TO "AVAIL OURSELVES OF THOSE EXTENSIVE CHANNELS OF TRADE": AN EXAMINATION OF TRADE PRACTICES AND POLITICAL DYNAMICS WITHIN THE GREAT LAKES REGION

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ABSTRACT

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The trade and exchange that was created by the influx of Europeans into North America as a means of harvesting the available resources grew to encompass many, if not all, of the Native American groups living there. Participation in this vast network during the late eighteenth and early nineteenth centuries (1760-1830) was regulated by various colonial political entities, however the tumultuous political scenario during this time created a situation in which Native Americans could use this economic network to their benefit. Using archaeological and archival information available for Native American villages and Euro-American traders present throughout the southern Great Lakes, this dissertation examines the specific nature of the economic relationships created, maintained, and expanded upon during this time period from a resource dependence perspective. Resource dependency theory was originally conceived of within business and organizational studies as a means of examining power between entities based on material transactions between the two. A resource dependency theory framework was applied to the data to determine the degree of economic dependence between Native American village organizations and the Euro-American traders who supplied them. These results were examined within the local historical context, where it was found that the traders were more dependent on the Native American groups than the Native Americans were on them. It was also observed that these economic relationships were related to the political alliances created during this time, as resource dependency theory suggested they may be, though on a very localized level. By further examining these relationships from a regional perspective, it is suggested that

the economic network created by Europeans for resource extraction from the 'new world' allowed the Native groups they were trying to repress a means of alleviating the power differential and negotiating the situation to their benefit. This research demonstrates the applicability of a resource dependence perspective in providing a new focus and means of examining the relationship between the economic networks present and the political situation during the latter half of the eighteenth century and beginning of the nineteenth century in the southern Great Lakes region.

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Native American and European encounters and exchange in the Great Lakes region

typically span from 1650-1830s and encompass the variety of interactions that occurred during

this prolonged entanglement between Native groups and Europeans in eastern North America.

The variety and complexity of these interactions and the networks created and maintained by

these activities were partially the result of the quantity of Native and European groups involved.

Some of this variety and complexity, however, emerged as a byproduct of the numerous

adaptations and compromises that were occurring in both Native and European cultures as they

interacted with one another. These compromises and adaptations in turn altered the nature of the

interactions over time, so that there was never one way of dealing with European or Native

cultures.

Politically, all eastern North America was in flux throughout this time. From French, to

British, to American control, this period was fraught with changing policies, attitudes, and

approaches to both Native Americans and trade. Unfortunately, research into understanding the

impacts during the latter portion of this period (from approximately 1760-1830) from an

archaeological perspective has been lax. In fact, given the complexity of these shifting ties, many

researchers have tended to over generalize the situation. For example, according to Barrington

(1999:10):

> The fur trade established an interdependency between American Indians
> and Europeans, but what balance of power existed initially was
> eventually lost. Westward expansion of white settlers and reductions in
> animal populations resulted in increased competition between indigenous
> tribes. Increased resource scarcity heightened rivalries between some
> tribes and caused the displacement of others. Further conflict arose
> when displaced tribes relocated in already-occupied territory…And as
> the British Empire came to dominate larger regions of the continent,
> even the most powerful tribes were subsumed within its area of

> influence. The bargaining power of indigenous nations diminished once
> they no longer had bordering empires to play against one another.

This statement condenses several much more complicated issues that did not always hold true for every group or every region: competition for resources, rivalries, displacement. Many of these statements require additional evidence on the nature of the relationships between the various European groups and various Native American groups regarding there interdependence and resource acquisition and use, migration and displacement, and competition and conflict. Additionally, just because the British claimed political control over much of eastern North America after 1763, that did not mean that any of the Native Americans currently residing there were under their influence or that their bargaining power diminished in any way, as will be examined in this dissertation.

The problem with broad brush statements such as this is that they ignore the actual complexity of Native-European interactions during this time and because of this portray Native Americans in a way that suggests they were ultimately subsumed and otherwise wiped out by European colonialism. This view ignores the active role Native Americans played in their own history; their choices, their fights, and their decisions both economic and political. Much recent work has focused on better examining these interactions from this perspective (Atalay 2006; Silliman 2005; Silliman 2010; Walder and Yann 2018; Witgen 2012a, 2012b, 2012c). Many of these choices revolved around a critical encounter between the two groups: trade.

