LITHIC RESOURCE ACQUISITION AT THE TAYLOR VILLAGE SITE (12H25)
A THESIS SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
MASTER OF ARTS
BY
EMILY M. MURRAY

Committee Approval:

__________________________________________
Committee Chairperson
Date

__________________________________________
Committee Member
Date

__________________________________________
Committee Member
Date

Department Approval:

__________________________________________
Department Chairperson
Date

__________________________________________
Dean of Graduate School
Date

BALL STATE UNIVERSITY
MUNCIE, INDIANA
JULY 2012
LITHIC RESOURCE ACQUISITION AT THE TAYLOR VILLAGE SITE (12H25)

A THESIS SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
MASTER OF ARTS

BY

EMILY M. MURRAY

DR. MARK HILL (THESIS CHAIR)

BALL STATE UNIVERSITY
MUNCIE, INDIANA

JULY 2012
This thesis focuses on the lithic assemblage of a fortified Late Prehistoric site (AD 1260-1440) in Strawtown, Indiana, that was inhabited by the Oneota, a culture that migrated from their core area in Wisconsin, Iowa, and Illinois to other Midwestern locales such as Missouri, Nebraska, Indiana, Minnesota and Michigan (Theler and Boszhardt 2006: 435). The types of lithic materials that they were using give insights into mobility, trade, and exchange for this unique group in central Indiana. Research centered on three questions:

- What lithic raw materials are present in the two Taylor Village collections?
- How might the Oneota at Taylor Village have acquired these lithic raw materials?
- What might exotic lithic materials tell archaeologists about trade and exchange in the Late Prehistoric period of Indiana?

The primary methods used in this research include literature review and macro- and microscopic methods for identifying chert types to determine where the Oneota were traveling to obtain their raw materials. Research from this thesis contributes to information about the Strawtown locality where multiple cultures were living in close quarters; in addition it contributes to Oneota literature where almost nothing is written
about the Oneota in Indiana; this data may provide information about how and why they migrated into central Indiana in the Late Prehistoric period and potentially where they migrated from.
Acknowledgements

I would like to thank the members of my thesis committee, Dr. Mark Hill (chairperson), Dr. Ronald Hicks and Dr. S. Homes Hogue of Ball State University. I appreciate the time and effort that was put into editing my proposal and thesis and thank you for making my professional writing stronger. The Ball State University Department of Anthropology Troyer Grant award was very much appreciated and helped with travel expenses to the MAC conference to present information about my topic.

Thank you to Michele Greenan at the Indiana State Museum who allowed me to borrow a collection and bring it back to Ball State University to analyze, and thank you to Timothy Baumann at the Glenn A. Black Laboratory of Archaeology and the Trustees of Indiana University for providing me with historical documents pertaining to Hamilton County and the Taylor Village site.

Thank you to Beth McCord, Don Cochran, and all the Ball State University students who helped with the field schools and previous analysis of the Taylor Village collections; without their work, my job would have been tremendously more difficult. Thank you Kelsey Perrigo for photographing the two collections used for this research.

Thank you to Chris Keller at the Applied Archaeology Laboratories, Department of Anthropology, Ball State University for teaching me the ways of CRM and encouraging me to keep going, I appreciate it so much.

Last but not least, thank you to my family for supporting my schooling and always encouraging me to continue on; and to John, thank you for the sacrifices you made so I could get my Masters degree; you’re the best husband anyone could ask for.
Table of Contents

ABSTRACT........................................................................................................................iii
Acknowledgements........................................................................................................... v
List of Figures .................................................................................................................. iv
List of Tables.................................................................................................................... vii

Chapter One: Introduction and Problem Statement ...................................................... 8
  Introduction .................................................................................................................... 8
  Problem Statement ........................................................................................................ 3

Chapter Two: The Oneota .............................................................................................. 3
  The Oneota Life-Way..................................................................................................... 3
  Origins and Development............................................................................................... 6
    Orr Phase (AD 1300 to AD 1600) ............................................................................ 7
    Fisher Phase (AD 1100 to AD 1350) ..................................................................... 10
    Huber Phase (AD 1450 to post AD 1600) ............................................................... 11
    Langford Phase (pre-AD 1000 to post-1450)......................................................... 7

Chapter Three: Taylor Village ....................................................................................... 14
  Environmental Background ......................................................................................... 18
    Location ..................................................................................................................... 18
    Physiography ............................................................................................................... 18
    Glacial History ........................................................................................................... 20
    Geology ..................................................................................................................... 20
  Biotic Communities ..................................................................................................... 23
    Flora ............................................................................................................................ 23
    Fauna .......................................................................................................................... 24
    Hydrology .................................................................................................................. 24
    Climate ....................................................................................................................... 24
    Soils ............................................................................................................................. 27
  Summary ....................................................................................................................... 27
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Background</td>
<td>28</td>
</tr>
<tr>
<td>Prehistory</td>
<td>28</td>
</tr>
<tr>
<td>History</td>
<td>33</td>
</tr>
<tr>
<td>Chapter Four: Methods</td>
<td>38</td>
</tr>
<tr>
<td>Chert Identification</td>
<td>41</td>
</tr>
<tr>
<td>Chapter Five: Raw Material Acquisition</td>
<td>43</td>
</tr>
<tr>
<td>Lithic Raw Materials and Mobility</td>
<td>43</td>
</tr>
<tr>
<td>Acquisition Methods</td>
<td>45</td>
</tr>
<tr>
<td>Direct Acquisition</td>
<td>46</td>
</tr>
<tr>
<td>Secondary Acquisition</td>
<td>50</td>
</tr>
<tr>
<td>Trade and Exchange</td>
<td>51</td>
</tr>
<tr>
<td>Chapter Six: Data</td>
<td>57</td>
</tr>
<tr>
<td>Indiana State Museum Collection</td>
<td>57</td>
</tr>
<tr>
<td>Ball State University 2008 Collection</td>
<td>66</td>
</tr>
<tr>
<td>Conclusion</td>
<td>73</td>
</tr>
<tr>
<td>Chert types</td>
<td>74</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>74</td>
</tr>
<tr>
<td>Attica</td>
<td>76</td>
</tr>
<tr>
<td>Allens Creek</td>
<td>77</td>
</tr>
<tr>
<td>Indian Creek</td>
<td>78</td>
</tr>
<tr>
<td>Kenneth</td>
<td>79</td>
</tr>
<tr>
<td>Liston Creek</td>
<td>80</td>
</tr>
<tr>
<td>Stanford</td>
<td>81</td>
</tr>
<tr>
<td>Wyandotte</td>
<td>82</td>
</tr>
<tr>
<td>Flint Ridge</td>
<td>84</td>
</tr>
<tr>
<td>Chapter Seven: Discussion</td>
<td>85</td>
</tr>
<tr>
<td>Research Question 1: Lithic Raw Materials</td>
<td>85</td>
</tr>
<tr>
<td>Research Question 2: Lithic Acquisition</td>
<td>87</td>
</tr>
<tr>
<td>Direct and Embedded Acquisition</td>
<td>88</td>
</tr>
</tbody>
</table>
List of Figures

Figure 1. An Oneota vessel exhibiting punctates and trailed lines (Wisconsin Historical Society 2005). .......................................................... 5

Figure 2. A portion of the USGS 7.5” Omega and Riverwood Quadrangles showing the location of the Taylor Village site, the Strawtown Enclosure site and the Castor Farm site. .................................................................................................................. 19

Figure 3. Indiana bedrock geology (Indiana Geological Survey, n.d.). ...................... 21

Figure 4. This figure shows the USDA 2012 Plant Hardiness Zone Map for Indiana (United States Department of Agriculture 2012). .......................................................... 26

Figure 5. This map shows the location of a historic Native American trail that led from Ohio to Illinois (Guernsey 1932). .......................................................... 34

Figure 6. This map shows the location of the Taylor Village site and the Strawtown Enclosure site in Strawtown, Indiana.................................................. 36

Figure 7. A portion of the USGS 7.5” Omega and Riverwood Quadrangles showing the location of Taylor Village............................................................................. 58

Figure 8. A photograph showing proximal flakes and flake shatter made of Attica chert from the Indiana State Museum collection. .................................................. 60

Figure 9. A photograph showing flake shatter made of Stanford chert from the Indiana State Museum collection.................................................. 60

Figure 10. A photograph of some nonhafted bifaces called endscrapers made of Attica chert from the Indiana State Museum collection.................................................. 62

Figure 11. A photograph of some triangular hafted bifaces made of Fall Creek chert from the Indiana State Museum collection.................................................. 63

Figure 12. A photograph of modified flake tools made of Attica chert from the Indiana State Museum collection.................................................. 64

Figure 13. A photograph of a core tool made of Indian Creek chert from the Indiana State Museum collection.................................................. 65

Figure 14. This graph shows the percentages of raw materials present in the Indiana State Museum collection.................................................. 66

Figure 15. A photograph of unmodified flake debitage made of Fall Creek quartzite from the Ball State University 2008 collection. .................................................. 68

Figure 16. A photograph of some unmodified flake debitage made of Indian Creek chert from the Ball State University 2008 collection.................................................. 68

Figure 17. A photograph of a nonhafted bifacial endscraper made of Fall Creek chert from the Ball State University 2008 collection.................................................. 70

Figure 18. A photograph of a biface fragment made of Wyandotte chert from the Ball State University 2008 collection.................................................. 70
Figure 19. A photograph of modified flake tools made of Fall Creek chert from the Ball State University 2008 collection. 72
Figure 20. This graph shows the lithic raw materials present in the Ball State University 2008 Collection. 72
Figure 21. This table shows the total lithic raw material percentages for both collections combined. 73
Figure 22. A photograph of three cores from the Indiana State Museum collection made of Fall Creek chert. 74
Figure 23. A photograph of fossilized crinoids (Brosius 2005b). 75
Figure 24. A photograph of fossilized fusulinids (Brosius 2005c). 75
Figure 25. A photograph of fossilized bryozoan (Kallameyer n.d.). 75
Figure 26. A photograph of three cores from the Indiana State Museum collection made of Attica chert. 76
Figure 27. A photograph of two debitage flakes from the Ball State University 2008 collection made of Allens Creek chert. 77
Figure 28. This photograph shows a hafted biface fragment from the Ball State University 2008 collection made of Indian Creek chert. 78
Figure 29. A photograph showing two triangular hafted biface fragments from the Indiana State Museum collection made of Kenneth chert. 79
Figure 30. This photograph shows fossilized gastropods (Brosius 2005d). 80
Figure 31. This photograph shows fossilized brachiopods (Brosius 2005a). 80
Figure 32. A photograph of two bifaces from the Indiana State Museum collection made of Liston Creek chert. 81
Figure 33. This photograph shows a hafted biface triangular point fragment from the Indiana State Museum collection made of Stanford chert. 82
Figure 34. This photograph shows a sample of Wyandotte chert with some cortex and a crystallite filled cavity (Cantin 2008: 73). 83
Figure 35. A photograph of a nonhafted bifacial endscraper from the Indiana State Museum collection made of Wyandotte chert. 83
Figure 36. A photograph showing the variety of heat treated Flint Ridge chert (Lithic Sourcing n.d.). 84
Figure 37. A pie chart showing the amount of each raw material in the total assemblage. 86
Figure 38. The location of three fortified villages from the Late Prehistoric period in Strawtown, Indiana. 93
Figure 39. The land patent for a portion of the property that Taylor Village sat on for John Colip and Jesse McKay (Bureau of Land Management n.d.) 111
Figure 40. The land patent for a portion of the property that Taylor Village sat on for Henry Foland and Jesse M. Wood (Bureau of Land Management n.d.) 112
Figure 41. A flow chart for lithic identification based on Andrefsky (2005)............ 114
Figure 42. An Indiana Archaeological Survey form filled out for Taylor Village (Indiana Archaeological Survey n.d.) ............................................................. 116
Figure 43. A map of the geographic provenance of Indiana chert types (Cantin 2008).118
List of Tables

Table 1. Chert Types Within 50 Miles (or <) of the Taylor Village Site ...................... 22
Table 2. Soil Associations Within the Project Area (Hosteter 1978: Soil Survey of Hamilton County). ............................................................. 27
Table 3. A table showing the type and amount of debitage found in the Indiana State Museum collection.......................................................... 59
Table 4. A table showing hafted and non-hafted bifaces from the Indiana State Museum collection ........................................................................ 61
Table 5. This table shows non-biface tools from the Indiana State Museum collection. 63
Table 6. A table showing the type and amount of debitage found in the Ball State University 2008 collection..................................................... 67
Table 7. A table showing hafted and non-hafted bifaces from the Ball State University 2008 collection................................................................. 69
Table 8. This table shows non-biface tools from the Ball State University 2008 collection ..................................................................................... 71
Table 9. This table shows the chert types from the total assemblage that may contain possible Late Prehistoric tool types, their percentage of the total assemblage, and their distance from Taylor Village. ......................................................... 87
Chapter One: Introduction and Problem Statement

Introduction

This thesis will focus on two collections of lithic artifacts, both surface collected from the Taylor Village site (12H25) in Strawtown, Indiana. The site has been identified as a fortified Late Prehistoric Oneota occupation due to the abundance of shell-tempered ceramic sherds found on site and on other sites in close proximity (Arnold et al. 2007; Berres 2001; Graham and McCullough 2009; Hill 2009; McCord 2009a; McCullough 2005, 2008, 2009; Overstreet 1997; Staeck 1995). Radiocarbon dates from residues found in ceramic sherds roughly date the site from ca. AD 1260-1440 (McCord 2009a: 26; White et al. 2002: 105; White et al. 2003: 132).

This site is unusual because it lies outside of the Oneota core territory (heavy occupations being found in eastern Wisconsin, Illinois and Iowa) (Berres 2001; McCord 2009a: 5; Theler and Boszhardt 2006: 435) and is the only Oneota village of this magnitude found thus far in Indiana according to the State Historic Architectural and Archaeological Research Database. There is, however, another known Oneota site in northwestern Indiana known as the Fifield site that was a Fisher phase settlement (Faulkner 1972: 134). Another interesting aspect of the Taylor Village site is the ceramic evidence of potential interaction with the inhabitants of two villages directly across the
White River that were composed of different cultures (Arnold et al. 2007; McCord 2009a; McCullough 2005, 2008, 2009).

One aspect of this habitation that has yet to be studied, and the focus of this research, is where and how the Oneota at the site were obtaining their lithic raw materials. Lithic raw materials were a necessary part of life for prehistoric people, because they were required to produce tools that were used for hunting and processing animals among other tasks. Chert, the material from which the majority of stone tools are made, can be traced to specific locations by looking at the geological formations of the landscape. Chert can only move from its original location in a limited number of ways, thus archaeologists can infer lithic acquisition behavior of people when the other options have been eliminated. Looking at this variety of data allows insights into how these people were moving across the landscape and utilizing nearby chert outcrops or trading and exchanging with other groups of people.

Studies of this type have been done on Oneota sites in the core territory areas; however the majority revolve around obsidian and using geochemical techniques or focus on one type of material instead of an assemblage with a variety of materials (Anderson 1978; Blackman, E. E., 1907; Hoard et al. 1993; Hughes 1994; Logan et al. 2001). Because studies of this type are few, this research will contribute to the overall body of literature for the Oneota and for Indiana. The following chapters will provide an overview of the Oneota, Taylor Village and its environmental and cultural background, the methodology used in this research, a literature review of the relevant work related to this project, the data that was used from the site, and a discussion about the research questions and what the data means in a larger context.
Problem Statement

Research will focus on three questions that are important to future research involving trade routes, mobility of a mostly sedentary people, and raw material acquisition in the Late Prehistoric period. The questions to be addressed follow:

- What lithic raw materials are present in the two Taylor Village collections?
- How might the Oneota at Taylor Village have acquired these lithic raw materials?
- What might exotic lithic materials tell archaeologists about trade and exchange in the Late Prehistoric period of Indiana?

