference to the Illinois State Normal University*. McKnight & McKnight, Bloomington, Illinois.

1946 *Old Main*. Illinois State University Bulletin 52 (2).

Hasbrouck, Jacob Louis


Healey, Richard G. and Trem R. Stamp


Hill, Sarah, H.

Hunt, William J. Jr. (compiler)


Hurcombe, Linda M.


Jones, Olive


Illinois Glass Company


151

Illinois State University Archive Documents

Contents of the Box in the Old Main Cornerstone, Old Main files.

Pictures Included in the Box Beneath Old Main Memorial, Old Main files.

1934 Open House brochure.

Illinois State University


Karklins, Karlis (editor)


Kemp, Bill


152

Kerr Glass Manufacturing Corporation


Ketchum, William C.


Klamkin, Marian


Knowles, Anne Kelly, and Amy Hillier, (editors)


Lewis, Kenneth E.


Lewis, Kenneth E. and Russell K. Skowronek ed.


Lindauer, Owen


http://www.archaeology.org/online/features/phoenix/

2009 Individual Struggles and Institutional Goals: Small Voices from the Phoenix Indian School Track Site. In Archaeology of Institutional Life, edited by April Beisaw and James Gibb, the University of Alabama Press, Tuscaloosa, Alabama.

Lindauer, Owen, and Deborah Ferguson.

1996 Historical Archaeology of the United States Industrial Indian School at Phoenix: Investigations of a Turn of the Century Trash Dump. Office of Cultural
Resource Management, Department of Anthropology, Arizona State University, Tempe, Arizona.

Lindsey, Bill

http://www.sha.org/bottle/

Liphschitz, N., Gophna, R., Hartman, M. and Biger, G.


Lloyd, John Uri

http://books.google.com/books?id=OXXtAAAAMAAJ&q=vanilla&source=gbs_nnavlinks_s

Lockhart, Bill, Bill Lindsey, David Whitten, and Carol Serr.

Lyford, Carrie Alberta

http://openlibrary.org/books/OL7110593M/A_book_of_recipes_for_the_cooking_school

Marshall, Helen


Majewski, Teresita, and Michael B. Schiffer.


Miller, Daniel


Miller David, L.

Miller, George


Miller, George L. and Elizabeth A. Jorgensen


Miller, George L. and Catherine Sullivan


Mullins, Paul


Munsey, Cecil


Mustonen, H.


Newman, T. Stell


Ogburn, Dennis E.
2006 Assessing the level of visibility of cultural objects in past landscapes.

\textit{Journal of Archaeological Science} 33(3): 405-413

Old House Society


O’Neil, Darcy


http://books.google.com/books?id=_H69qO6f438C&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Orser, Charles E.


http://books.google.com/books?id=lqvnthcE19cC&lpg=PP1&ots=bRsV_e1At1&dq=orser%20encyclopedia%20historical%20archaeology&page=PP1#v=onepage&q&f=false

1996 Artifacts, Networks and Plantations: Towards a Further Understanding of the Social Aspects of Material Culture. In \textit{Historical Archaeology and the study of...
American Culture, edited by Lu Ann De Cunzo and Bernard L Herman.
University of Tennessee Press, Knoxville.


Phillips, Phoebe (editor)


Pierson, Edward E. and Jacob Louis Hasbrouck


Pinney, Thomas


Plummer Mark A.

Proceedings of the Board of Education of the State of Illinois.


Purser, Margaret


Ryan, D., and Robards, K.


Schlereth, Thomas J. (editor)


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Stelle, Lenville J.


http://virtual.parkland.edu/lstelle1/len/archguide/documents/archguide.htm

163
Stevenson, William Bennet


Stubbs, John D. and Patricia Capone, Christina J. Hodge, and Diana D. Loren


Stubbs, John D.


Taylor, Elaine J.

2002 *Bloomington-Normal in Vintage Postcards.* Arcadia Chicago, IL.

Thompson, Mary

Tibbitts, John C.


Tilden & Co.


Townley, Wayne C.

1945 *Historic McLean*. McLean County Historical Society, Pantagraph Printing Company, Bloomington, IL.

Toulouse, Julian Harrison


United States Agricultural Research Service, Office of Experiment Stations

Valenze, Deborah


Vigne, D. and J. D. Helmer


Walters, Karen A.


Welch, R W.


Young, James Harvey


Zachmann Carl J.
2010 A Study of Consumer Choice and Loyalty Through the Remedies, Medicines and Nostrums from Two Midwest Site Assemblages. Unpublished Master's thesis, Department of Anthropology and Sociology, Illinois State University, Normal IL.