Much as the region was politically in flux, the rules for trade were also in constant flux. This powerful tool for resource extraction was prized by European colonial powers, to the degree that they made special efforts to attempt to regulate it. However, shifting political control meant shifting trade regulations. These changes meant that over the course of just a few decades, trade

regulations that had been long established between the French and the Native Americans were being constantly altered. However, these changes in regulations did not necessarily alter the actual trade practices that were in place. Thus, trade from 1760 to 1820 was an amalgamation of previous trade practices, current trade regulations, and many different groups competing for business and the best prices. The result was a network of shifting political and economic ties between the different groups and a fluid and dynamic system of trade.

It probably would not be an exaggeration to say that the trade-based resource extraction introduced by Europeans affected almost all the Native American groups in eastern North America to some degree. These groups were involved in the exchange and trade networks that linked the Great Lakes region and Midwest to the Northeast, the Southeast, the St. Lawrence River Valley, and Hudson's Bay. A plethora of research topics focus on various aspects of this; some focusing on a particular nationality or cultural affiliation, some on a particular locale, and some on a specific branch or aspect of trade. This specific focus has meant that some of the character of the interactions between each of these groups has been lost; maintaining the plurality of groups allows the differences in origin, organization, and culture to remain (Brown 1980). As Van Zandt (2008) also notes, it is difficult to discuss any one European or indigenous group in North America as the complexity of the interactions that occurred means that focusing on any one group leaves out crucial pieces of the puzzle. Each group's actions were predicated on the actions of another.

Given this need to focus on the complexity and relationships of trade, many researchers have divided it up into regional categories. Some focus on the trade that occurred in the Canadian Shield region, as highlighted by the Hudson's Bay Company. Others focus on the trade that occurred in New Albany (and later New York) among the eastern Native American

groups, in particular the Iroquois. The southeastern region, and the trade passing through Charleston, is another area of focus. Finally, because of its unique geographic location, and the many waterways and lakes, the Great Lakes region has been a focus of trade, often with Michilimackinac, Montreal, or Detroit as the highlight.

This interconnectivity between regions is visible politically, economically, and through the social connections between groups, where an action or interaction was never strictly political, economic, or social. Eric Hinderaker (1997) demonstrates this through discussions of the alliances, elaborate kin networks, and trade routes that could run from the Northeast to the Southeast and from the Atlantic to the Mississippi River, between the Illinois, Miami, and Europeans in the Midcontinent. The complexity and geographic extent of these relationships means that focusing on only a single group again provides only a small piece of the story. The geographic links between groups could be massive, as Harold Innis (2001) demonstrated with the Miami, Illinois, Ottawa, and Iroquois. The Iroquois network was so expansive that they were able to "compete effectively and to trade with tribes around Lake Erie and the Ohio, the Wabash, and the southern shores of Lake Michigan" (Innis 2001:53). Though very infrequently, Innis also alludes to internal Native trade networks; "the trade stressed individual initiative, resource, and general freedom from restraint" (Innis 2001:115). Clearly, the exchange networks that existed during the contact period were very large and complex.

Is this regional divide necessarily useful? Merchants from Maryland, Virginia, and Pennsylvania (and sometimes Charleston) would ship their goods up the Ohio River to the Mississippi for sale in Mobile and later New Orleans. Traders in the Upper Mississippi territory (traditionally considered part of the Great Lakes region) would ship goods down the Mississippi to New Orleans. Traders working along the Wabash and Maumee Rivers could ship their goods

to Detroit, and from there to New York, or up to Michilimackinac. If the Southeastern region is ignored, then Mobile and New Orleans, substantial trade ports for much of the United States east of the Mississippi throughout this time, are left out of the discussion. A lack of discussion on the northeastern region ignores the impact that the New Albany/New York trade had. Much like these other regions, trade in the Great Lakes region was not a clean, concise, or self-contained entity. Traders working in this region had ties to New Orleans, New York, Montreal, Detroit, and even Charleston. This brings into question the utility of relying on a geographic framework for discussing the practices and impacts of trade.