At the three previously mentioned sites in Strawtown there has been more of a focus on studying the ceramic assemblages rather than the lithic assemblages, mainly due to the fact that ceramics can be identified with a cultural group based on temper, decoration, body type, etc., while lithic assemblages cannot (Arnold et al. 2007; McCord 2009a; McCullough 2005, 2008, 2009; McCullough et al. 2004). The benefit to looking at a lithic assemblage is that we know that certain types of chert are only found in specific locations due to fixed geological formations (Andrefsky 1994a, 1994b, 2005; Cantin 2008; Gutshick 1966; Luedtke 1979, 1992). This geological information can then be used to infer behavior, mobility, and trade networks.
Chapter Two: The Oneota

The Oneota Life-Way

The Oneota were a Late Prehistoric/Mississippian horticulturally based people that originated in Wisconsin and eventually spread into Illinois, Iowa, Kansas, Missouri and Indiana (Berres 2001; Gibbon 1972a; Overstreet 1997; Theler and Boszhardt 2006). Much of what we know about the Oneota comes from sites in Wisconsin, though sites in other states support the cultural pattern. Oneota sites are characterized by containing ceramics with a crushed shell temper, a squat and globular shape, and either a plain or decorated surface depending on the period in which they were made (Overstreet 1997). Decorations generally consist of curvilinear lines, chevrons, punctates and rectilinear designs; they may also have strap handles (Figure 1) (Berres 2001: 4; Overstreet 1997: 251; Staeck 1995: 3). Other material culture items found at Oneota sites include bone or copper fish lures or decoys, limestone disc pipes, endscrapers, sandstone abraders, bison and elk scapula hoes, copper beads and ornaments, triangular chert bifaces and drills, and bone awls (Berres 2001: 4; Overstreet 1997: 251).

Oneota subsistence consisted of the cultivation of maize, beans, and squash with the addition of supplemental hunting and gathering of local resources (Berres 2001: 39; Overstreet 1997: 251; Theler and Boszhardt 2006: 438). Additionally, Oneota farming
village communities are often next to large water sources that allow for the use of wetland resources (Berres 2001: 41; Overstreet 1997: 251; Theler and Boszhardt 2006: 437). The Oneota were flexible in their subsistence practices and were easily adaptable to many different kinds of environments. Theler and Boszhardt (2006: 438) discuss the seasonal habits of some Oneota with evidence from the La Crosse region of Western Wisconsin, where the early Oneota abandoned their farming villages during the cold season and moved west of the Mississippi to hunt ungulates.

![Figure 1. An Oneota vessel exhibiting punctates and trailed lines (Wisconsin Historical Society 2005).](image)

The Oneota were not generally known to fortify their villages (which often contained multiple houses); archaeologists have found the most archaeological evidence of fortifications dating to the 15\textsuperscript{th} century with sites such as Valley View in Wisconsin (Gallagher and Stevenson 1980; Kullen 1994: 12; Stevenson 1985, 1994), Comstock Trace in Illinois (Kullen 1994: 11), and the Mikado Earthwork in Michigan (Kullen 1994: 13). Sites such as the Walters-Linsenmann Earthwork in Michigan (dated to AD 1350) (Kullen 1994: 13), and the Walker-Hooper site in Wisconsin (dated to AD 1200-1240) (Gibbon 1972b: 225) feature earlier palisades, but they are sparse in the time before AD
1400 (Kullen 1994: 13-14). The erection of palisades in the 15th century corresponds with the later dates obtained from Taylor Village ceramics, indicating that perhaps the village was unfortified for the majority of its existence.

**Origins and Development**

There is much speculation among researchers as to where the Oneota originated (Gibbon 1972a; Overstreet 1997). Gibbon (1972a: 166) proposes that the Oneota came from the Effigy Mound Tradition of the Great Lakes region, which evolved due to a shift from a hunter-gatherer focused lifestyle to plant cultivation. Gibbon argues that the shift to the Oneota life-way (the introduction of intensive cultivation along with storage techniques and shell-tempered ceramics) took place between AD 900 and 1100 as a result of ideas streaming out of the Mississippian tradition in the Southeastern United States (Gibbon 1972a: 167).

Overstreet (1997: 252) discusses three models that attempt to explain Oneota origins including a hypothesis that Oneota people migrated into Wisconsin from the Mississippian south, another that proposes a more complex Middle Mississippian culture that turned into what we now know as the Oneota, and last the idea that the Oneota emerged through the transformation of the Effigy Mound populations of the Late Prehistoric period. He concluded that there was not enough evidence to support any of the models fully, and therefore the debate about Oneota origins continues to this day (Overstreet 1997: 252). Today the western Oneota take the form of the Ho-Chunk Nation (or Winnebago), the Ioway, or the Missouri and Oto tribes (Overstreet 1997: 254).
historic incarnation of the eastern Oneota is more problematic and leaves archaeologists speculating.

The Oneota tradition covers such a broad area that archaeologists were forced to categorize the regional differences found at sites in terms of “phases” that could be given temporal parameters (Hall 1962). Evidence has accumulated that proves that by the thirteenth century, the Oneota were expanding into areas that they had not previously inhabited including Iowa, Illinois, Indiana, and the American Bottom (Emerson and Brown 1992: 94-98; Fishel 1999: 117; McCord 2009a: 27; White et al. 2002: 105; White et al. 2003: 132).

One way that archaeologists can help determine the phase origins of a group of Oneota is by looking at the ceramic assemblage and other attributes of a site and comparing those attributes with other Oneota phases. Ceramics provide a good starting point for determining the phase of a site because Oneota sites are known for containing ceramics and there is much variation across time and space. The ceramics from the Taylor Village site are most closely associated with the Fisher and possibly Huber Phases, which are concentrated in the southern Lake Michigan region (Gibbon 2001: 398; Kullen 1994; McCord 2009a: 27).

**Langford Phase (pre-AD 1000 to post-1450)**

The Langford Phase is based in northern Illinois and features specific stylistic designs on grit-tempered pottery (Jeske 2000: 265). Radiocarbon dates from sites that feature Langford ceramics date from roughly pre-AD 1000 to post-1450 (Jeske 2000: 266). “The question of Langford dating is somewhat vexing, with some researchers
clearly uncomfortable with a potential 350-400 year time span for the ceramic tradition…” (Jeske 2000: 266); Jeske suggests that a bell curve is the most fitting for Langford dates, with a few sites being very early, and a few being very late (Jeske 2000: 266).

Though the phase is largely distributed in Illinois, some Langford sherds have been found in northwest Indiana at the Griesmer and Fifield sites, and some have been found at sites in Wisconsin (Faulkner 1972; Jeske 2000: 265). Jeske (2000: 269-270) specifically mentions that Langford Phase ceramics bear a close resemblance to Late Prehistoric Fort Ancient Oliver Phase grit-tempered ceramics found in the Strawtown locality. Though the ceramics are not exactly the same, Oliver phase ceramics are technologically similar but sometimes decorated with guilloches, which are not found in Langford technology (Jeske 2000: 270).

Characteristics of the phase include large, semi-permanent villages, grit-tempered pottery, mortuary sites including mounds or mounded-over cemeteries, and the typical Oneota horticulture of maize and squash coupled with supplemental hunting and gathering (Jeske 2000: 265-266).

The first recognized Langford phase site was the Fisher site in Will County, Illinois, excavated by George Langford (Griffin 1948: 124). This site consisted of twelve mounds and over fifty house pits and was located at the confluence of the Des Plaines and Kankakee rivers (Griffin 1948: 125). This site contained multiple types of ceramics; shell-tempered ceramics comprised of the Fisher Trailed and Fisher Noded types. Fisher Trailed were decorated with a cord-wrapped paddle along with trailed and punctated
decorations below the rim (Griffin 1948: 125). Decorative motifs included chevrons bordered by vertical parallel lines, punctates, notched lips, decorated strap handles and lugs (Griffin 1948: 125). Fisher Noded featured nodes that were punched out around the vessel from the inside out (Griffin 1948: 125). Grit-tempered ceramic types found at the site included Langford Trailed, Langford Corded, Langford Plain, and Langford Noded (Griffin 1948: 125). Langford Trailed were decorated with a cord-wrapped paddle, however decorations are not as elaborate as the Fisher Trailed type; lip notching is less frequent with this type and handles and lugs are rare (Griffin 1948: 125). Langford Corded is very similar to Langford Trailed; however no designs are present over the cord malleated surface (Griffin 1948: 125). Langford Plain is similar to Langford Trailed in paste and form, however the decoration is plain and smooth (Griffin 1948: 125). Lastly, Langford Noded is similar to Fisher Noded, with the exception that it is grit tempered (Griffin 1948: 125).

Another well-studied Langford site is the Washington Irving site in the Fox River Valley of northern Illinois (Jeske 2000: 271). According to an 1838 GLO plat map, there were twenty-seven mounds present on the property; by the time professional archaeologists surveyed in 1982, no mounds existed on the site, likely due to nearly 200 years of farming (Jeske 2000: 273). The site yielded lithic and ceramic debris, pit and hearth features and house floors in elliptical-shaped houses (Jeske 2000: 273-279). After looking at the years of archaeological evidence, Jeske (2000: 286) suggests that the Washington Irving site was a semi-permanent village used from spring through fall by roughly 116 to 173 people with a definite Langford Phase ceramic assemblage.
**Fisher Phase (AD 1100 to AD 1350)**

Gibbon (2001: 398) characterizes the Fisher Phase as containing spring-summer-fall villages with semisubterranean houses. As the typical Oneota did, Fisher people were reliant on maize horticulture, however they also relied on seasonal bison hunting (Gibbon 2001: 399). “Typical artifacts include shell-tempered, cord-marked globular jars with everted rims, unnotched triangular arrow points, rectangular abraders, and bison scapula hoes” (Gibbon 1972a: 171, 2001: 399; Jeske 2000: 269).

A Fisher component was present at the Griesmer site (12La3) in Lake County, Indiana, where Upper Mississippian components were the most prevalent (Faulkner 1965: 108). Excavation at the site produced seventy deep cooking or roasting pits with Upper Mississippian ceramic sherds; charred floral material in the pits were reported to be white water lily, and faunal remains were mussel shells and turtle and fish bones (Faulkner 1965: 107-108). One rare artifact found at the site was the remains of drilled ceramic colanders that were mostly shell-tempered and smooth, fitting with the Oneota ceramic style (Faulkner 1965: 108).

Taylor Village ceramics are most similar to Fifield Trailed ceramics, as defined by Faulkner (1972; 131, 188-189) from the Fisher phase Fifield site in Porter County, Indiana. These ceramics are similar in surface treatment, lip notching, shoulder decoration and appendages; however they lack the Orr Phase inner rim decoration (McCord 2009a: 27). One non-ceramic cultural item that may connect Taylor Village with the Fisher phase is a limestone pipe bowl fragment found on the site; a similar object was found at the Fifield site (Faulkner 1972: 131; McCord 2009a: 25).
**Orr Phase (AD 1300 to AD 1600)**

The Orr Phase is extremely large and is seen from Wisconsin down to Nebraska. The Orr Phase was characterized by its vast distribution, the presence of Allamakee Trailed pottery, and as in other Oneota phases, a semi-sedentary, adaptable economy (Henning 1970: 151-152; Stevenson 1985: 17). The Orr Phase is known as a later occurring phase due to its association with historic trade items in northeastern Iowa (Stevenson 1985: 18; Wedel 1959). In Wisconsin, sites that fall into the Orr Phase are large and fortified during what is known as the Classic Horizon in Oneota prehistory, which lasted from roughly AD 1300 to AD 1600 (Gibbon 1972a: 178).

Taylor Village pottery is connected with the Orr Phase because of the presence of decoration placed on the interior of the rim of multiple ceramic sherds (McCord 2009a: 14). This decoration type is rare in Oneota assemblages and is only seen in Mississippi River basin Oneota sites in Iowa, Wisconsin, and Minnesota (McCord 2009a: 14).

**Huber Phase (AD 1450 to post AD 1600)**

The Huber Phase (found mostly in northeastern Illinois and northwestern Indiana) is believed to have evolved out of the Fisher Phase and shares many similarities such as large semi-permanent villages (Gibbon 2001: 399). “The majority of Huber phase sites reported in the Chicago area are located near swamps or streams and are thought to be summer agricultural villages” (Kullen 1994: 12). Sites in the Huber Phase contain oval, single-post longhouses with multiple fire pits, many storage pits, and large cemeteries (Gibbon 2001: 399; Kullen 1994: 12). The Huber Phase subsistence practices look
almost exactly like the Fisher Phase with maize horticulture and supplemental hunting and gathering (Gibbon 2001: 399; Kullen 1994: 12). Ceramic styles did change with this phase, going from cord-marked to smooth surfaced, or decorated with incised lines (Gibbon 2001: 399; Kullen 1994: 12). Artifacts typically found at Huber Phase sites include humpbacked knives, triangular arrow points, scapula hoes, bone tools, rectangular abraders, disk pipes, and copper artifacts (Gibbon 2001: 399). Similar to Taylor Village, a number of Huber Phase sites contain earthworks.

One major site from the Huber Phase in Illinois is Comstock Trace, dating from about AD 1450 to AD 1625 (Kullen 1994: 11). The site features an earthwork with an associated village located on an upland plateau, next to Fort Creek, a stream that is not navigable (Kullen 1994: 3). The earthwork produced little to no artifacts, however the area surrounding the earthwork produced lithic artifacts and Huber ceramics (Kullen 1994: 7).

Other Huber Phase sites that are known to have earthworks and palisades are the Valley View site near LaCrosse, Wisconsin, dating to the mid-1400s to the early 1500s, the Bell site in Winnebago County, Wisconsin, dating from AD 1680 to AD 1730, the Newell Fort, dating from AD 1717 to AD 1722, The Mikado Earthwork in Michigan, dating to AD 1450, the Walters-Linsenmann Earthwork in Michigan, dating to AD 1350 and the Whorely Earthwork in Michigan, dating to AD 1080 (Kullen 1994: 12-13). Though many of these earthworks post-date Taylor Village, they do show a theme with Huber Phase sites having an earthwork or fortification feature.

All four of the above phases contain similarities to the Taylor Village site, though none look exactly like what was found in Strawtown. Ceramics similar to Fisher, Orr,
and Langford phases have been found on site, along with fortifications such as those seen at Orr and Huber Phase sites. With further investigation into the ceramics present at the site, researchers may gain knowledge that further illuminates the multiple phases that could have spawned the Taylor Village site in central Indiana.
Chapter Three: Taylor Village

The land on which Taylor Village stands today (Figure 2) was purchased from the government in 1823 in two pieces (Appendix A); one portion was purchased by John Colip and Jesse McKay (Figure 39) and the other was purchased by Henry Foland and Jesse M. Wood (Figure 40). Taylor Village was first mentioned as an archaeological site in a Hamilton County, Indiana, Archaeological Survey form filled out by avocational archaeologist Jack Householder and former Taylor Village landowner Robert McLintock in the 1960’s (Indiana Archaeological Survey Form, n.d.). Householder completed around ten surface surveys of Taylor Village between 1961 and 1967 (McCord 2009a). Householder’s collections from Taylor Village included stone tools, prehistoric shell- and grit-tempered ceramic sherds, lithic debitage and animal bones. They have since been stored at the Indiana State Museum and the Glenn Black Laboratory at Indiana University (Acc. No. 1716) (12H25, Indiana Archaeological Survey Form; McCord, 2009a).

In 1968 Jack Householder sent a letter to his friend Eli Lilly discussing the Taylor Village site:

This site is located on the right bank of White River across the river and a little northeast of the large circle. There is some reference mentioned in Hamilton County History that an Iroquoian site was located on the north side of White River at Strawtown. Robert McLintock informed the writer about the pottery and artifacts found in this area. We have a combination of shell-tempered, and grit-tempered pottery
sherds with cord-marking with some plain this would indicate that we have two occupations on the north side of the River (Householder 1968).

Since the site’s early documentation, excavations at Castor and Oliver Phase village sites across the river have shown that Taylor Village existed during a heavily populated and culturally diverse time in Late Prehistoric Strawtown. The recently defined Castor Phase refers to a regional adaptation of Western Basin-derived people found in central Indiana (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 18; McCullough 2008, 2009: 84; Graham and McCullough 2010: 19). Castor Farm (12H3), a palisaded Castor Phase site (Figure 2), lies in the bottomlands below the Strawtown Enclosure and was found to contain few Fort Ancient and Oneota sherds (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 16, 32; McCullough 2008, 2009: 82-83). This site is thought to represent the first occupation of the Strawtown area after the Albee occupation ended around AD 1050 or AD 1100 (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 39; McCullough 2008, 2009).

It is then speculated that Fort Ancient people moved into the area and were interacting with the Castor Phase people by the early 13th century (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 39; McCullough 2008, 2009: 84-85). A large, fortified Oliver Phase site, called the Strawtown Enclosure (12H883) (Figure 2) has been identified across the river from the Taylor Village site. This site has produced ceramic debris related to Fort Ancient, Western Basin, and Oneota in addition to large

The Oliver Phase was introduced in central Indiana based on the co-occurrence of Anderson Phase Middle Fort Ancient tradition ceramics and lower Great Lakes ceramics on the same sites (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 35, 38; Graham and McCullough 2010: 20; McCullough 2008, 2009: 86). Oliver Phase is defined as sedentary, palisaded village-dwelling societies that lived along the White River between AD 1200 and AD 1450 (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 35, 38; Graham and McCullough 2010: 20; McCullough 2008, 2009: 86). The material culture of the Oliver Phase includes triangular bifaces, triangular knives, sandstone abraders, bone and antler tools, and pottery pipes (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009: 36; Graham and McCullough 2010: 20-21; McCullough 2008).