Given the possible extent of the exchange networks that blanketed North America, it is clear that only looking at one group, or one area, cannot provide the information necessary to answer much broader questions regarding why Native groups maintained connections to any other group. Understanding the subtler group dynamics, the intergroup relationships, can elicit meaning from these encounters that might otherwise be overlooked. More detail, even, than can be gleaned from historical documents alone. Not every interaction was recorded, in particular the illicit exchanges. Where documents can provide evidence for direct trade, archaeology can help establish the physical networks that goods travelled across the landscape. The relationship between the official trade and the artifacts visible at various sites across the landscape can be illustrative of the actual networks these goods travelled through, potentially revealing additional information on the networks of political relationships and the political ties between groups (Brown 1980; Hinderaker 1997; Sleeper-Smith 2009; Van Zandt 2008).

Rather than focus on a geographic region, instead this research focuses on specific groups of people, which then informs the geographic range. The groups that will be the focus of this research are the Potawatomi, Miami, and Ottawa, which resided throughout Michigan, Indiana,

Illinois, and Wisconsin during this time. From here, the nature of the relationships between these groups and various European entities is further examined, focusing specifically on their actual degree of interdependence by looking at each groups' strategies for resource acquisition through trade. This is done with an understanding that access to various resources through trade changed during this latter period to incorporate a variety of wide-ranging trade networks. To do this, the focus will be placed on several specific groups, or "organizations." These organizations are specific places, traders, and companies that will inform the discussion of this period. The specific organizations used was determined based on the presence of good archaeological and archival data on the trade goods that organization may have used (which will be discussed further in later chapters). The goal of this project is to examine this complexity during the latter portion of the contact period, from 1750-1820 approximately, through the distribution of trade goods across the southern Great Lakes, and how this economic situation may have influenced political agendas.

Statement of the Problem
The goal of this project is to examine the basic problem of how trade goods arrive at the sites where they are found archaeologically (through what sources), and what these locations and their relationships to other similar locations may say about the people involved in this exchange and their political allegiances. Most studies of trade during this time focus solely on the fur trade, ignoring outside impacts that may also be present, or focus on only the major trade routes, ignoring alternative routes or independent trade. From a larger perspective, the revelation of these networks can provide an avenue for examining the larger geopolitical issues during this time. Focusing on multiple groups (Miami, Ottawa, and Potawatomi) can also help tie the region

together in a new way, as most research focuses on either individual histories of Natives and of Europeans or individual events.

This problem is based on the premise that the route trade goods travelled was related to larger interaction networks. While trade goods are not necessarily equivalent to people, they do go where they are taken; they must arrive at a location somehow. Trade goods at a site are the result of several processes; the item's initial manufacture and production in Europe, shipping to America, purchase by a trader, subsequent purchases by Native Americans or other traders, and trade or exchange through the network, any point at which the process may stop. Many factors can affect when this process stops; tribal relations, intergroup trade relationships, intragroup trade relationships, independent traders.

To return to the initial problem, this research will focus on how trade goods were travelling through this system by examining the economic relationship between Native American village sites and the various traders they may have interacted with. This relationship will be used to elucidate the economic interactions that occurred, and what that might mean for larger political actions and alliances. This can be done using Resource Dependency Theory (RDT), which provides a mechanism for examining power dynamics as the result of economic exchange.

Research Questions and Hypotheses

At a broad level, this study uses RDT to address the power dynamics created as a result of trade and exchange between Europeans and Native Americans by examining the material nature of culture contact in trade and exchange situations. Empirically analyzing the power relationships associated with the acquisition of specific goods means focusing on the materiality of trade, in particular the distribution of specific types of trade goods typical of this period, as well as how the goods moved beyond the European system and within the Native system. By examining the

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specific goods being exchanged or traded, as well as the choices being made regarding the sources of those goods within the trade networks, the role each culture had in these interactions, and power relations between them, can be elaborated upon.

The main hypotheses of this dissertation focus on the central proposition of RDT, that power of one group over the other is a result of the economic relationship between the two groups. Power imbalance in these relationships, or a mutual dependence or reliance, is created through trade and exchange, through the acquisition of specific goods from a specific source. Groups can gain more power in the relationship by reducing the ways in which they may be reliant on the other group for these items, or by finding alternate sources for those goods. Finally, the results of these negotiations and exchanges between various groups can be visible physically as groups used objects as an expression of the political economic dynamics.

The specific research questions that will be addressed focus on testing the power dynamics between specific Native American groups and individual Euro-American traders. This involves determining what, if any, goods could only be acquired through a single source, as these would be critical to the power relationship. Additionally, the notion of dependency of Native American groups on Europeans, i.e., total cultural dependency versus single resource reliance, can be addressed. Using RDT, I question whether the various Native groups that resided in the southern Great Lakes during this time were completely dependent on Euro-American sources, if the traders present in the region were dependent on Native Americans, or if the actual dynamic was more ambiguous and complex. According to RDT, if specific Native American groups were completely dependent upon a European source, there would be a large power imbalance between both groups and thus a lower likelihood of tactics designed to restructure dependencies and absorb constraint. In this scenario, there would be little evidence for tactics to reduce the sources

of that dependency. Additionally, there would be little evidence for the presence of independent traders (as this would reduce dependency) or alternative trade routes.

If Native Americans groups and Euro-American traders were instead mutually dependent on one another (with little power imbalance), attempts to restructure their dependencies would be increasingly successful and thus more visible in the material and ethnohistorical record. Evidence for tactics to reduce dependency, such as alternative trade routes, prevalence of and exchange with traders not associated with the British Empire, coalitions between groups, and socializing members of the opposite group would also be more prevalent. I hypothesize that, based on White's (1991) analysis of the historical events of the time, trade relationships between various Native groups and British traders, while varied, were more indicative of mutual dependency as it is defined within RDT.

Additionally, RDT allows testing of the relationships between various Native groups as well. In these instances, direct trade with British traders may not have always been an option. European goods would have been introduced into the various groups through down-the-line trade. Thus, if Native groups were trading with one another, trade relationships between various groups should demonstrate active down-the-line trade; this may be further indicated by a degree of mutual dependence between villages.

Finally, I hypothesize that power relations and the economic resources Native American groups were reliant on varied by village, were historically contingent, and that this is observable in the types of goods they decided to trade. As such, there should be visible differences in the relationships between specific Native villages and specific traders, as each group would have had a different role in the power relations, and the choices they made regarding trade and exchange. This may, in part, be the result of specific group affiliations.

In addressing these hypotheses analytically, broader power relationships between Native Americans and European traders during the British era in the Great Lakes region can be discussed at a finer level than previously done. The notion of 'dependency' may also be expanded upon, corrected, and refined. This will add depth to current interpretations of the trade and exchange that was occurring in the southern Great Lakes during the latter portion of the eighteenth century and into the early nineteenth century, by elaborating on the specific power relations between these groups as they relate to economic endeavors. By focusing on group responses to larger geopolitical/economic circumstances, I can provide a more meaningful explanation of Native-European dynamics during this period. Elaborating on variation and similarities in trade situations can also help provide a larger framework for understanding culture contact situations between different groups, as well as how understanding the political and economic dynamics can affect these situations.

Layout of this Dissertation

Chapter 2 will provide some background on various studies of trade from a regional perspective. It focuses on the diversity of trade as well as the interconnectedness of eastern North America during this time period, to demonstrate the options available to Native American groups, as well as Euro-American traders. This chapter provides the background information needed to better understand the trade and exchange that occurred during the late eighteenth/early nineteenth centuries. The second half of this chapter provides an examination of the economics of trade during this period; the official policies that governed how trade was carried out as well as what was traded.

Chapter 3 introduces the theoretical framework used for this work, Resource Dependency Theory (RDT). A short background on this theoretical framework is provided, including its use

in business and organizational studies. Its relevance to archaeology of the fur trade is discussed, along with an in-depth model for how it will be applied to this research.

Chapter 4 provides more detailed methods for how RDT will be applied to the collected archaeological and archival information. The assumptions that were made while using this data are outlined, as well as the specific process for applying RDT. Some of the difficulties with using this theoretical perspective for archaeological data are also outlined.

Chapters 5, 6, and 7 each outline the results of the application of the methods of RDT to specific organizations within the Ottawa, Potawatomi, and Miami of the eighteenth century southern Great Lakes. The results are tentatively discussed, including some preliminary interpretations on how each group may have been balancing economic and political demands.