Lastly, it is believed that perhaps by as early as the mid-thirteenth century, Oneota people moved into the region and established a village, making contact with the other cultures in the region (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009; Graham and McCullough 2010: 23; McCullough 2008, 2009: 88). Oneota people eventually succeeded the inhabitants of the Strawtown Enclosure, with only Oneota pottery appearing in the upper deposits at the site (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009; Graham and McCullough 2010: 20; McCullough 2008).

In 2001 the first excavations at the Strawtown Enclosure site by the Indiana-Purdue University Fort Wayne Archaeological Survey took place (Arnold et al. 2007;
Arnold et al. 2008; Graham and McCullough 2009; McCullough 2005, 2008, 2009; McCullough and Graham 2010; McCullough et al. 2004; White et al. 2002, 2003). Archaeologists found a total of 294 Oneota shell-tempered pottery sherds thought to originate from the closest Oneota settlement, Taylor Village; the sherds comprised a total of two to five percent of the assemblage collected during excavation that year (White et al. 2002: 100). Indiana-Purdue University Fort Wayne Archaeological Survey has radiocarbon dated residues on two Oneota shell-tempered sherds yielding dates of 690 ± 50BP (calibrated 2 sigma range of AD 1260-1400) and 630 ± 40BP (calibrated 2 sigma range of AD 1285 to 1407) (White et al. 2002: 105; White et al. 2003: 132).

No professional had ever systematically surveyed Taylor Village until the current landowners gave Ball State University permission to conduct a portion of their 2008 field school at the site. Ball State University collected over 2,400 artifacts during their controlled surface collection, and a report was published discussing the results of the survey, confirming an Oneota presence with a focus on ceramic analysis (McCord 2009a). In addition, McCord (2009a: 26) had a radiocarbon date obtained for residue on one sherd which dated to 560 ± 40BP, (calibrated 2 sigma range of AD 1320 to 1350 or AD1390 to 1440). Overall, the Taylor Village ceramics show a range from AD 1260 to 1440 (McCord 2009a: 26; White et al 2002: 105; White et al. 2003: 132).

In 2009, Ball State archaeologists used a FM36 gradiometer to complete a magnetic gradiometer survey of over 8,000 square meters at the Taylor Village site and discovered what looked to be a double ditch fortification surrounding a village (Hill 2009). Later that year, Ball State was granted a permit by the Department of Historic Preservation and Archaeology to hold a 2010 field school at the Taylor Village site to,
“clarify issues related to Oneota settlement in central Indiana and assist in defining the interaction of Late Prehistoric populations in the region” (Hill 2009). This investigation took place during the first summer session in 2010 and included a controlled surface collection and limited text excavation. The thousands of artifacts found during that field school were processed; however the lithic raw material data was not collected and will not be used in this thesis due to time constraints.

In order to understand what life was like at the site during the Late Prehistoric period, it is necessary to evaluate aspects of the environment around the site that allowed a large village to flourish. The surrounding environment was the lifeblood for any prehistoric village and provided many necessities such as food, water, raw materials for stone tools, materials for building houses and fortification features, and fertile soil that would provide many years of cultivation, allowing the village to succeed.

Environmental Background

Location

Taylor Village is located on the floodplain of the White River in Hamilton County, Indiana. The site is located in the W ½ of the NE ¼, extending slightly into the SE ¼ of the NE ¼ of Section 3 Township 19N, Range 5E of the USGS 7.5” Omega Quadrangle (Figure 2).

Physiography

Taylor Village lies in the physiographic unit known as the New Castle Till Plains and Drainageways (Gray 2000). This unit is characterized by till plains of low relief
crossed by many major tunnel-valleys (Gray 2000). The current physiography is directly caused by Indiana’s glacial history, which is discussed in more detail the next section.

Figure 2. A portion of the USGS 7.5” Omega and Riverwood Quadrangles showing the location of the Taylor Village site, the Strawtown Enclosure site and the Castor Farm site.
Glacial History

Indiana’s landscape has been shaped by glacial events in the past consisting of three stages: The pre-Illinoian, the Illinoian, and the Wisconsin. The pre-Illinoian is the least understood and includes every glacial event before the Illinoian; deposits for this stage are widely scattered and scarce (Fleming n.d.). The Illinoian stage lasted from roughly 300,000 to 140,000 years ago; deposits from this stage can be seen on the modern landscape in southeast and southwest Indiana where the Wisconsin stage did not extend (Fleming n.d.). The most recent glaciation in Indiana was the Wisconsin stage, which lasted from roughly 21,000 to 13,600 years ago (Indiana Geological Survey n.d.). This glacial event covered roughly two-thirds of Indiana and in places the ice was one mile thick (Indiana Geological Survey n.d.). These heavy ice sheets carved the landscape below and deposited sediments that can now be seen in the subsurface. In central Indiana these glacial events flattened out the landscape with glacial till, creating the image of flat Indiana that many Americans think of today.

Geology

Geologically, Hamilton County lies within the Cartersburg Till Member of the Trafalgar Formation which consists of sand, clay, gravel and soil that were deposited by the Wisconsin glaciation (Wayne 1966: 59-60) (Figure 3). Beneath the Trafalgar Formation lies Silurian bedrock which consists of dolomite, limestone, chert, siltstone and shale (Gutshick 1966: 3-5; Hixon 1988: 5; Indiana Geological Survey, n.d.). In two known places in the county, bedrock is exposed allowing Fall Creek chert to appear and be utilized at the surface.
Fall Creek is the only chert type that is known to outcrop in Hamilton County (Cantin 2008: 9). This chert was only recognized in archaeological assemblages beginning in the 1980’s and has two known outcrops today (Cantin 2008: 26). Three other cherts are known to outcrop within 50 miles or less of the Taylor Village site: Attica, Kenneth, and Liston Creek (Table 1).

Figure 3. Indiana bedrock geology (Indiana Geological Survey, n.d.).
<table>
<thead>
<tr>
<th>Name</th>
<th>Time Period</th>
<th>Color(s)</th>
<th>Texture</th>
<th>Luster</th>
<th>Inclusions</th>
<th>Overall Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Creek</td>
<td>Silurian</td>
<td>Varied. Grey to light blue-grey, pale yellow cast, yellowish brown</td>
<td>Fine to fine-medium</td>
<td>Waxy to semi-lustrous or dull</td>
<td>Quartz-filled casts, crinoids columnella, fusulinids and bryzoa fronds</td>
<td>Fairly high if you can find large blocks</td>
</tr>
<tr>
<td>Attica</td>
<td>Mississippian</td>
<td>Blue-green with blue-grey streaks, bands and mottles. Purple and pink w/ heat treatment</td>
<td>Medium coarse to medium fine, and fine medium in some</td>
<td>Dull to very slightly glossy</td>
<td>Microscopic sponge spicules, crystalline vugs</td>
<td>Fair to good</td>
</tr>
<tr>
<td>Kenneth</td>
<td>Silurian</td>
<td>White to light-grey background w/ light grey, medium grey, dark grey and brownish-grey mottles, splotches, tendrils and patches</td>
<td>Medium coarse to medium fine</td>
<td>Flat, but at times semi glossy</td>
<td>Gastropods, brachiopods, recrystallized burrow structures and crystalline vugs</td>
<td>Medium</td>
</tr>
<tr>
<td>Liston Creek</td>
<td>Silurian</td>
<td>Varying shades of grey, tan colored patches, browns</td>
<td>Coarse to medium fine</td>
<td>Sparkling to dull and flat, to slightly lustrous</td>
<td>Small flecks, bryzoans, fusulinids, crinoids columnella, brachiopods</td>
<td>Medium</td>
</tr>
</tbody>
</table>
Biotic Communities

Biotic communities change and shift with climate, thus the retreat of the Wisconsin glaciations and subsequent warming caused changes in the flora and fauna that were present in central Indiana. The majority of the flora and fauna present in Strawtown today have been seen in Indiana since historic times, and presumably have not changed a great deal since the inhabitants of Taylor Village were hunting and gathering in the region.

Flora

Indiana supports and has supported a wide variety of flora. Tree species include beech, maple, oak, black cherry, sassafras, walnut, redbud, dogwood and blue beech (Petty and Jackson 1966: 283-285). Pre-settlement forests would have contained beech and tulip trees, however since Euroamerican settlement, those numbers are down considerably (Petty and Jackson 1966: 276). Shrub species include spice bush, greenbrier, elderberry, pawpaw, wahoo, leatherwood and maple-leaf viburnum (Petty and Jackson 1966: 283-285). At the Strawtown Enclosure, one storage pit revealed a large deposit of carbonized maize, indicating that this crop did cultivate well in the area (Arnold et al. 2007; Arnold et al. 2008; Graham and McCullough 2009; McCullough 2005, 2008, 2009; McCullough and Graham 2010: 15; McCullough et al. 2004; White et al. 2002, 2003). Corn is still grown at the Taylor Village site and surrounding property by the modern landowners in addition to soybeans.
**Fauna**

The species inhabiting the project area would have been similar to the species that have been recorded as inhabiting the area at the time of European contact. Fauna native to Indiana in the Historic period were abundant and diverse; aquatic resources included fish and mussels, reptiles and amphibians, waterfowl, muskrat and beaver (Richards and Whitaker 1997: 154). Mammals included white-tailed deer, raccoon, turkey, elk, black bear, eastern cottontail rabbit, Virginia opossum, grey and fox squirrels (McCord 2009b: 14, Richards and Whitaker 1997: 154). Wild fauna in the region would have been important to the Oneota to supplement horticultural practices and to provide enough food for the village.

**Hydrology**

The principal water source in Hamilton County is the West Fork of the White River which comes into the county from the east and travels southwest until it leaves the county (Helm 1880: 32). In the White River Township, the river snakes through the southern portion of the township, until it finally leaves south of Strawtown; the township also contains Duck Creek, Deer Creek, and the East Branch of Cicero Creek (Helm 1880: 130).

**Climate**

Archaeologist James Griffin (1960, 1961) was one of the first to suggest that there had been a climate change in Late Prehistoric North America and speculate about the impact that it might have had on cultures at the time. Griffin speculated that perhaps
erratic temperatures were at least a partial cause of the appearance of fortification features in the Strawtown area. From AD 900-1300, temperatures were estimated to be 7.2 degrees Fahrenheit warmer in July in latitudes above 45 degrees North in North America (Newman 1997: 96). “During this time, Mississippian populations expanded into areas that are now marginal for maize cultivation” (Arnold et al. 2007: 8).

After AD 1300 temperatures began to drop and by AD 1450 the Neo-Boreal Climatic Episode began, otherwise known as the ‘Little Ice Age’, with temperatures 3.6 to 5.4 degrees Fahrenheit below normal (Arnold et al. 2007: 8; Newman 1997: 96). Miller et al. (2012) argued that a series of volcanic eruptions in Europe triggered the Little Ice Age leading to a cold spell between AD 1275 and 1300 and then another between AD 1430 and 1455, coinciding exactly with the timeframe that the Oneota would have inhabited Taylor Village. Archaeologists debate whether the climatic change had much of an effect on plant and animal resources in central North America (Arnold et al. 2007: 9); however there have been correlations between climate change and societal crises such as the study by Zhang et al. (2011: 17296) which showed that climate change and climate-driven economic downturn had a major impact in Europe and the Northern Hemisphere from AD 1500-1800.

Today, Indiana is in the temperate-continental climate, which lies within the temperate zone and features a large difference in temperatures between summer and winter (Newman 1997: 85-89). The 2012 USDA Plant Hardiness Zone Map (Figure 4) shows Taylor Village in section 6a where the average extreme minimum temperature is -10 to -5 degrees Fahrenheit (United States Department of Agriculture 2012).
Figure 4. This figure shows the USDA 2012 Plant Hardiness Zone Map for Indiana (United States Department of Agriculture 2012).
Soils

Soils in the project area consist of Gennessee silt loam (Ge), Pits (Pt) indicating a gravel pit, and Ross loam (Ro) (Table 2). Gennessee silt loam and Ross loam are both deep, well-drained soils on floodplains, which form from alluvium (Hosteter 1978: 36-37 and 41). This environment is very active and the floodplain is frequently flooded, which deposits a new layer of alluvium every time flooding occurs which provides fertile farmland. Patricia Stephenson (1988) has previously demonstrated a correlation between Ross soils like those found at Taylor Village, and pottery bearing sites along the White River.

<table>
<thead>
<tr>
<th>Soil Association</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gennesee silt loam (Ge)</td>
<td>Nearly level, deep, well drained soil on flood plains, frequently flooded.</td>
</tr>
<tr>
<td>Pits (Pt)</td>
<td>Nearly level to steep, well drained, gravel pits.</td>
</tr>
<tr>
<td>Ross loam (Ro)</td>
<td>Nearly level, deep, well drained soil on broad flood plains, occasional flooding.</td>
</tr>
</tbody>
</table>

Summary

The environmental background of Strawtown, though fertile and full of flora and fauna that allow the management of a village with multiple families, does not explain the Oneota migration into Central Indiana. Conditions of this type could have been found in any of the other locations that the Oneota were known to inhabit including Wisconsin, Illinois, Iowa, Missouri, or Kansas. Though Strawtown is very hospitable, this is not reason enough to move out of a core area and into unknown territory. The climate
deterioration in the north may have provided reason enough to migrate south into new territory.

**Cultural Background**

**Prehistory**

The Strawtown area is rich with cultural resources spanning from the earliest humans in North America to the Historic period. This section will cover the following time periods: the Paleoindian period, the Archaic period, the Woodland period, the Mississippian period, and the Historic period.

The Paleoindian period (at least 10,000 BC to roughly 8,000 BC) was a time of climatic warming when megafauna either became extinct or moved north (Tankersley 1992: 7). People during the Paleoindian period in North America were adapting to the climate changes by taking on a generalized foraging subsistence strategy rather than a specialized hunting strategy (Tankersley 1992: 7). The period is characterized archaeologically by a biface tool featuring a lanceolate form, concave base and basal edges with vertical flakes removed from both faces to produce “flutes.” Paleoindian fluted bifaces have been found all over Indiana, mostly along major rivers and tributaries, but rarely in good context and generally only one at a time (Kellar 1983: 26; Tankersley 1992: 8).

The Early and Middle Archaic periods (roughly 8,000 BC to 1,000 BC) were a time of climatic warming and drying after the retreat of the Wisconsin glaciers, increasing the breadth and species of flora and fauna. In the Late Archaic a period of
cooling began which is discussed further in the climate section of this chapter. Archaic people consisted of small, mobile groups that hunted, gathered, and at times fished for subsistence (Kellar 1983: 27). This period is marked by an increased population, greater technology, more residential stability, trade networks, the beginning of ceramics and an increase in burial goods (Kellar 1983: 28). In Indiana the Archaic period is reflected in shell mounds in southern Indiana, Glacial Kame burial sites in the north and Red Ocher burials in the west (Kellar 1983: 29-34).

The Woodland period (roughly 1,000 BC to roughly AD 950) is defined by ceramic containers made with different tempers and a variety of decorations (Kellar 1983: 35). In addition, people began growing crops and storing them which allowed groups to settle in one location for all seasons. In this period, burial ceremonialism hit a peak; in Indiana complex mounds by the Adena culture appear in the east central region and along the Ohio River, the Crab Orchard tradition appears in the southwest, Havana (defined by ceramics) appears in the Wabash Valley, and mound complexes such as New Castle and Mounds State Park shed light on the period (Kellar 1983: 35-46). The Wabash Valley hosted the Allison-LaMotte culture, complete with oval-shaped dwellings (Kellar 1983: 48-50). The Woodland period was an explosion of different cultures, all able to grow and thrive because of ceramics and crop cultivation.

The Late Prehistoric period (roughly AD 950 to AD 1550) is a time when people shifted almost completely to a sedentary, agricultural way of life (Graham and McCullough 2009: 25). Settlement is characterized by villages and towns, and the presence of fortification features during the fourteenth century speaks volumes about the
social landscape of this period (Graham and McCullough 2009: 25). The first Late Prehistoric culture to be found along the White River was Albee Phase occupations that date from AD 1030 and AD 1420 (McCord et al. 2005). As discussed earlier in the chapter, later the Strawtown region saw the introduction of three very different cultures living in fortified settlements, and all far away from home and settled into this frontier zone.