Chapter 8 takes the results from the previous three chapters and incorporates them into a larger regional analysis that is then used to address the original research questions and hypotheses posed above. The results are tied into the resource dependency framework to demonstrate the applicability of this framework to not only this research, but to other archaeological research into the topics of trade and exchange. The chapter concludes with a discussion on some of the challenges of working with RDT from an archaeological perspective.

The final conclusions of this research are then presented. While there is still more research that can be done on this topic, these preliminary results can provide an avenue for guiding future research into both RDT and eighteenth-century trade.

Chapter 2: The "Fur Trade" and Trade Studies: A Background

Most histories focusing on the interactions between Native American groups and various

Europeans during the eighteenth century focus on the "fur trade," as it is colloquially known, and

its specific history. The specific interactions that are the foci of this research are important,

however most work in this area does not provide an analytical framework for examining how the

trade worked, what items may have been traded, or how these economic relationships may have

impacted larger political alliances. The first portion of this chapter will provide a brief history of

this trade from the second half of the seventeenth century into the nineteenth century and the

types of interactions it espoused, as it is relevant to this study. This history will be subdivided by

geographic region. The second portion of this chapter will discuss the broader topics of

economics and politics during this same time, focusing on select centers and the diversity present

in those locations as a lens for interpreting the trade.

Diversity of Trade in North America, 1650-1780

Much of the trade between Native American groups and Europeans across eastern North

America developed out of the need to acquire resources (Keene 2002; Wolf 2010). The trade that

became colloquially known as the 'fur trade' was just a small piece of the larger global economy

where the French and the British were focused on resource extraction and colonization (Wolf

2010). As part of this mission, French and British traders encouraged the trade of fur pelts

(hence the term "fur trade"), from animals such as beaver, deer, mink, or fox in exchange for

firearms, kettles and, most importantly, cloth items (Sleeper-Smith 2018). As Sleeper-Smith

(2018) points out, the term 'fur trade' is a misnomer, as one only need to peruse the Montreal

Merchant Records (e.g., Anderson 1992) or the Hudson's Bay Company Archives to see the

prevalence of cloth and fabric as a favored trade item. In fact, using the term 'fur trade' as a descriptor for these interactions only highlights the Euro-American side of the trade that was occurring. As such, using the term 'fur trade' is Euro-centric and diminishes the considerable Native presence in these relationships.

Susan Sleeper-Smith has argued that the resource-based trade in eastern North America would be more aptly named the "cloth trade" (Sleeper-Smith 2018:357). This term, while more accurately representing the large quantities of cloth goods that were being traded, would also place more emphasis on the Native side of these transactions, which had a considerable impact on social, economic, and political dynamics. In fact, this research will argue that Native American groups dictated these transactions, which further influenced economics and politics for these groups. While cloth and furs were both popular trade items, a closer look at these primary records of trade transactions reveals the larger cultural impact trade had on groups, in part through the creation of social ties (Sleeper-Smith 2009:443). These social ties created internal networks that Europeans were incorporated into that were as much about cloth, agriculture, and other necessities as they were about the furs. As the French and British traders could not survive long without food, and they had very few agricultural settlements in the interior of the continent, trading in foodstuffs often provided a stronger link between regions than other types of trade (Eccles 1983; Moodie 2009).

As the Native American groups that lived throughout eastern North America during this time varied widely, the types of goods being exchanged back and forth varied as well based on individual groups' needs, personal preferences, and the availability of specific resources within that region. As such, Euro-American traders would ally themselves with specific groups. Because of this, trade is often examined through a Euro-centric regional lens: the Canadian

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Shield region (dominated by the British Hudson's Bay Company), the Montreal and Upper Great

Lakes trade (largely dominated by the French and their *coureurs de bois*), and trade between the

British and Iroquois centered on Fort Albany. Trade was also conducted in the southeastern

portion of the continent out of Charleston, as well as out of New Orleans and Mobile.

Additionally, independent traders from Charleston, Montreal, and New York created routes

through the Ohio River Valley and the Louisiana Territory (Benton 1903; DuVal 2006;

Hinderaker 1997; Sleeper-Smith 2009, 2018; White 1991). These routes became widely known

among traders. For a good synopsis and map of trade during this time, see Michael Nassaney's

(2015) book, "The Archaeology of the North American Fur Trade." This Euro-centric approach

has been criticized (Hämäläinen 2014; Witgen 2012b); these researchers suggest that a theme of

indigenous territoriality be used as a uniting concept, as it would more adequately explain the

maintenance of Native American political and economic power into the nineteenth century

throughout much North America (Lipman 2016). This approach focuses on "adaptive and

expansive Native groups" (Lipman 2016:27).

In a similar approach, Bradley (1987:89) claims that while many of these trade routes

were based on prehistoric trade networks, the complete nature of the trade changed with

European contact.   He says that "more material began to move through the exchange networks

than had in the previous several hundred years…by the end of the century, the character of the

exchange system was nearly the opposite of what it had been a century earlier." Colonial

settlements "also provided a set of fixed points to which native trading systems could be

anchored. It was from this basis that the well-known trade routes of the seventeenth century

emerged" (Bradley 1987:90), though the same basic networks continued to function.

While Bradley may be accurate in his estimation for the region around Fort Albany, this

may not be the case for other regions of trade. In order to understand the differences between these regions and how they have been studied in the past, each will be discussed briefly, focusing more on the interactions and trade routes than on the specific history of the trade in that area. These are important as no region was isolated, and the interactions occurring in one region often had an impact on the people in other regions.

Canadian Shield/Hudson's Bay

The British presence in the Canadian Shield took on a different character than the British presence throughout the rest of North America, in part due to the drastically different geography. The placement of fur trade factories and warehouses around Hudson's Bay provided stationary locations for trade, though these were also locations few people wanted to colonize. The British had to entice the highly mobile indigenous groups to consistently return to the same location (Brown 1980; Busted 1991; Carter 2008; Innis 2001; McCalla 2008; Van Kirk 1980). Oftentimes, the intimate relationships between traders and indigenous women were the glue that allowed trade to continue (Brown 1980; Van Kirk 1980).

Ray and Freeman (1978) argue that the placement of British posts around Hudson's Bay, and the lack of French traders in the region, allowed for a highly structured trading network to evolve; a reorientation of trading networks in the forests to the southwest, where the game was more plentiful. As game was scarce throughout much of the region, except for these marshlands in the southwest, these networks allowed more northerly groups to obtain the pelts needed for trade from other native groups. It also allowed the British access to the food stuffs they needed to survive being sedentary in the hostile climate. They posit a zonal pattern of the trade to explain this, where those closest to the company directly traded, those further away were the middlemen in the trade, and those farthest away were the trappers, working with the middlemen

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for goods. This demonstrates the importance of the spatial aspect of trade in understanding it as an integrated system (Ray and Freeman 1978:246). While the trade that occurred in this region is likely more complex than a simple trade zone, middleman zone, and indirect trade zone that they offer as explanation, it provides an initial framework.

The Albany Iroquois Trade

While most of the British settlements on the eastern seaboard of North America were focused on resource procurement and extraction, they were also creating many new colonies as part of this process. At Albany, in what eventually became the state of New York, the British traders traded almost exclusively with the local Iroquois groups. The Iroquois, in turn, were loyal to the British throughout much of this period. Most of the British goods arrived into the area via the St. Lawrence River. A closer look at these interactions demonstrates clear evidence for the indigenous agency within these encounters (Bradley 2007; Eccles 1983). Additionally, Iroquoian people also participated in both indentured work and paid labor, further contributing to the Atlantic economy (MacLeitch 2009). This broad approach to European commercialism enabled the Iroquois to pursue their trade relationships and condition changes as a result of these relationships in a manner of their choosing, allowing for the persistence of Iroquoian culture (MacLeitch 2011).

Evidence for trade networks in this area comes largely from archaeological sources, in the form of tracing specific trade goods across the landscape (Bradley 1987, 2007). While this generally indicates trade amongst Iroquoian groups, Bradley has also noted that there is evidence to suggest that some of the European trade goods visible at Onondaga Iroquois sites came from the mid-Atlantic coast via the Susquehanna rather than from the St. Lawrence as is usually assumed (Bradley 1987:90). This would suggest either a change in routes, or that alternative

routes were also being used, and that trade was not solely with the British at Albany (Bradley 1987, 2007). He further proposes a method for observing the change in these networks: choose a class of material exchanged both prior to and after contact which applies to both groups (Bradley 1987). However, limited work has been done to further analyze these networks, though one study has noted the importance of transportation routes in the placement of 16th and 17th century Iroquois settlements (Jones 2010).