The Western Basin tradition (seen in Strawtown from AD 1020 to AD 1400), or the first people thought to inhabit Strawtown during the Late Prehistoric period, are thought to have originated from Western Basin Lake Erie people (Graham and McCullough 2009). Western Basin pottery found in central Indiana contains everted rim/shoulder angles and subglobular shapes with a variety of impressed decorative motifs (Graham and McCullough 2009: 29). This incarnation of Western Basin displays regional differences in pottery, but also in mortuary practices. Typical Western Basin people buried their dead outside of the village, while burials have been found at Castor Farm in the village; in addition, there is little evidence at Castor Farm of postmortem skeletal alterations, which are well-known in Western Basin populations (Graham and McCullough 2009: 31).

The second group thought to inhabit Strawtown after the Western Basin settlement were of the Fort Ancient tradition out of the middle Ohio River Valley. Researchers have placed this group of Fort Ancient people into the Anderson phase based on the similarities in settlement, pottery, lithics, and village layout (Graham and McCullough 2009: 28). “Middle Fort Ancient ceramics typically include subglobular jars
with rounded bottoms and broad excurved necks. Rims often exhibit a rim fold that may be impressed with short, wide, alternating oblique lines, although the primary field of decoration is on the neck and shoulder of the vessel” (Graham and McCullough 2009: 28). Vessel bodies are cordmarked with smooth neck and rim features and a mostly grit temper, though shell temper has been found in a few assemblages (Graham and McCullough 2009: 28). Villages are generally next to arable land, organized with an area of houses, storage pits and middens, a central plaza, and sometimes a palisade (Graham and McCullough 2009: 28).

The third major group to enter Strawtown during this period was the Oneota. Discussed in Chapter Two: The Oneota were known to originate in Wisconsin and then expand south, eventually all the way to Nebraska. The Oneota village in Strawtown is perplexing because central Indiana is outside of the Oneota core territory and is one of the only known villages of its size in Indiana. Though very limited excavations have been completed at the site, researchers do know, based on surface collection, that the majority of artifacts found on site come from inside the fortification feature, indicating that it was a living space and not a ceremonial feature. Though there is no concrete evidence of agriculture as of yet, it is assumed that the Oneota at Taylor Village practiced maize agriculture and supplemented this with hunting and gathering of local resources as the other Oneota of that time period did. Oneota ceramics found at the site are shell tempered with horizontal or everted rim forms, diagnostic of general Oneota ceramics (McCord 2009a: 8). Decorations include cordmarking, trailed lines, chevrons, horizontal and vertical lines and punctates (McCord 2009a: 10). Researchers have
attempted, to no avail, to determine the phase associated with the occupation at Taylor Village. Some options include the Orr phase, which is found from Wisconsin to Iowa, and the Fisher, Huber and Langford phases, found predominantly in northeast Illinois (McCord 2009a: 27).

The Mississippian period (roughly AD 900 to AD 1650) hosted complex societies that revolved around the cultivation of maize, beans, and squash, with the addition of local plants and animals (Kellar 1983: 51). Mississippian settlements were permanent and well-planned, with large open plazas and many types of mounds, the tops of which held community buildings (Kellar 1983: 51). One major attribute that Mississippian cultures have is social stratification, which came with religious and political institutions. Mississippian cultures did not permeate all of Indiana and mainly stayed in the southern portion of the state with sites such as Yankeetown, the Bowen site, and the classic Mississippian site Angel Mounds (Kellar 1983: 52-56).

There have been several large-scale surveys in the Strawtown area that demonstrate the span of prehistoric human habitation of the area. In 1988 James Hixon, a Ball State University graduate student, completed a survey of 555.24 acres in the Strawtown area with a sample of valley (floodplain and terraces) and upland (Tipton Till Plain and valley edge) landforms (Hixon 1988: 59). Hixon found bifaces that dated from the Late Paleoindian period, the Early and Late Archaic, and Early, Middle and Late Woodland (Hixon 1988: 36-46). In addition, Hixon found 94 pottery sherds that dated to the Late Woodland period (Hixon 1988: 53-57). Based on his sample, Hixon proposed
that the Late Woodland peoples inhabited the valley regions while the Archaic sites were more common on the uplands (Hixon 1988: 59).

In 2003 McCord and Cochran completed a survey of 450 acres at the Taylor property at the Strawtown Prairie (McCord and Cochran 2003: 1). The survey found materials dating from the Paleoindian, the Early and Late Archaic, and the Early and Late Prehistoric periods (McCord and Cochran 2003: 50-57). The survey also recovered pottery dating to the Middle and Late Prehistoric (McCord and Cochran 2003: 57-60).

The Ball State University 2008 field school at the Taylor Village site also recovered items dating further back in prehistory (McCord 2009a). The intensive survey recovered two Late Archaic point fragments, one Late Archaic Karnak point, one Late Archaic Matanzas point and 29 Late Prehistoric triangular points (McCord 2009a: 22). Another Ball State University field school is scheduled for summer 2012.

**History**

In addition to having a rich prehistory, Strawtown continues to be rich in culture into the historic period. In the late 1700’s, the Miami had claimed central Indiana and allowed the Delaware, driven west by settlers and the Iroquois, to settle along the upper west fork of the White River (Graham and McCullough 2009: 41) giving the Delaware access to a number of trails passing through the vicinity, including a route from the Ohio River to Lake Michigan, a north-south trail, and an east-west trail that led from Ohio to Illinois (Graham and McCullough 2009: 41). The east-west trail (Figure 5) is documented on a historic map that shows the trail leading from Greenville, Ohio, through
Indiana (directly through Strawtown), and across the western portion of the state before turning north and ending near modern day Chicago (Guernsey 1932).

![Map of Strawtown and vicinity]

Figure 5. This map shows the location of a historic Native American trail that led from Ohio to Illinois (Guernsey 1932).

The first Euroamerican known to settle in the township traded with the Delaware that lived west of the village of Strawtown, where the Strawtown Enclosure is today (Figure 6). When asked about the origins of the mounds, the tribe knew nothing of the people who had built the enclosure or the mounds in the area (Helm 1880: 130). Another account of the Delaware inhabiting the Strawtown Enclosure lies in an annual report of the Indiana Department of Geology and Natural History for 1884:

The only point of interest to the antiquarian in Hamilton County is Strawtown and its vicinity. It is situated in section 3, township 19, N, range 5 E., and is in the concave of the great bend of White River. At, and above, this point that stream formed the line between the hunting ground of the Delaware Indians south of it, and the Miamis north. West of the great bend of White River the boundary was an undefined line extending west to the vicinity of Thorntown, thence running south to the territories of the Piankashaws, Wyandottes and Shawnees. Strawtown was for years the principal northern village of the Delawares, and home of their war chief. It is said to have been the most populous of the Delaware towns, in the first decade of the present century; this is confirmed by the large district of bottom land cultivated by the squaws when the whites first
visited this locality, as well as by the extensive burying ground, on which the river is now encroaching, and exposing the bones of the red men at every freshet. The state of hostility which existed between the Delawares and the Miamis previous to the battle of Tippecanoe in 1811, elsewhere alluded to, growing out of the assumed right of Delawares to sell certain districts of their lands to the whites without the consent of the confederated tribes, rendered Strawtown an insecure abode on account of the frequent incursion of the more warlike Miamis, who were their immediate neighbors. On this account Governor Harrison garrisoned Strawtown in the fall and winter of 1811 by a squadron of mounted riflemen, and in the spring of 1812 assisted in removing the old men, the women and children to their old home in Delaware county, Ohio, he having enlisted the warriors as scouts and guides in his campaign on the Maumee.

But Strawtown has an antiquity evidently higher than the days of the Delaware Indians. The mound builders have left their foot-prints in this vicinity by the numerous relics of the Stone age that have been picked up by the present inhabitants. A little west of the present village there is a burial mound about six feet high; it has been plowed over for a number of years, so that not only its height has been reduced, but its base rendered so indistinct that its diameter can not be accurately measured; it is, however, between seventy and eighty feet. It was opened by Judge Overman, of Tipton, and four skeletons were found lying on the original surface of the ground, with their heads together and their feet directed to the cardinal points of the compass.

At a distance of 150 yards southeast of this mound is a circular embankment, now about three feet high, and twelve feet on the base. It has a ditch on the outside, which evidently furnished a portion of the earth for the embankment. The diameter of the circle, measured from the bottom of the ditch on each side, is 315 feet. There is a doubt as to what period this work should be referred. A tradition among the “old settlers” claims that the remains of palisades that once formed a stockade were standing on the embankment when the early immigrants settled here. This tradition is strengthened by the fact that in 1810 a stockade was built by the Delaware Indians somewhere near this spot, as a protection against their Miami neighbors north of White River. Moreover, it was not the custom of the mound builders to make a ditch on the outside of their embankments. On the other hand, the regularity of the work, and the perfect form of the circle, is hardly compatible with the idea that this is the work of modern savages. It is possible that the circle dates back to the period of the mound builders, and that the Delawares took advantage of it to build their stockade on, and made the ditch to strengthen, their palisades. The ditch has been filled, and the embankment reduced much by cultivation [Brown 1884:28-29].
In October of 1818 the Delaware Indians signed a treaty to concede their lands in what is now Hamilton County (Helm 1880: 33). The Delaware had three years to vacate the territory, but in the meantime some daring pioneers settled in the county; among the first were George Shirts and family and William Conner (for whom Conner Prairie Interactive History Park in Noblesville, Indiana is named) (Helm 1880: 34). William Conner was the first known settler to set up a trading post in what is now Noblesville and was known to frequently trade with the Native Americans in the region (Helm 1880: 34).

In the fall of 1822 the residents of what is now Hamilton County signed a petition that was sent to the state legislators to make Hamilton County a territory, and in 1823 it was done (Campbell 1962: 34-35). White River Township was established at a meeting of the Commissioners of Hamilton County in 1823, though the present boundaries were established in 1833 (Helm 1880: 130).

Figure 6. This map shows the location of the Taylor Village site and the Strawtown Enclosure site in Strawtown, Indiana.
When land was put onto the market in the county in 1821, it sold fast and settlers began moving in and establishing residences, mills, trading posts, hotels and saloons (Helm 1880; Campbell 1962). In 1846 the first railroad, The Peru and Indianapolis Railroad, put tracks through Hamilton County and brought in people and supplies, leading Noblesville to be named the county seat, and the rest of the county to continue bringing in settlers and business (Campbell 1962: 121).
Chapter Four: Methods

Chert is a sedimentary cryptocrystalline silicate; it is formed when diatoms such as algae and plankton die and float to the ocean floor; those bodies then dissolve and recrystallize as quartz (Andrefsky 2005: 55). Cherts often occur as nodules or bubbles in limestone, but also can be found in massive beds or layers that occur with sedimentary rock strata and with volcanic deposits (Andrefsky 2005: 54). Cherts are ideal for tool-making because they can be flaked in a fairly predictable manner; the word fairly is used because many cherts have fossil or quartz inclusions that interrupt the predictability of the flaking.

Chert is a highly variable material; however, macroscopic and microscopic methods are feasible for identification. Luedtke (1979: 745) explains that archaeologists generally can identify lithic raw materials in their study area because of visual distinctiveness and experience with the materials, as is the case of the materials in this research. Because much of the sourcing information on the Taylor Village materials was already completed, the identifications via macro- and microscopic methods that were completed for this project were minimal. The lithic materials from the Ball State University and Indiana State Museum collections were previously identified by researchers at Ball State University using macro- and microscopic methods, therefore it
was not necessary to conduct any further chert classifications on those two collections, except on rare occasions. Before one can begin identification of lithic materials, there must be a typology or classification system in place so that all of the data are on a level playing field and can be analyzed the same way.

The typology that I used was based on Andrefsky’s (2005: 76) chipped stone typology (Appendix B), which does not imply function but instead focuses on morphology or visible attributes. The flow chart was created by Dr. Mark Hill and is currently used by the Applied Archaeology Laboratories. Using this typology allowed my data classification to remain consistent without implying tool use as well as lending information about how the tool was made. Bifaces tend to be considered a curated tool, or a tool that was used more than once and was resharpened and reshaped and carried longer distances; flake tools tend to be considered expedient tools, or tools that can be made on the spot, even made from biface tools. Though both collections were already identified, the author went through each and reevaluated the identifications to fit with the typology.

The typology and flow chart begins by determining if a piece of material is a tool or debitage. If the material is determined to show any signs of human modification, it is considered a tool, if the material shows no signs of modification, it is considered debitage. This decision leads to a number of other attribute-based decisions outlined next.

If the material shows no signs of human modification, it can be further subdivided based on attributes. If the material is blocky and has no smooth side indicating it was taken off a larger piece of material, it is considered a non-flake. If the material appears to
have been taken off a larger piece of material and exhibits at least one smooth side, it is likely a flake. If the flake has one dorsal side, or the side of the flake that shows the original surface of the rock, and one ventral side, or the side of the flake that is smooth, it is definitely a flake (Andrefsky 2005: 255). If the flake does not have a dorsal and ventral side, it is considered angular shatter and has reached the end of its identification. If the material is a flake, it must next be determined if it retains a striking platform or the surface area that received the force to detach the flake from its parent material (Andrefsky 2005: 262). If the flake does not retain a striking platform, it is categorized as flake shatter, thus ending its identification. If the flake does retain a striking platform, it is known as a proximal flake (Andrefsky 2005: 260). Finally, if the proximal flake has a point of applied load on both ends, for example a sign of impact on opposing ends and compression rings moving in two directions, it is considered bipolar due to the technique used in making it; if it lacks this feature it is simply a proximal flake (Andrefsky 2005: 253).

If the material is determined to show any signs of human modification, it is considered a tool. These are further subdivided into bifaces and non-bifaces. A biface is a tool that has been worked on both sides and has two “faces” that form to make a single edge (Andrefsky 2005: 253). A non-biface will not be worked on both faces, and therefore can be categorized into either a core tool, or a core that is used for chopping, cutting, or another activity, or a flake tool (Andrefsky 2005: 254). A flake tool can be further subdivided into an endscraper (a flake tool with retouching on the distal, or bottom end), a sidescraper (a flake tool with retouching on the side of the flake), an edge-modified flake (a flake with a modification on the edge), a retouched flake (a flake that
has been retouched to make it sharp again), or a utilized flake, which is the most general of the identifications and indicates that the flake tool has been used in some way (Andrefsky 2005: 255). If the tool has been characterized as a biface, it can be subdivided into hafted and non-hafted; in other words, does the biface contain a clear location where a handle would have been attached? If the biface does contain a hafting element, it is called a diagnostic artifact because it can be categorized into a projectile point type using various literature materials. If the biface contains no hafting element, its identification ends at non-hafted.

**Chert Identification**

On occasion chert identification was necessary by the author either to clarify a classification or to try to identify the unidentified pieces in the collections. This was completed using macro- and microscopic means by looking at geological features in the rock such as color, inclusions, texture, and luster (Andrefsky 2005: 41-60; Cantin 2008; Kooymann 2000: 39-44; Luedtke 1979, 1994). Samples that could not be sourced based on those features were labeled “unidentified” so the data did not become skewed by false positives. Macro- and microscopic chert identification is not an exact science and can be aided by using geochemical techniques, however this research relied solely on the techniques available, which included using hand lenses and microscopes.

Archaeologist Mark Cantin (2008) at Indiana State University put together an extensive technical report titled, *Provenience, Description, and Archaeological Use of Selected Chert Types of Indiana*, which goes into painstaking detail about nearly every chert type found thus far in Indiana, including where it is found today and the previously
mentioned color, inclusions, texture and luster. This report is a tremendous manual for chert identification enthusiasts in Indiana. Diagnostic lithics were compared to other diagnostic materials found in Indiana using Noel Justice’s 1987 book *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: a Modern Survey and Reference*. This source includes diagnostic materials that have been dated to a specific time period in Indiana and can be used as a comparative tool for determining a rough time period for other diagnostic materials that look similar. This source was used more as a reference to provide a rough time period rather than an exact date, and it provides the most comprehensive diagnostic material coverage in Indiana.
Chapter Five: Raw Material Acquisition

The majority of raw material acquisition literature focuses on hunter-gatherer groups, which I would argue still applies to Taylor Village because hunting and gathering were undoubtedly used to supplement farming. Though the riverine environment that they lived in would have provided a plethora of food and aided in growing seasonal crops, there would have been a fair amount of mobility for hunting, gathering, and acquiring lithic raw materials. In order to determine how the inhabitants of Taylor Village were procuring their lithic raw materials, it is necessary to look at the methods through which this action might have occurred.

Lithic Raw Materials and Mobility

Prehistoric people were extremely reliant on stone tools, and knowing how and where to acquire the raw materials necessary for stone tools would have been of the utmost importance. In addition, it is helpful to identify sources of raw materials to allow archaeologists to discuss exchange networks and population movement. Andrefsky (1994a: 378) correlates raw materials with mobility and settlement location, because if there were no raw materials available locally, the only
options were moving to a source, or trading. Andrefsky (1994b: 376) points out that any group of people using stone tools would have to calculate for acquisition, production, maintenance and discard every day of their lives. These actions all take time, and most importantly, pre-planning and organization (Andrefsky 1994b: 376). No matter how close or far raw material lie from a site, some level of mobility is required to obtain those materials.