Montreal/Northern Great Lakes

Coming in through Montreal and the St. Lawrence River, French traders and explorers were more concerned with resource extraction than they were with colonization, which in part led to the presence of *coureur des bois* (an independent entrepreneurial trader) travelling throughout the interior of the Eastern Woodlands collecting pelts for trade. These interior routes stretched throughout the upper Great Lakes region, as well as throughout the Louisiana Territory. While most of the northern routes eventually returned to Montreal, all of France's colonies throughout eastern North America were linked, including the French holdings in Louisiana and Illinois territories (Choquette 2002; Pritchard 2004). Because they were so widespread, France lacked any considerable power, and in many cases, Native groups held the power over the Europeans (DuVal 2006).

Perhaps the most well studied aspect of the French trade network was in the Upper Great Lakes region. Richard White's (1991) book on the topic, which has had an immense influence on trade studies, often sets the stage for discussions on the Native/European interactions in this region. His concept of the middle ground has provided a framework for many studies of European/indigenous trade by focusing on the specific power dynamics and the compromises made by each group. This also allowed for an expansion and negotiation of gender roles within

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indigenous communities (Sleeper-Smith 2001; White 1999; Witgen 2012). While many historians and archaeologists have commented on and critiqued White's approach and its applicability since then (see Lipman 2016 for an overview, as well as the January 2006 issue of *The William and Mary Quarterly*: Sleeper-Smith 2006, Deloria 2006, and White 2006), White's attention to detail on the issues of power and cultural production within the Great Lakes region still merit further discussion, in particular his focus on the historical particulars for this region during this time.

Studies on the archaeological signature of these networks have been popular since George Quimby's (1966) study on trade goods of the Great Lakes. Studies have evolved, however, to showing how material culture was an avenue for expressing identity, resisting European induced change, and to reconstruct identity (Mann 2008; Wagner 1998). Thus, cross cultural exchange can provide significant insights into the processes of identity formation, especially with regard to the political and economic dynamics that structured these processes (Mann 2003:iv).

Judy Tordoff (1984) used this information to create a model for the distribution of fur trade related sites in this region. She examined the patterning of archaeological remains at French fur trade sites, suggesting these sites can be organized hierarchically as a port of entry, government/economic center, regional distribution center, local distribution center, or aboriginal distribution center. She described the majority of the French colonial centers as regional distribution centers for the fur trade. Aboriginal distribution centers were native villages that traded the furs to the traders. These people were also the intended recipients of trade goods.

Dean Anderson (1992) demonstrated that cloth was a substantial trade item throughout this region. In his comparison of the Montreal merchant records with the archaeological

assemblage, he also noted that, "the list of goods exclusive to the archaeological record suggests that there was a substantial number of types of goods obtained by Indian peoples that did not come from the main merchant suppliers in Montreal" (1992:113). He further attributes this to opportunistic trade that would occur between Europeans and Native Americans. David Keene's (2002) research further focused on these artifact assemblages, examining the differences between the assemblages of Fort Ouiatenon, Michilimackinac, and Fort de Chartres to demonstrate that the Illinois fort served a different function than the others, perhaps as part of a different trade network. He also emphasizes the need to think about fur trade studies not as an isolated economic activity, but as part of the larger colonial economy, which is his key criticism of the model Tordoff created, stating that it assumes that the only economic activity in the region was related to the trade. More recently, Heather Walder (2013) used a compositional analysis of blue glass beads to identify regional patterns of trade networks in Wisconsin, in order to understand social interactions related to the adoption and adaptation of European trade goods in the context of initial contact.

Michael Witgen (2012a) has approached trade in this region from a different angle, from that of the Native peoples. The preexisting Native networks that were used to adapt to European incursion and trade requests created a Native heartland of political and economic power; to understand why trade developed as it did it is critical to "decenter [from the] European empire as the focal point of early American history, and look instead at this other locus of political and economic power in North America" (Witgen 2012a:118). Witgen sees this space as forming in response to the expansion of the world market economy into North America yet remaining independent of it at its core (Witgen 2012a:118). His focus on trade from the Native perspective provides a more nuanced view of these interactions.