Binford (1980) looks at mobility as a spectrum ranging from residential mobility or the movements of an entire band or group from one camp to another seasonally, to logistical mobility in which individuals or small groups leave the camp and come back for foraging purposes. Using these descriptions, Binford (1980) proposed two basic settlement systems, collectors and foragers, to be used as conceptual tools that helped him think about mobility based on foraging activities.

Collectors move residentially, i.e., they move to a location and settle down, storing food for at least a portion of the year and organizing food-procurement trips that create field camp sites where food can be processed and then brought back to the settlement (Binford 1980: 10). Collectors use logistical strategies including small groups of knowledgeable people who know exactly how and where to procure resources (Binford 1980: 10).

Foragers move seasonally among a series of resource locations (Binford 1980: 5). Rather than storing food, foragers will gather food on an encounter basis and return with their spoils later in the day (Binford 1980: 5). This type of foraging allows for higher variability among the amount of people that go foraging daily, and a higher variability in
the number of moves made each year (Binford 1980: 5). Binford later added territorial and long-term mobility which cover cyclical movements of a group among a set of territories (Binford 1982, 1983). Lastly, Binford added permanent migration from a former territory, which he speculates is likely due to population overgrowth, though other explanations are possible.

These definitions are not concrete, and it is likely that some groups do not fit precisely into the spectrum. As previously mentioned Binford used these definitions as a way to look at how foraging activities influenced mobility and created sites in the process. At present, there is not much archaeological evidence of subsistence practices from the Taylor Village site, but it can be assumed that the Oneota at Taylor Village lie on the collector end of the spectrum; for this research, this model is used to help organize and frame the analysis of a more detailed examination of the mobility of the inhabitants of Taylor Village.

**Acquisition Methods**

There has been much discussion in the field of archaeology about methods of raw material acquisition, and there are multiple observed strategies including direct acquisition, embedded acquisition, secondary acquisition, and trade and exchange. In addition to archaeological evidence, archaeologists have and have had in the recent past the ability to study current cultures’ behaviors, a practice called ethnoarchaeology. Ethnoarchaeology rests on the idea that by looking at the behavior of present-day cultures, we might be able to cross-culturally test and compare behaviors with extinct cultures (Gould 1978: 815). “Unlike anthropologists who study social organization,
symbolic behavior, economics, art, and other more or less traditionally delimited aspects of human behavior, the ethnoarchaeologist has as his primary focus of inquiry the behavior of discard” (Gould 1978: 816).

**Direct Acquisition**

Gould (1978: 817) studied the Western Desert aboriginals of Australia, more specifically, their technology. These aboriginals frequently moved around the landscape, sometimes traveling as far as 200-300 miles, and they carried three kinds of tools: multipurpose tools, appliances, and instant tools (Gould 1978: 817). Schiffer (1972) proposed a set of definitions and approaches that could be used across the board that would allow archaeologists to see the flow of items throughout cultural systems. Schiffer (1972: 157) used dual flow models that traced two elements that made up the inventory for a cultural system: durables, i.e., transformers and preservers of energy such as stone tools, and consumables, i.e., elements whose consumption leads to the liberation of energy. It is with those parameters that Gould (1978: 818) treated the stone tools for his ethnographic study. As referenced earlier by Andrefsky (1994b), Gould (1978: 818) points out that a stone tool reflects five processes: acquisition, manufacture, use, maintenance, and discard; after discard, a stone tool becomes an archaeological artifact. Due to the content and interests of this paper, I will be focusing on the acquisition stage in the life of a stone tool.

The desert aborigines that Gould (1978: 818) studied gathered stone materials from quarries that were frequently revisited as well as nonquarried stone that was obtained from the ground surface where it was needed. This research will focus on the
quarries that were visited more than once. In speaking of Australia, Gould remarked, “It is essential to note, however, that many of these quarry sites have specific mythological associations and/or a water source nearby and are referred to by the name of that water source and/or sacred site” (Gould 1978: 818). It should also be noted that sometimes these acquisition trips were detours from water and food sources, indicating that these were not embedded actions, but truly direct acquisition (Gould and Saggers 1985: 122).

Aboriginal behavior at a quarry is to obtain flakes and cores that are carried away and used; at nonquarry sites, stones were used immediately for tasks at hand (Gould 1978: 818). Gould observed that every time a tool was spontaneously made at a nonquarry site, it was disposed of in the same location and never taken back to a camp (Gould 1978: 819). Gould also includes discussion of social relationships and the role that they played in long-distance acquisition trips, adding that long-distance social relationships were absolutely necessary for Aborigines to transport their raw materials over long distances due to the creation of territories, with the exception of pioneering groups (Gould and Saggers 1985: 122).

One of the more fascinating aspects of the Aborigines lifestyle is their long trips to visit sacred sites and keep social connections for future generations:

In 1966-1967 the senior author observed special, all-male groups making such trips, often over hundreds of kilometers from their home areas, to introduce novices to sacred landmarks and the myths associated with them...such trips established the introductions necessary for later use of the resources of these distinct areas by the visitors with their families, and lithic materials were often obtained and transported over long distances during the course of such trips (Gould and Saggers 1985: 122).
As the research of Gould (1978) and Gould and Saggers (1985) demonstrates, there are well documented cases of aboriginal people in Australia making specific trips for lithic acquisition, often associated with sacred sites. It is entirely likely that prehistoric peoples elsewhere would have made the same sort of trips for specific reasons.

**Embedded Acquisition**

Embedded acquisition is a concept pioneered by Lewis Binford (1979) who studied the Nunamiut Eskimo and observed that most raw materials were obtained during the course of normal subsistence-related events (Binford 1979; Binford and Stone 1985). The Nunamiut are an “extreme” example due to the conditions in which they live, which requires that 70 percent of their yearly food is obtained within 30 days, forcing them to plan ahead extensively and make use of storage (Binford 1979: 256). Other foragers such as the !Kung, G/wi, and central desert Australians go out daily to forage for resources to return to camp each night, leaving little use for long-term stores (Binford 1979: 256).

The Nunamiut not only cached food, but their survival relied on the caching of gear as well. “Nunamiut technology is characterized by a well-developed storage and caching strategy for gear, such that at any one time some of the gear organized within the technology is in storage and not being used: it is passive gear. Active gear is that which is current or being used regularly…” (Binford 1979: 256). Binford (1979: 259) looks at activities in terms of cost, for example if the Nunamiut procure raw materials in association with their basic subsistence tasks, the cost is very low. If the Nunamiut were
to make a specific trip to procure raw materials but did not carry out any subsistence activities on the way, the trip would represent a cost of lost calories.

Archaeologist Steven Holen (1991: 400) studied the Pawnee, a Native American people who lived in Nebraska for roughly ten centuries until they were moved to Oklahoma in 1875. The Pawnee lived in earthlodge villages along rivers and separated into bands that sometimes consisted of up to a few thousand people (Holen 1991: 400). Holen (1991: 400) suggests that the Pawnee were horticulturalists for a portion of the year and were mobile hunter/gatherers the rest of the year. Holen (1991: 402) became interested in the Pawnee’s lithic acquisition strategy when he found large percentages of distant cherts at Pawnee village sites. Holen (1991: 403-404) rejected the nearest source/direct acquisition hypothesis due to a lack of correlation between the amount of material acquired and the distance from the site to the source; he also rejected qualitative selection because all of the materials, exotic or not, were of sufficient quality to make their tools. Selectivity of a certain chert was seen with the manufacture of endscrapers, which were made out of a banded Permian chert; this selectivity was not seen with other tool types (Holen 1991: 403-404).

For his last two hypotheses, trade and embedded acquisition, Holen (1991: 405-407) looked at bison hunting territories to determine if the cherts were located in Pawnee territory or outside of the territory, which would have required trading. By looking at historical documents that discussed the range of the Pawnee as they seasonally hunted bison, Holen (1991: 406) found that embedded acquisition, not trade, was the most likely hypothesis.
Though there are distinct opinions regarding direct versus embedded raw material acquisition, it is entirely reasonable to assume that a group may have used both forms of acquisition, especially based on the status of their subsistence at a given time. This is something that we may not ever be able to determine about the Oneota at Taylor Village, but with more research at the site we may be able to determine the seasons when the site was inhabited, which may give more information about seasonal mobility.

**Secondary Acquisition**

Secondary acquisition is a means of gathering chert from a secondary source such as glacial till (rock carried with glaciers and deposited as the glacier moved forward and backwards) or streambeds, where chert is eroded out of bedrock and carried downstream (Luedtke 1979: 745, 1992; Whittaker 1994: 71). Secondary acquisition is easier than going straight to a source that is many miles away, however chert found in secondary sources can be smaller and more battered by the transport process (Luedtke 1992: 111). Luedtke (1992: 98-101), having researched secondary chert deposits in Michigan, found that the majority of cherts are unlikely to travel great distances and remain usable for flintknapping; however she has seen fragments as small as 3cm in diameter worked by bipolar percussion in Late Prehistoric Michigan. For Taylor Village, the only likely Indiana chert that would have been scoured and potentially dropped in the area is Liston Creek.
Trade and Exchange

Trade and exchange are behaviors that we know took place prehistorically, but that were hard to prove until the development of analytical techniques in the 1980’s that allowed for the geological sources of materials to be known through trace element studies (Walthall 1981: 1). These studies have been successfully completed on obsidian, copper, silver, chert, jade, turquoise and galena (Walthall 1981: 1). Materials have been traded since the arrival of people in North America; however this section will focus on the Archaic to Woodland periods.

One excellent example of using trace element analysis to study trade and exchange is Walthall’s 1981 paper on the trade of galena, a lead ore mineral that is found widely dispersed throughout the Midwest and Eastern United States at archaeological sites (Walthall 1981: 2). Galena was used as magical charms, paint, and ceremonial powder that would be crushed or ground and possibly used to cover the dead, similar to how many cultures used red ocher (Walthall 1981: 2).

Galena first began appearing in an archaeological context in the Early Archaic period where it was generally found in association with burials (Walthall 1981: 3). From the Early Archaic to the Early Woodland, galena was obtained from four sources: Central Missouri, Southeastern Missouri, Upper Mississippi Valley and Ontario/New York (Walthall 1981: 37); samples from sites have found that galena from the Upper Mississippi Valley was widely traded during this time, to as far away as Ontario to the north and the lower Mississippi Valley in the south, showing cultural contact going north and south along the Mississippi River (Walthall 1981: 37).
Galena from sites in the Middle Woodland came from central Missouri, traveling into the Lower Illinois Valley and then on to other trade partners, and galena from the Ohio Hopewell and Copena came from the Upper Mississippi Valley (Walthall 1981: 37). During the Mississippian period, galena traveled as an exotic good for elites from southeastern Missouri to Cahokia in Illinois, Spiro in Oklahoma, and Moundville in Alabama (Walthall 1981: 41).

In addition to galena, many other materials show up in far-away places. In *Prehistoric Exchange Systems in North America* (Baugh and Ericson 1994), many papers discuss trade in different regions in the United States. This section will focus on trade and exchange in the Midwest because that is where Taylor Village is located.

In the Midwest some of the first evidence of trade comes during the Late Archaic period when houses and mortuary complexes begin appearing (Brose 1994: 218). Early in the Late Archaic items such as Late Superior copper, ornaments cut from marine shell, and ground and polished ornaments appear mostly in mortuary complexes in the Upper Mississippi, Upper Ohio, and Middle Tennessee River valleys (Brose 1994: 218). Along southern rivers in the Midwest, items like birdstones, stone tubes, and beads and pendants made of banded slate from southern Michigan and Ontario begin to appear, along with caches of large and elaborate points made of southern Illinois and Indiana cherts (Brose 1994: 218). “From central Illinois to southwestern Ontario individual and group cremations and burials covered with red ocher were accompanied by caches of unused stemmed or notched blades of Indiana hornstone” (Brose 1994: 218-219). Indiana hornstone is now known as Wyandotte chert, found only in southern Indiana.
By the Early Woodland period, people began settling into seasonal camps and cultivating native crops and some tropical plants (Brose 1994: 219); trade and exchange had extended to ideas with the spread of ceramic types from the east and across the Midwest to the Great Lakes (Brose 1994: 219). Ornaments made of Lake Superior copper, larger marine shell ornaments, and caches of bifacial blades made of New York, Ohio, southern Illinois, Indiana, and Missouri cherts occur more often. These exotic artifacts become associated with lineage elites and the construction of large nondomestic structures such as earthworks and mounds used for mortuary contexts (Brose 1994: 220).

Some concrete evidence of trade and exchange from this period comes from two ritual complexes: the Illinois Morton complex and the Adena complex. By 500 BC the Morton complex of central Illinois built mounds that contained group burials in log crypts, which were covered in red ocher (Brose 1994: 220). Burial caches included ornaments made of Lake Superior copper, notched Illinois and Indiana flint blades, marine shell gorgets, and ground fragments of galena (Brose 1994: 220). The Adena complex, found in the central and upper Ohio River drainage basin, built mounds for a number of related individuals who were partially cremated, placed in pits and then covered with a wooden ceremonial structure that was burnt and covered (Brose 1994: 220). These graves contained Lake Superior copper, Appalachian slate, tubular pipes made of Ohio pipestone, caches of points and blades of eastern Ohio chalcedony and eastern Pennsylvania jasper, copper bead bracelets, mica from Appalachia and fossil shark teeth from the mid-Atlantic or Gulf Coast (Brose 1994: 220-221).
Mound and earthwork building continued into the Middle Woodland period, as evidenced by three Midwestern cultures: Havana, Crab Orchard and Hopewell. At Havana sites in Illinois, grave goods are few, but the exotic goods that do show up are copper ornaments, effigy pipes in the Ohio style, gorgets of exotic stone, marine shell beads, mica cut outs and, rarely, obsidian, North Dakota Knife River chert bifaces, and Ohio Flint Ridge bladelets (Brose 1994: 222). Crab Orchard cultures in southern Illinois and Indiana also laid their higher status dead to rest in mounds with grave goods like fabric-wrapped copper celts and awls, a conch shell dipper, Ohio Flint Ridge chert, obsidian, cut copper and mica sheets, shark teeth, and ceramics that displayed motifs found in ceramics of Georgia and Florida (Brose 1994: 223). Hopewell sites also display a great variety of exotic materials in their mounds including copper celts, earspools, copper-wrapped panpipes, wooden buttons, copper breastplates and headdresses, Appalachian sheet mica cut into geometric and zoomorphic forms, Yellowstone obsidian, and Knife River chert (Brose 1994: 225).

Trade and exchange seems to have died down in the Late Woodland with the appearance of self-sufficient farming villages that were inhabited for the majority of the year. Mound construction continued including large groups of low circular, elliptical, and linear mounds mixed with zoomorphic effigies (Brose 1994: 228). In mound burials grave goods consist of caches of chert blades from the Appalachians, Lake Superior copper, and marine shell beads; in the lower Great Lakes burial mounds were replaced with cemeteries that consisted of simple pit burials (Brose 1994: 229).
During the Mississippian period, the best known site is Cahokia, which is said to have held at least 20,000 people, possibly more, and was a huge city center in its time. “From Cahokia, locally made ceremonial composite materials appropriate for sumptuary clothing, ceramics, shell beads, and stone maces symbolic of Mississippian control moved in a marketlike exchange north to secondary hierarchicical centers, to non-Mississippian sites at the edge of the Canadian forests…” (Brose 1994: 231-232). In return, the high status inhabitants of Cahokia had pearls, shell beads, objects made of Lake Superior copper, and caches of bifaces from cherts in the lower Mississippi and Ohio River valleys (Brose 1994: 231-232).

It is clear through this evidence that trade and exchange was nearly commonplace prehistorically in the Midwest, if only for the elite. Certainly the non-elites also had trade goods, because the act of trade and exchange opens up the lines of communication with neighbors and connections to resources. At Taylor Village, we speculate that there is evidence of trade and exchange with the presence of ceramics possibly originating from the Strawtown Enclosure and Castor Farm sites across the river. Once we can see a clear picture of the chert types that were present at the site, we may get a better view of other kinds of trade and exchange at the Taylor Village site.

Lithic raw materials in the tool assemblage at a site can help archaeologists discuss mobility based on how far away that resource is found. These materials can also help determine where that group stood on the logistical to residential mobility spectrum, though evidence such as pit features, or a lack of pit features, can help with this question.
as well. The lithic data from the Taylor Village assemblage should provide some insights into the Oneota use of the landscape.
Chapter Six: Data

Indiana State Museum Collection

As discussed in Chapter Three, the Indiana State Museum collection represents multiple surface surveys that were conducted by avocational archaeologist Jack Householder between 1961 and 1967 (McCord 2009a). We are unsure of Mr. Householder’s exact methodology including his complete survey area; however the location information on the Indiana Archaeological Survey Form (Appendix C) that he and Robert McClintock filled out fits with the location that we now know as the Taylor Village site (Figure 7).

The Indiana State Museum lithic collection contains hundreds of lithic materials that were identified by former AAL director Don Cochran and Ball State University students and then roughly sorted into separate bags. The author categorized the materials into debitage and tools based on those identifications, and further broke them down using the chart contained in Appendix B.
Figure 7. A portion of the USGS 7.5’’ Omega and Riverwood Quadrangles showing the location of Taylor Village.
Table 3. A table showing the type and amount of debitage found in the Indiana State Museum collection.

* HD stands for heat damaged and HT stands for heat treated

<table>
<thead>
<tr>
<th>Identification</th>
<th>Material</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debitage, Flake, Bipolar</td>
<td>Fall Creek</td>
<td>8</td>
</tr>
<tr>
<td>Debitage, Flake, Flake Shatter</td>
<td>Attica</td>
<td>30</td>
</tr>
<tr>
<td>Debitage, Flake, Flake Shatter</td>
<td>Fall Creek</td>
<td>202</td>
</tr>
<tr>
<td>Debitage, Flake, Flake Shatter</td>
<td>Fall Creek HT*</td>
<td>7</td>
</tr>
<tr>
<td>Debitage, Flake, Flake Shatter</td>
<td>Kenneth</td>
<td>1</td>
</tr>
<tr>
<td>Debitage, Flake, Flake Shatter</td>
<td>Unknown</td>
<td>4</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Attica</td>
<td>12</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Fall Creek</td>
<td>89</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Fall Creek HD*</td>
<td>1</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Fall Creek HT*</td>
<td>1</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Quartize</td>
<td>2</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Stanford</td>
<td>1</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake</td>
<td>Unknown</td>
<td>10</td>
</tr>
<tr>
<td>Debitage, Flake, Proximal Flake, Bipolar</td>
<td>Attica</td>
<td>1</td>
</tr>
<tr>
<td>Debitage, Non Flake</td>
<td>Attica</td>
<td>5</td>
</tr>
<tr>
<td>Debitage, Non-Flake</td>
<td>Fall Creek</td>
<td>7</td>
</tr>
</tbody>
</table>

Debitage is essentially refuse, or the byproduct of stone tool-making. Of the debitage in this collection, seen on Table 3, Attica (Figure 8) comprises 12.5 percent, Fall Creek represents 83 percent, Kenneth is 0.3 percent, Quartzite is 0.5 percent, Stanford (Figure 9) is 0.3 percent, and Unknown cherts comprise 3.7 percent.
Figure 8. A photograph showing proximal flakes and flake shatter made of Attica chert from the Indiana State Museum collection.

Figure 9. A photograph showing flake shatter made of Stanford chert from the Indiana State Museum collection.
Table 4. A table showing hafted and non-hafted bifaces from the Indiana State Museum collection.

* HD stands for heat damaged and HT stands for heat treated

<table>
<thead>
<tr>
<th>Identification</th>
<th>Material</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool, Biface, Hafted (Bifurcate)</td>
<td>Fall Creek</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Brewerton)</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Brewerton)</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Early Archaic)</td>
<td>Holland</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Kirk Corner Notched)</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Kirk Stemmed)</td>
<td>Zaleski</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Lamoka)</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Palmer)</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Raddatz)</td>
<td>Fall Creek HT*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Riverton)</td>
<td>Upper Mercer</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Saratoga)</td>
<td>Delaware</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Saratoga)</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Susquehanna Cluster)</td>
<td>Fall Creek HD*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted (Table Rock)</td>
<td>Fall Creek HT*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted Biface (Unclass.)</td>
<td>Burlington</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular</td>
<td>Attica</td>
<td>15</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular</td>
<td>Fall Creek</td>
<td>17</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Allens Creek</td>
<td>3</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Attica</td>
<td>36</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Fall Creek</td>
<td>56</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Fall Creek HD*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Fall Creek HT*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Indian Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Kenneth</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Stanford</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Unknown</td>
<td>8</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment HD</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Unknown</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Attica</td>
<td>10</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Fall Creek</td>
<td>49</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Fall Creek Quartzite</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Liston Creek</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Unknown</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Adze</td>
<td>Fall Creek</td>
<td>2</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------</td>
<td>---</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Endscraper</td>
<td>Attica</td>
<td>4</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Endscraper</td>
<td>Fall Creek</td>
<td>25</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Endscraper</td>
<td>Liston Creek</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Endscraper</td>
<td>Unknown</td>
<td>4</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Endscraper</td>
<td>Wyandotte</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Fragment</td>
<td>Attica</td>
<td>9</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Fragment</td>
<td>Fall Creek</td>
<td>9</td>
</tr>
<tr>
<td>Tool, Biface, Nonhafted, Fragment</td>
<td>Unknown</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4 represents hafted and nonhafted bifaces found in the collection. The highlighted entries in this table represent hafted bifaces that predate Taylor Village, and therefore will be left out of this assessment. This table shows chert percentages as follows: Allens Creek - 0.4 percent, Attica (Figure 10) - 28 percent, Fall Creek (Figure 11) - 60 percent, Indian Creek - 0.4 percent, Kenneth - 0.7 percent, Liston Creek - 1.5 percent, Stanford - 0.4 percent, Unknown - 8.6 percent, and Wyandotte - 0.4 percent.

Figure 10. A photograph of some nonhafted bifaces called endscrapers made of Attica chert from the Indiana State Museum collection.
Figure 11. A photograph of some triangular hafted bifaces made of Fall Creek chert from the Indiana State Museum collection.

<table>
<thead>
<tr>
<th>Identification</th>
<th>Material</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Attica</td>
<td>26</td>
</tr>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Fall Creek</td>
<td>45</td>
</tr>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Indian Creek</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Jeffersonville</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Unknown</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Attica</td>
<td>34</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Fall Creek</td>
<td>63</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Indian Creek</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Middle Jeffersonville</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Unknown</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 5. This table shows non-biface tools from the Indiana State Museum collection.

* HD stands for heat damaged and HT stands for heat treated
Table 5 represents non-biface tools such as core and flake tools. This table shows chert percentages as follows: Attica (Figure 12)- 31.6 percent, Fall Creek- 57.3 percent, Flint Ridge- 1 percent, Indian Creek (Figure 13)- 2 percent, Jeffersonville- 1 percent, Liston Creek- 0.5 percent, Middle Jeffersonville- 0.5 percent, and Unknown- 6 percent.

Figure 12. A photograph of modified flake tools made of Attica chert from the Indiana State Museum collection.
Overall, 848 pieces of lithic material were present in the Indiana State Museum collection (excluding the highlighted, hafted bifaces predating Taylor Village in Table 4). Figure 14 shows a total breakdown of all chert types present in the Indiana State Museum collection. Attica (22 percent) and Fall Creek (70 percent) are the two that are most prevalent, with every other type (with the exception of unknown cherts) being below one percent.
Figure 14. This graph shows the percentages of raw materials present in the Indiana State Museum collection.

**Ball State University 2008 Collection**

As mentioned in Chapter Three, Ball State University spent some of their 2008 field school systematically surface surveying at the Taylor Village site (McCord 2009a: 3). The tables below show the lithic materials found during that survey. This collection did not have the same detail in the identifications, which explains the lack of some details that are present in the Indiana State Museum collection.
Table 6. A table showing the type and amount of debitage found in the Ball State University 2008 collection.

* HD stands for heat damaged and HT stands for heat treated

<table>
<thead>
<tr>
<th>Identification</th>
<th>Material</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debitage, Flake</td>
<td>Allens Creek</td>
<td>2</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Attica</td>
<td>216</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Delaware</td>
<td>1</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Fall Creek</td>
<td>1752</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Fall Creek HD*</td>
<td>17</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Fall Creek HT*</td>
<td>7</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Fall Creek Quartzite</td>
<td>7</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Indian Creek</td>
<td>10</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Jeffersonville</td>
<td>5</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Liston Creek</td>
<td>2</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Unknown</td>
<td>37</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Upper Mercer</td>
<td>3</td>
</tr>
<tr>
<td>Debitage, Flake</td>
<td>Wyandotte</td>
<td>4</td>
</tr>
<tr>
<td>Debitage, Non flake</td>
<td>Fall Creek HD*</td>
<td>1</td>
</tr>
</tbody>
</table>

Of the debitage in this collection, Table 6 shows lithic raw material percentages as follows: Allens Creek- 0.1 percent, Attica- 10.5 percent, Delaware- 0.05 percent, Fall Creek (Figure 15)- 86 percent, Indian Creek (Figure 16)- 0.5 percent, Jeffersonville- 0.2 percent, Liston Creek- 0.1 percent, Unknown- 1.8 percent, Upper Mercer- 0.1 percent, and Wyandotte- 0.2 percent.
Figure 15. A photograph of unmodified flake debitage made of Fall Creek quartzite from the Ball State University 2008 collection.

Figure 16. A photograph of some unmodified flake debitage made of Indian Creek chert from the Ball State University 2008 collection.
Table 7. A table showing hafted and non-hafted bifaces from the Ball State University 2008 collection.

* HD stands for heat damaged and HT stands for heat treated

<table>
<thead>
<tr>
<th>Identification</th>
<th>Material</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool, Biface, Hafted, Fragment</td>
<td>Indian Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Fragment (Late Archaic)</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Karnak</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Late Archaic</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Matanzas</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular</td>
<td>Attica</td>
<td>4</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular</td>
<td>Fall Creek</td>
<td>29</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular</td>
<td>Fall Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Attica</td>
<td>5</td>
</tr>
<tr>
<td>Tool, Biface, Hafted, Triangular, Fragment</td>
<td>Fall Creek</td>
<td>9</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Attica</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Fall Creek</td>
<td>16</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted, Endscraper</td>
<td>Fall Creek</td>
<td>3</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted, Fragment</td>
<td>Attica</td>
<td>3</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted, Fragment</td>
<td>Fall Creek</td>
<td>10</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted, Fragment</td>
<td>Unknown</td>
<td>2</td>
</tr>
<tr>
<td>Tool, Biface, Non-hafted, Fragment</td>
<td>Wyandotte</td>
<td>1</td>
</tr>
</tbody>
</table>

Of the bifaces in this collection, Table 7 shows chert percentages as follows:

Attica- 14 percent, Fall Creek (Figure 17) - 80 percent, Indian Creek- 1 percent,

Unknown- 3.3 percent, and Wyandotte (Figure 18)- 1 percent. The highlighted entries are hafted bifaces that predate Taylor Village and are therefore not included in this data.
Figure 17. A photograph of a non-hafted bifacial endscraper made of Fall Creek chert from the Ball State University 2008 collection.

Figure 18. A photograph of a biface fragment made of Wyandotte chert from the Ball State University 2008 collection.
Table 8. This table shows non-biface tools from the Ball State University 2008 collection.

* HD stands for heat damaged and HT stands for heat treated

<table>
<thead>
<tr>
<th>Identification</th>
<th>Material</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Attica</td>
<td>12</td>
</tr>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Fall Creek</td>
<td>79</td>
</tr>
<tr>
<td>Tool, Non-biface, Core Tool</td>
<td>Unknown</td>
<td>4</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Attica</td>
<td>15</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Fall Creek</td>
<td>51</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Fall Creek HT*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Indian Creek</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Unknown</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Unknown HD*</td>
<td>1</td>
</tr>
<tr>
<td>Tool, Non-biface, Flake Tool</td>
<td>Wyandotte HD*</td>
<td>1</td>
</tr>
</tbody>
</table>

Of the non-bifaces in this collection, Table 8 shows chert percentages as follows:

Attica- 16 percent, Fall Creek (Figure 19) - 79 percent, Indian Creek- 0.6 percent,

Unknown- 3.6 percent, and Wyandotte- 0.6 percent.

Overall, 2,321 pieces of lithic material were present in the Ball State University 2008 collection (excluding the highlighted, hafted bifaces in Table 7 that predate Taylor Village). Figure 20 shows a total breakdown of all chert types present in the collection. Fall Creek (86 percent) and Attica (11 percent) are the two that are most prevalent, with every other type (with the exception of unknown cherts) being below one percent.
Figure 19. A photograph of modified flake tools made of Fall Creek chert from the Ball State University 2008 collection.

Figure 20. This graph shows the lithic raw materials present in the Ball State University 2008 Collection.
Conclusion

Between the Indiana State Museum and Ball State University 2008 collections there are a total of 3,169 lithic artifacts present from the Taylor Village site. Figure 21 presents the variety of lithic raw materials found in the two collections and the percentage of the total assemblage that each represents. The most prevalent chert type found at the site is Fall Creek with 82 percent; the second highest is Attica with 14 percent. Aside from unknown specimens, all other materials combined comprise less than 2 percent of the total assemblage.

Figure 21. This table shows the total lithic raw material percentages for both collections combined.
Chert types

There are a minimum of fourteen chert types present in the Taylor Village collections. Because this is a multicomponent site, this section will include the two largest chert types: Fall Creek and Attica, and then the chert types from the collection that were found in potential Late Prehistoric tool forms including Allens Creek, Indian Creek, Kenneth, Liston Creek, Stanford, Wyandotte, and Flint Ridge.

Fall Creek

Fall Creek chert is frequently variegated or banded and appears in lighter shades of grey but also light blue-grey and yellowish brown (Figure 22) (Cantin 2008: 26). The texture is fine to fine-medium, luster ranges from waxy to semi-lustrous or dull, and the chert is known to have many small (1mm) fossils such as quartz-filled casts of crinoids columnella (Figure 23), fusulinids, (Figure 24) and bryozoa fronds (Figure 25) (Cantin 2008: 26-27). Cantin (2008: 27) calls the overall quality decent, however he points out that it would be better if the chert bed was not so thin, resulting in small unusable blocks.

Figure 22. A photograph of three cores from the Indiana State Museum collection made of Fall Creek chert.
Figure 23. A photograph of fossilized crinoids (Brosius 2005b).

Figure 24. A photograph of fossilized fusulinids (Brosius 2005c).

Figure 25. A photograph of fossilized bryozoan (Kallameyer n.d.).
Attica

There are currently two kinds of Attica chert known to archaeologists. The original Attica chert outcrops near Attica, Indiana, in Fountain County where it is exposed by the Wabash River and tributaries (Cantin 2008: 15). Attica (Figure 26) is sometimes called “Wabash Green” because it is generally blue-green in color with blue-grey streaks, bands and mottles that turn purple when it is heat treated (Cantin 2008: 15). This variety is generally medium coarse to medium in texture (Cantin 2008: 17). The variant of this chert, called “Sugar Creek”, outcrops in Boone County, the county just west of Hamilton (Cantin 2008: 16). This variant is typically pale blue and has a medium fine to fine-medium texture, a dull to very slightly glossy luster, and is non-fossiliferous with the exception of sponge spicules that require a microscope to see (Cantin 2008: 17). For this research, no distinction was made between Attica and its variant; for simplicity’s sake all cherts that had Attica characteristics were called Attica.

Figure 26. A photograph of three cores from the Indiana State Museum collection made of Attica chert.
**Allens Creek**

Allens Creek chert, represented at Taylor Village in the form of three hafted-biface triangular point fragments and flake debitage (Figure 27), is found in Harrison and Floyd counties (Cantin 2008: 13). Allens Creek is one of the more fossiliferous cherts in Indiana with the presence of crinoids, sponge spicules and fenestrate bryozoa (Cantin 2008: 13). The background color of Allens Creek is generally light grey with a speckled appearance with shades of grey, tan, brown and blue (Cantin 2008: 13). Texture is generally coarse to coarse-medium and luster is typically dull; these characteristics enhance with heat treatment (Cantin 2008: 13-14). Cantin (2008: 13) calls the overall quality medium despite the fossiliferous nature of the stone.

![Figure 27. A photograph of two debitage flakes from the Ball State University 2008 collection made of Allens Creek chert.](image)
Indian Creek

Indian Creek chert, represented at Taylor Village in the form of a biface, a hafted-biface triangular point fragment (Figure 28) and core tools, is found in Lawrence, Owen and Monroe counties, as well as in stream deposits of Indian Creek in Greene, Monroe and Lawrence counties (Cantin 2008: 37). “Usually found in nodules roughly tennis ball-to-softball size in circumference, a cortical rind is usually well developed and distinct from the interior of the chert…The cortex is a ruddy brown or tan in color, rougher and more porous than the encased chert (Cantin 2008: 37)” . The chert itself is generally a shade of buff, beige, brown or tan and can be mottled, variegated and banded with the same colors (Cantin 2008: 39). The texture ranges from medium-coarse to fine-medium and luster is dull to slightly glossy (Cantin 2008: 39). Indian Creek has no known fossil inclusions and is generally free of flaws, making it a high-medium quality chert (Cantin 2008: 39).

Figure 28. This photograph shows a hafted biface fragment from the Ball State University 2008 collection made of Indian Creek chert.
Kenneth

Kenneth chert, represented at Taylor Village in the form of two triangular hafted biface fragments (Figure 29), is found in a number of counties in Indiana including Cass, Howard, Carroll, and possibly Fulton, Kosciusko, Miami, Pulaski, and Tipton (Cantin 2008: 46). Kenneth is an easily recognizable chert because it is typically white to light-grey in its background with light grey, medium grey, dark grey and brownish-grey mottles, splotches, tendrils and angular patches of different sizes (Cantin 2008: 47). This chert does contain fossils such as gastropods (Figure 30) and brachiopods (Figure 31), though most appear as siliceous “blobs” (Cantin 2008: 47). The texture ranges from medium-coarse to medium and luster is flat to semi-glossy, Cantin (2008: 47) calls the overall quality medium.

Figure 29. A photograph showing two triangular hafted biface fragments from the Indiana State Museum collection made of Kenneth chert.
Liston Creek

Liston Creek chert, represented at Taylor Village in the form of non-hafted bifaces and endscrapers (Figure 32), is found in Wabash County and Huntington County, even along Liston Creek itself (Cantin 2008: 55). The chert is found with bands, variegations, mottles and “blobs” in varying shades of grey, with brown seen at times
when the chert has been weathered (Cantin 2008: 55). Luster and texture varies from sample to sample and the chert is full of siliceous flecks that may be fossil fragments (Cantin 2008: 55). Cantin (2008: 55) rates the overall quality at medium.

Figure 32. A photograph of two bifaces from the Indiana State Museum collection made of Liston Creek chert.

**Stanford**

Stanford chert, represented at Taylor Village in the form of a hafted-biface triangular point fragment (Figure 33) is found in Monroe, Lawrence, Greene, Martin and Orange counties (Cantin 2008: 66). Stanford’s coloring tends to be medium grey with thin streaks of greys, frequently with a tan or brown-orange outer cortex (Cantin 2008: 67). Texture ranges from medium-fine to fine-medium and luster is dull to slightly glossy; Stanford is not known to have fossil inclusions, however blue-black pin-point size spots can be seen (Cantin 2008: 67). Though a crystalline line that runs through beds
dampers knappability, heat treatment can help increase the performance (Cantin 2008: 67).

Figure 33. This photograph shows a hafted biface triangular point fragment from the Indiana State Museum collection made of Stanford chert.

**Wyandotte**

Wyandotte chert (Figure 34), represented at Taylor Village in the form of debitage, an endscraper (Figure 35), a nonhafted biface fragment and a flake tool, occurs in Harrison and Crawford counties in Indiana and Meade, Breckinridge and Hardin counties in Kentucky; in addition nodules can be found in stream beds and exposures in those counties (Cantin 2008: 71). Wyandotte does not appear in many colors, only greys ranging from light to dark however it does patinate into shades of brown (Cantin 2008: 71). Luster is slightly to very waxy and it is typically free of internal stress fractures; this chert can contain cavities with crystallites but macroscopic fossils are rare (Cantin 2008: 71).
Heat treatment damages Wyandotte, though cases have been shown of successful heat-treatment where properties were enhanced (Cantin 2008: 74). Overall, Wyandotte is an excellent chert for knapping. It is known to have been traded up to 250km in distance where it was found in an Ohio Middle Woodland mound in the form of 8,000 blades (Cantin 2008: 75).

Figure 34. This photograph shows a sample of Wyandotte chert with some cortex and a crystallite filled cavity (Cantin 2008: 73).

Figure 35. A photograph of a non-hafted bifacial endscraper from the Indiana State Museum collection made of Wyandotte chert.
Flint Ridge

Flint Ridge chert, represented at Taylor Village in the form of two blades, comes from Flint Ridge, Ohio, roughly 321 kilometers to the east of Taylor Village (Getz 2012: 2). Flint Ridge is found in a variety of colors including red with light and dark gray strips, blue, brown, yellow, white, green, bright yellow and purple with swirls, streaks and mottles (Figure 36) (Getz 2012: 2). Getz (2012: 2-3) discusses its widespread use throughout prehistory in the Early and Middle Woodland period with the Adena and Hopewell people quarrying the chert and trading it with groups throughout the region.

Figure 36. A photograph showing the variety of heat treated Flint Ridge chert (Lithic Sourcing n.d.)
Chapter Seven: Discussion

Seeing the data from the two collections allows for a clearer view of the lithic raw materials used by the inhabitants of the site and what that may imply for mobility. A review of the research questions posed at the beginning of this paper will help put the results of this thesis into perspective and allow an overview of the research thus far.

Research Question 1: Lithic Raw Materials

Appendix D shows a map of all chert types in Indiana in comparison with the location of the Taylor Village site. As seen in Figure 37, there are a minimum of fourteen lithic raw material types present in the Taylor Village collections. Out of those fourteen, two stand out prominently. The first is Fall Creek chert which accounts for 82 percent of the assemblage, followed by Attica chert which makes up 14 percent. Unknown cherts, or chert that is unidentified, accounts for three percent of the total assemblage; the remaining eleven types each account for less than one percent of the total assemblage. Because Taylor Village is a multicomponent site, this research will only focus on the cherts that comprise at least one potential Late Prehistoric tool type including: Fall Creek, Attica, Indian Creek, Liston Creek, Wyandotte, Allens Creek, Kenneth, Flint Ridge and Stanford cherts. Only Fall Creek, Attica, Liston Creek and Kenneth are within 80 kilometers of the site; Indian Creek, Allens Creek and Stanford are
all within 170 kilometers of the site. Wyandotte and Flint Ridge represent the most exotic cherts at over 200 kilometers away from Taylor Village.

Figure 37. A pie chart showing the amount of each raw material in the total assemblage.
Table 9. This table shows the chert types from the total assemblage that may contain possible Late Prehistoric tool types, their percentage of the total assemblage, and their distance from Taylor Village.

<table>
<thead>
<tr>
<th>Chert Type</th>
<th>Percentage of the total assemblage</th>
<th>Distance from Taylor Village (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Creek</td>
<td>82</td>
<td>40</td>
</tr>
<tr>
<td>Attica</td>
<td>14</td>
<td>70-170</td>
</tr>
<tr>
<td>Indian Creek</td>
<td>0.46</td>
<td>170</td>
</tr>
<tr>
<td>Liston Creek</td>
<td>0.22</td>
<td>80</td>
</tr>
<tr>
<td>Wyandotte</td>
<td>0.22</td>
<td>241</td>
</tr>
<tr>
<td>Allens Creek</td>
<td>0.15</td>
<td>170</td>
</tr>
<tr>
<td>Kenneth</td>
<td>0.09</td>
<td>80</td>
</tr>
<tr>
<td>Flint Ridge</td>
<td>0.06</td>
<td>321</td>
</tr>
<tr>
<td>Stanford</td>
<td>0.06</td>
<td>170</td>
</tr>
</tbody>
</table>

Research Question 2: Lithic Acquisition

Though the Oneota at Taylor Village lived in a large farming village (though we have no concrete evidence of this yet, farming would have been necessary to support enough people to inhabit a village), they would have continued hunting and gathering to supplement their subsistence, which can be seen through the abundance of chert bifaces and animal processing tools such as endscrapers and perforators. The distance to the two
most utilized chert sources in the assemblage give information about the kind of mobility that was taking place from the site.

**Direct and Embedded Acquisition**

As previously discussed in Chapter Five there are two types of raw material acquisition that require going to the source and collecting, those are direct and embedded. The strategy of collecting at the source can be seen in the Fall Creek and Attica assemblages of the Taylor Village collections. Though it is impossible at this point to distinguish if the Oneota were using either direct or embedded strategies, it is more likely that they were embedding lithic raw material acquisition into hunting and gathering, seasonal mobility, and social interactions with other groups which cut down on the caloric and time cost of directly going to the source with no other motives along the way. This would put the Oneota at Taylor Village in the collector portion of Binford’s (1980) foraging spectrum, using logistical strategies to collect resources. We can see this primary source strategy through the types of lithic tools that were found on site.

Curated technology was an idea first proposed by Lewis Binford (1973, 1977, 1979) to explain tools that fit on the spectrum from curated or formal to expedient. Curated tools are finely made tools with multiple purposes that are made in advance whereas expedient tools are quickly made at the moment they are needed. For this study, curated tools are categorized as bifacial or core tools and expedient tools are flake tools, or tools that could be quickly flintknapped as needed and perhaps made from curated tools instead of a large, heavy block of unworked chert. The idea behind curation is that it makes more logical sense to go to a source and re-tool, or to work a piece of chert into
a multipurpose tool that can then be reduced or used as needed, as opposed to carrying large blocks of unworked chert for long distances.

From the Fall Creek assemblage between the two collections, 353 tools (74 percent) are curated and 121 (26 percent) are expedient. With the source being so close to the village (roughly 21 kilometers at the straightest and most direct route), one might estimate that materials could be collected with some frequency, which would lead to a high number of both curated and expedient tools because there was seemingly little to no chance of running out of raw materials. Carrying large blocks of unworked chert for 21-32 kilometers is not a very logical strategy due to the calorie and energy costs, so it is likely that they retooled at the primary source, or prepared cores which would have been considerably easier to travel with.

With Andrefsky’s (1994a: 376) theory about curated tools appearing more often when the source is far away and expedient being more present in higher frequencies when the source is close-by, we would suppose that Attica tools would have a higher ratio of curated tools because the source is farther away, considerably so at roughly 80-160 kilometers. Unexpectedly, the Attica assemblage showed approximately the same ratio of curated to expedient tools (roughly 3:1), with 125 (71 percent) being curated and 52 (29 percent) being expedient. This material is not far superior to Fall Creek chert, and at such a greater distance there remain questions about why this chert appears so prominently in the Taylor Village assemblage.

There are cherts that outcrop closer than Attica does, which begs the question, why is this chert the second highest found at the site? Perhaps this chert was procured out
of convenience. As mentioned in chapter two, the Oneota at Taylor Village are most-easily connected through ceramics to the Fisher Phase which lies in northeastern Illinois, near modern day Chicago. In chapter three there was a discussion of a historic Native American trail known to extend from Ohio, through Strawtown, not coincidentally very near the Attica outcrops in western Indiana, and up to the modern Chicago region. It is entirely likely that the Attica chert assemblage at the site is due to former migration into the region and potentially migration back to parent communities (Hill and Murray 2012; McCord 2009a).

**Secondary Acquisition**

Secondary acquisition, the gathering of chert from secondary sources such as glacial till plains and streambeds, was almost certainly practiced by the people of Taylor Village. Chert can frequently be found in Indiana streambeds, and this practice of looking for raw materials as the opportunity arises is logical and practical. If the Oneota at Taylor Village were migrating back and forth to the Chicago region, it is possible that they may have encountered secondary sources of Kenneth and Liston Creek along with primary sources of Attica chert. There is, however, no evidence to date that supports this as the primary method of lithic raw material acquisition for the Oneota at Taylor Village.

**Trade and Exchange**

Trade and exchange is potentially present in some of the chert types found at the site. “Potentially” is used because it is entirely possible that these exotic cherts may have been left on the floodplain before the inhabitants of Taylor Village moved to Strawtown,
or perhaps they were reused by the Oneota. As mentioned earlier, Strawtown has a rich prehistory, and these materials do not necessarily represent Late Prehistoric people. I chose to focus on the exotic cherts from the total assemblage that could potentially be associated with Late Prehistoric cultures.

The less exotic, however still unusual, Allens Creek, Indian Creek, and Stanford cherts are barely represented in the assemblage, yet they must be acknowledged because they are present at the site and could not have made it there without humans. Indian Creek, Stanford, and Allens Creek are all found relatively close to the White River in lower Owen, Monroe, Greene and Lawrence counties. It is possible that these represent a social network that was established by the Oneota, perhaps similar to the social network that was built in Strawtown between the Oneota, the Western Basin, and the Fort Ancient people.

The two very exotic chert types that were found on site that may or may not represent Late Prehistoric tool types are Wyandotte and Flint Ridge, both with sources a considerable distance from the site. As mentioned in chapters five and seven, Wyandotte is exceptional quality chert and has been known to be traded and exchanged all over the Midwest and beyond. Wyandotte is only found in Harrison and Crawford counties at the far southern edge of Indiana, over 160 kilometers from the Taylor Village site. The Wyandotte chert present at Taylor Village is in the form of debitage flakes, an endscraper, a non-hafted biface fragment, and a flake tool. The only possible way that Wyandotte chert could have made it to Strawtown is through human behavior.
The other exotic chert type found at the site is Flint Ridge chert from Flint Ridge, Ohio, which lies approximately 321 kilometers to the east of Taylor Village (Getz 2012: 2). Flint Ridge is also known to be traded and exchanged great distances because of its magnificent colors and excellent knapping qualities. The Flint Ridge chert present at Taylor Village is in the form of two blades that cannot definitively be traced to the Late Prehistoric period. Again, the only possible way that this chert appeared in Strawtown, no matter what time period, is through the transfer between human hands or the long-distance travel required to obtain it.

Though none of these exotic chert types are the “smoking gun” that suggests that there was exotic lithic trade and exchange at Taylor Village, they support the idea that the inhabitants of the village were interacting with someone who obtained these distantly located materials, or they were traveling extensive distances themselves. More research at Taylor Village and at sites down the White River are necessary to determine if there is a connection between these localities.

**Research Question 3: Trade and Exchange in Late Prehistoric Indiana**

As the literature showed, trade and exchange in the Midwest seemed to hit its peak in the Middle Woodland and then decline in the Late Woodland when populations were increasing and people were relying more heavily on storing crops from agricultural pursuits (Milner 1999: 122). The reasons behind this shift are unknown, but we can speculate based on archaeological and environmental evidence.
One piece of evidence that may explain this lack of trade goods in the Late Prehistoric period is the establishment of fortified villages. In Strawtown alone there were three fortified village sites, each composed of different cultures living within a quarter mile of each other (Figure 38). Each village site contains signs of interaction in the form of each culture’s ceramics found at all three sites. Taking the time and effort to build a fortification feature indicates a perceived threat of violence, even if none took place. The labor involved in building a fortification feature, along with maintenance, would have taken work away from subsistence activities that were important for everyday survival (Milner 1999: 118). Ethnographic records show that fortification features are commonly located on frontiers and hostile borders, and in those circumstances when the territory of social units is small, nearly every settlement that is small and close to a hostile frontier has a fortification feature (Keeley 1996: 56).

Figure 38. The location of three fortified villages from the Late Prehistoric period in Strawtown, Indiana.
Another interesting piece of evidence is an Oneota presence at the Fort Ancient Strawtown Enclosure across the river from Taylor Village. Excavations at the enclosure have been ongoing since 2001, and the archaeological evidence suggests that a group of Oneota were the last prehistoric group to inhabit the site (McCullough 2009: 90, 99). In 2007 the Indiana-Purdue University Fort Wayne Archaeological Survey was excavating at the Enclosure site to investigate a feature that was thought to be a center pole, similar to that found at the contemporary Fort Ancient Sun Watch site (McCullough 2009: 101). Upon excavation, archaeologists discovered the burial of a probable high-status Oneota individual, buried with at least one pot and a copper plate behind the skull (McCullough 2009: 101). This burial and habitation cannot be directly associated with the Taylor Village Oneota at this time, but the two sites were contemporaneous from around AD 1300 to AD 1400 (McCullough 2009: 89).

Another vital piece of information for this diminished trade and exchange is the change in climate that is known to have occurred during this time period. As discussed in chapter three, the “Little Ice Age” began around AD 1300, coinciding with the appearance of Oneota fortifications. This climate change caused temperatures to be 3.6 to 5.4 degrees Fahrenheit below normal, which could have affected crop production in the Midwest and elsewhere. In the Late Prehistoric period, people relied heavily on crops to support large settlements, sometimes year-round, which meant that a steady supply of crops was needed during the warm months. Stress of this kind could have created a need or desire for fortification features as well as a migration south where the growing season was longer.
Chapter Eight: Summary and Recommendations

Summary of Research Contributions

In summary, this research indicates that the Oneota at Taylor Village obtained over 95 percent of their lithic raw materials within traveling distance of the site through direct acquisition and logistical strategies, or sending small groups out to collect resources. Based on the data presented in this research, there is very little evidence for long-distance lithic trade and exchange at this particular site.

As touched upon in previous chapters, this research has archaeological significance for local, state and regional levels. From a local perspective, archaeologists that study Strawtown will have a better understanding of one of the three major cultures that inhabited the area during an interesting time in prehistory. This research will help connect Taylor Village with the surrounding village sites and will aid with making information about Taylor Village available for the public at the Strawtown Koteewi Park.

This research has state significance because it is lends more information to the Oneota occupation of Indiana, which thus far has been sparse. As previously mentioned this Oneota village is outside of the traditional core area and is the only one of this scope found thus far in central Indiana, making it a unique and valuable resource for Indiana archaeological research. Further, because a collection from the Indiana State Museum
was used for this research, they intend to make this research available on their website for the people of Indiana.

The regional significance of this research, as stated earlier, expands the Oneota core territory to central Indiana and perhaps beyond. This research spurs questions such as, why did the Oneota migrate to Indiana, how did they interact with other cultures living around them, and did they remain in contact with their out-of-state relations? The Oneota are so important during this period in states such as Wisconsin, Illinois, and Iowa that little research has been published thus far on their presence in Indiana, and with this and further research, information about the Oneota and their life ways will continue to expand.

Much has been done on the ceramics present at Taylor Village; however this is the first research to focus solely on the lithic assemblage. This data will be of interest to Indiana chert enthusiasts and those interested in prehistoric lithic resource acquisition, a topic that has seen little research at Late Prehistoric Strawtown. Though the data is based on surface collection from an agricultural field that has been tilled for many years, it provides an introduction into the methods of lithic acquisition for the people at this village.

**Recommendations for Future Research**

This research has left many unanswered questions, as all research does. The results of this thesis leave many open doors for research in the future, some of which are outlined below.
Due to constraints on time, not every Taylor Village collection was analyzed for this research. I was unable to obtain permission to analyze the remainder of the Householder collection housed at the Glenn Black Laboratory on the campus of Indiana University. This collection contained only 132 items but would have increased the sample size for this research. In addition, another collection is available from Ball State University’s 2009 field school where students spent weeks thoroughly surface collecting at the site. However few chert identifications were made for this collection during analysis, and there was not enough room in my timeline to complete those identifications for inclusion in this research. Ball State University plans to continue work at the Taylor Village site in the summer of 2012, and thus that collection would also add to the sample size of this research.

Two methods would be very valuable in further researching this topic. The first is weighing the lithic materials by material type, which may provide insights into how much, in weight, was being brought to the site. Another method is looking at platform types in the debitage assemblage. Platform types can help determine the type of lithic reduction that was being used and can help determine mobility activities.

Another method that could prove to be valuable to this research is excavation. Dr. Mark Hill and students completed minimal excavation at Ball State University’s 2009 field school and were able to partially excavate a portion of the fortification feature and a portion of a house feature. Further excavation of intact features could establish lithic materials that are definitively located within the Oneota habitation and thus could be associated directly with the Late Prehistoric Oneota occupation. As seen by the presence
of tool types dating earlier than the Late Prehistoric in this research, Strawtown was not occupied only during the Late Prehistoric period making it difficult to distinguish what non-diagnostic lithic materials should be associated with the Oneota occupation versus earlier people. It would also be of interest to this research to look at the Oneota occupation of the Strawtown Enclosure and Castor Farm, specifically lithics found in the intact deposits where only Oneota shell-tempered ceramics are found.

Another open door for research in this area is the comparison of the lithic assemblages of Taylor Village, Strawtown Enclosure, and Castor Farm. Taylor Village was contemporaneous with both sites and contains ceramics from both sites, but what would be fascinating for chert enthusiasts to know is where the other two villages were getting their chert raw materials from so that data could be compared with this research.

It is hoped this research will be the foundation for further investigations of raw material acquisition in Strawtown and elsewhere.
REFERENCES CITED

Anderson, Duane C.

Andrefsky, William Jr.

Anonymous

Anonymous

Anonymous

Anonymous

Anonymous

Anonymous
Anonymous  

Arnold, Craig R., Colin Graham, Scott Hipskind, and Dorothea McCullough  

Arnold, Craig R., Colin Graham, Scott Hipskind, Dorothea McCullough, Robert G. McCullough and Mariah Yager  

Baugh, Timothy G., and Jonathon E. Ericson  

Berres, Thomas E.  

Binford, Lewis R.  


Binford, Lewis R., and Nancy M. Stone

Blackman, E. E.

Brose, David S.

Brosius, Liz.


Brown, Ryland T.

Campbell, Frank S.

Cantin, Mark
Emerson, Thomas E., and James A. Brown  

Faulkner, Charles H.  

1972 *The Late Prehistoric Occupation of Northern Indiana: A Study of the Upper Mississippi Cultures of the Kankakee Valley*. Indiana Historical Society Prehistoric Research Series No. 5. Indianapolis.

Fishel, Richard L.  

Fleming, Anthony  

Gallagher, James P., and Katherine Stevenson  

Getz, Garry L.  

Gibbon, Guy E.  


Gould, Richard A.  

Gould, Richard A., and Sherry Saggers  

Graham, Colin D., and Dorothea McCullough  

Graham, Colin D., and Robert G. McCullough  

Gray, Henry H.  

Griffin, James B.  


Griffin, John W.  

Guernsey, E.Y.  
1932 Indiana: The Influence of the Indian and Its History with Indiana and French Names for Natural and Cultural Locations. (Map). Indiana Department of Natural Resources.

Gutshick, R.C.  

Hall, Robert L.  
Helm, T.B.  
1880  *History of Hamilton County, Indiana, with Illustrations and Biographical Sketches of Some of Its Prominent Men and Pioneers.* Kingman Brothers, Chicago.

Henning, Dale R.  

Hill, Mark A.  

Hill, Mark A. and Emily M. Murray  

Hixon, James Lee  
1988  *An Archaeological Assessment of the Strawtown Site and the Immediate Vicinity.* Unpublished M.A. Thesis. Department of Anthropology, Ball State University, Muncie.

Hoard, Robert J., John R. Bozell, Steven R. Holen, Michael D. Glasscock, Hector Neff, and J. Michael Elam  

Holen, Steven R.  

Hosteter, William D.  

Householder, Jack  
1968  *Letter from Jack Householder to Eli Lilly.* M.S. on file, Glenn A. Black Laboratory, Indiana University, Bloomington, Indiana.
Hughes, Richard E.

Jeske, Robert J.

Justice, Noel D.

Kallameyer, Jack.

Keeley, Lawrence H.

Kellar, James H.

Kooymen, Brian P.

Kullen, Douglas

Logan, Brad, Richard E. Hughes, and Dale R. Henning

Luedtke, Barbara E.

McCord, Beth K.
2009a *A 2008 Archaeological Survey of the Taylor Village (12H25), Hamilton County, Indiana.* Applied Archaeology Laboratories, Ball State University, Muncie, IN. M.S. on file at Applied Archaeology Laboratories in Muncie.

2009b *Archaeological Investigations at the Hobbs’ Knob (12M266) and Taylor Ten (12H987) Sites, Madison and Hamilton Counties, Indiana.* Reports of Investigation 75, Archaeological Resources Management Service, Ball State University, Muncie, Indiana. M.S. on file at Applied Archaeology Laboratories in Muncie.

McCord, Beth K., and Donald R. Cochran
2003 *An Archaeological Survey of the Taylor Property at the Strawtown Prairie, Hamilton County, Indiana.* Reports of Investigation 64, Archaeological Resources Management Service, Ball State University, Muncie.

McCord, Beth K., Leslie L. Bush, Donald R. Cochran, Alison Hadley and Tanya Peres

McCullough, Robert G.


McCullough, Robert G., Andrew A. White, Michael Strezewski, and Dorothea McCullough

Milner, George R.

Newman, J.E.

Overstreet, David F.

Petty, R.O., and M.T. Jackson

Richards, Ronald L., and John O. Whitaker Jr.

Schiffer, Michael B.

Staeck, John P.

Stephenson, Patricia Ranel
1988 *Results of a survey to locate Woodland sites within the Upper White River valley of east-central Indiana with the intention of determining a positive correlation with Ross soil*. Unpublished M.A. Thesis. Department of Anthropology, Ball State University, Muncie.
Stevenson, Katherine P.  


Tankersley, Kenneth B.  

Theler, James A., and Robert F. Boszhardt  

Walthall, John A.  

Wayne, W.  

Wedel, Mildred Mott  

White, Andrew A., Dorothea McCullough, and Robert G. McCullough  
2002  *An Archaeological Evaluation of Late Prehistoric Village and Subsistence Patterns in North-Central and Northeastern Indiana.* Reports of Investigation 216, IPFW Archaeological Survey, Fort Wayne, IN. M.S. on file at Applied Archaeology Laboratories in Muncie.


Whittaker, John C.  
Zhang, David D., Harry F. Lee, Cong Wang, Baosheng Li, Qing Pei, Jane Zhang, and Yulun An
Appendix A

Taylor Village Property Land Patents
The United States of America.

To all to whom these presents shall come, Greeting:

Whereas John Collip & Jesse McKay of Hocking county, Ohio

have depicted in the General Land Office of the United States, a certificate of the Register of the Land Office at Bostwick's State of Alabama,

whereby it appears that full payment has been made by the said John Collip to Jesse McKay,

according to the provisions of the Act of Congress of the 24th of April, 1820, entitled "An act making further provision for the sale of the Public Lands," for

the East half of the South East quarter of East half South East quarter (Sec. 8 W. R.) of section

two, and Township number of Range five, on the Territory of Brookfield and State of Indiana,

containing twenty-eight acres and eighty-five hundredths of an acre,

according to the official plat of the survey of the said lands returned to the General Land Office by the Surveyor General, which said tract has been pur-

chased by the said John Collip & Jesse McKay

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, and in conformity with the several acts of Congress, in such case made and provided, have Given and Granted, and, by these presents do give and grant, unto the said John Collip & Jesse McKay,

the said tract above described: To have and to Hold the same, together with all the rights, privileges, immunities, and appur-

tenances of whatsoever nature, therto belonging, unto the said John Collip & Jesse McKay,

and their heirs and assigns forever. As Ten and no more so and no less as to any part

In testimony whereof, I, James Monroe,

President of the United States of America, have caused these letters to be made Patent, and the seal of the General Land Office to be hereunto affixed.

Given under my hand, at the City of Washington, the first day of November, in the year of our Lord, one thousand eight hundred and twenty-three, and of the Independence of the United States the forty-seventh year,

By the President,

[Signature]

Commissioner of the General Land Office.
Figure 40. The land patent for a portion of the property that Taylor Village sat on for Henry Foland and Jesse Wood (Bureau of Land Management n.d.)

The United States of America.

To all to whom these presents shall come, Greeting:

Whereas Henry Foland and Jesse Wood, of Posey County, Indiana,

have deposited in the General Land Office of the United States, a certificate of the Register of the Land Office at Evansville, State of Indiana,

whereby it appears that full payment has been made by the said Henry Foland and Jesse Wood, according to the provisions of the Act of Congress of the 24th of April, 1820, entitled "An act making further provision for the sale of the Public Lands," for

the West half of the South East quarter of the South East quarter, East of the White River, Section Twenty-nine, Township twenty-nine north, Range one east, in the District of Poseyville and State of Indiana, containing one hundred and twenty acres, the whole of an area

according to the official plan of the survey of the said lands, returned to the General Land Office by the Surveyor General, which said tract has been purchased by the said Henry Foland and Jesse Wood.

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, and in conformity with the several acts of Congress, in such case made and provided, have Given and Granted, and, by these presents do give and grant, unto the said Henry Foland and Jesse Wood,

the tract above described: To Have and to Hold the same, together with all the rights, privileges, tenures, and appurtenances, of whatsoever nature, therto belonging, unto the said Henry Foland and Jesse Wood

and their heirs and assigns forever.

In testimony whereof, JAMES MONROE

PRESIDENT OF THE UNITED STATES OF AMERICA, have caused these letters to be made Patent, and the seal of the General Land Office to be hereunto affixed.

Signed under my hand, at the City of Washington, the eighteenth day of August, in the year of our Lord, one thousand eight hundred and twenty-nine, and of the Independence of the United States the forty-seventh.

By the President,

JAMES MONROE

Commissioner of the General Land Office.
Appendix B

Lithic Identification Typology
Figure 41. A flow chart for lithic identification based on Andrefsky (2005).

### Applied Archaeology Laboratories

**Lithic Analysis and Catalog Identification Standards**

<table>
<thead>
<tr>
<th>Identification</th>
<th>Identification 2</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BONE &amp; SHELL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td></td>
<td>(Animal &amp; Bone Type)</td>
</tr>
<tr>
<td>Bone, Burned</td>
<td></td>
<td>(Animal &amp; Bone Type)</td>
</tr>
<tr>
<td>Tooth</td>
<td></td>
<td>(Animal)</td>
</tr>
<tr>
<td>Shell</td>
<td></td>
<td>(Animal)</td>
</tr>
<tr>
<td>Shell, mussel</td>
<td></td>
<td>(Animal)</td>
</tr>
<tr>
<td>Shell, mussel, burned</td>
<td></td>
<td>(Animal)</td>
</tr>
</tbody>
</table>

| **LITHICS**    |                  |          |
| Biface          |                  | (Point type) |
| Biface, non-hafted |              | (Point type) |
| Core Tool       |                  | (Chert Type) |
| Flake Tool      |                  | (Chert Type) |
| Flake Tool, Retouched Flake |          | (Chert Type) |
| Flake Tool, Edge Modified Flake |   | (Chert Type) |
| Flake Tool, Endscraper |            | (Chert Type) |
| Flake Tool, Sidescraper |       | (Chert Type) |
| Bipolar         |                  | (Chert Type) |
| Proximal Flake  |                  | (Chert Type) |
| Flake Shatter   |                  | (Chert Type) |
| Angular Shatter |                  | (Chert Type) |

| **POTTERY**     |                  |          |
| Pottery, body, plain |               | (temper – grit, shell) |
| Pottery, body, cordmarked |         | (temper – grit, shell) |
| Pottery, body, incised |              | (temper – grit, shell) |
| Pottery, neck, plain |               | (temper – grit, shell) |
| Pottery, neck, cordmarked |         | (temper – grit, shell) |
| Pottery, neck, incised |              | (temper – grit, shell) |
| Pottery, rim, plain |                | (temper – grit, shell) |
| Pottery, rim, cordmarked |          | (temper – grit, shell) |
| Pottery, rim, incised |              | (temper – grit, shell) |
| Pottery, base, plain |                | (temper – grit, shell) |
| Pottery, base, cordmarked |          | (temper – grit, shell) |
| Pottery, base, incised |              | (temper – grit, shell) |
| (Also use: tool impressed, excrullated, fabric marked) | | |
Appendix C

Indiana Archaeological Survey of Taylor Village
Figure 42. An Indiana Archaeological Survey form filled out for Taylor Village (Indiana Archaeological Survey n.d.).

<table>
<thead>
<tr>
<th>Cat No.</th>
<th>Name</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Samuel Taylor</td>
<td>See Site sheet 12 Blk-25</td>
</tr>
<tr>
<td>Arc. No.</td>
<td>Village Site</td>
<td>Figured 1961, 62, 63, Quadrangle C wars, Ind.</td>
</tr>
<tr>
<td>Orig. No.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photo No.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDIANA ARCHAEOLOGICAL SURVEY

HAMILTON COUNTY

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Type of Site</th>
<th>Acces. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Village</td>
<td></td>
</tr>
</tbody>
</table>

Location: Indiana, Hamilton County, White River Twp.

Area: 300 ft x 150 ft

Instrument Measured: Tape Measured

Owner: Daniel Taylor

Prev Excavation: No

Flows: Yes

Soil Type: Dark Organic Sand in part, Yellow Sandy Clay

Relation to Water: Approximately 200 feet on the north bank of White River

Surface Material Found: Triangular Points, Pottery, Heat Cracked Stones, Shells, and Lithic Samples, Animal Bones.

Remarks: The site in 1961 was in weeds at the time of survey, not much material was found at that time.

In the spring of 1962 the area was plowed. Mr. McClintock and the writer walked over the site in May 1962. Many animal bones, shells, broken triangular points, lithic samples, worked stones, and heat cracked stones were found on the surface.

July 4, 1962 the writer found bones of the same.

This village site has been reduced due to a small gravel pit on the north end of the site. This gravel was used for county roads in the area.

This hole of material was found near the central part of the field and to the west. The west part of the field has only tempered sherd, heat cracked stones, lithic samples, and worked flint. Both the east and west part of the site and filled over for the material to be found on the surface.

(Sketch map on reverse side with landmarks to aid in relocating)
Appendix D

Geographic Provenance of Indiana Chert Types
Figure 43. A map of the geographic provenance of Indiana chert types (Cantin 2008).