While many different models have been used to discuss the trade that occurred in the Upper Great Lakes region, many have been somewhat limited in scope, comparing only a few sites (such as Keene 2002) or focusing only on a known network of trade (such as Tordoff or Anderson). To understand trade in this region, a larger scale is needed to study the deviations from the presumed networks.

Southern Great Lakes/Ohio River Valley

The trade networks of the southern Great Lakes region or the Ohio River Valley are not as well studied as other regions, but played a significant role in the development of both economic and political relationships. Some early accounts of the region focus on the Wabash route, a natural waterway from the Great Lakes to the Mississippi River. The main links in this route were Lake Erie, the Miami River, the Wabash River and the portage connecting it to the Miami, and the Ohio River (Benton 1903:7). This route may have been known as early as 1657, though it was definitely known by 1680 when La Salle mentioned it in a letter (Benton 1903:12-13).

Since its discovery by Europeans, The Ohio River Valley/southern Great Lakes was a region of intense conflict from the advent of French missionaries and traders in the 1650s onward (Hinderaker 1997). In the western portion of the Ohio Valley, Europeans found the Illinois and the Miami confederacies, whom together dominated the territory bounded by the Mississippi River on the west, the Ohio river to the south, the Miami River to the east, and the lower tip of Lake Michigan to the north (this is what he refers to as the western half of the Ohio Valley) (Hinderaker 1997:10). The Iroquois, seeking to capture and monopolize the trade in beaver pelts throughout the Great Lakes and the Ohio Valley, made their way all the way into the Illinois country by the 1650s (Hinderaker 1997:12).

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This increased competition throughout the region worked to further confuse and aggravate colonial powers. While colonial officials tried to keep French and British routes and spheres separate, the boundaries still blurred. *Coureur des bois* from the Illinois country, who in the last two decades of the 17th century traded as outlaws, experimented with trading routes to the English colonies on the Atlantic, rather than the closer French outposts. These routes took furs and skins from the French-allied Miami to English markets. This in turn led English traders to approach the Miami villages from the Carolinas (Hinderaker 1997).

The incursion of the Iroquois during the latter half of the seventeenth century cleared the region of its native occupants by 1680. It remained that way until the dawn of the eighteenth century, when the Shawnee and Delaware started to move back into the area. They settled a string of villages in 1720s (Hinderaker and Mancall 2003; McConnell 1992). In response, Pennsylvania traders began to organize large pack trains to make trading circuits through the Ohio Valley. Groups from Detroit would make the trip over to trade with the British; "French-allied Indians from the Great Lakes region hoped to capitalize on a British trading connection" (Hinderaker and Mancall 2003:93). The French further lost the Miami at Kekionga and Fort Miamis, as well as native groups from Ouiatenon and Vincennes to the British. "The British trade acted as a magnet, drawing French-allied Indians from the shores of Lake Erie to the Illinois country into its orbit" (Hinderaker and Mancall 2003:94). This region continued to be a haven for illegal traders, who often shipped their furs south to New Orleans (Sleeper-Smith 2009:xlviii). Connections were maintained with the east coast as well. As of 1714, Carolina traders had several storehouses on a tributary of the Wabash, where they traded with Miami, Ouiatenons and Piankashaws (Hinderaker 1997).

As the region became repopulated, the inhabitants brought with them the networks and alliances they had created elsewhere. This created an expansive network, so that by 1720, Detroit and Michilimackinac were hubs of trade, linked to trading villages at Fort Miami (Fort Wayne), Fort St. Joseph, Fort St. Louis (Peoria), Fort St. Francois (Green Bay), Sault Ste. Marie, Ouiatenon, and Vincennes. Additionally, the smaller posts supplied larger posts with agricultural produce (Sleeper Smith 2009; Moodie 2009).

These competing trade networks meant continued competition between the French and the British. In response, the French constructed a series of forts and outposts across the Wabash River Valley. One of the earliest posts along the Wabash route, southwest of Detroit, was at the chief village of the Miami. Benton claims that it was an outpost of Detroit, as no garrison was stationed there, and it appeared to be solely a trading post (Benton 1903). A bit later, between 1719-1720, Fort Ouiatenon was established further down the Wabash. Originally established as a military post by Sieur Dubuisson with a garrison from Canada, it was eventually placed within the limits of French Louisiana. Now under the command of Sieur de Vincennes, another post (Vincennes) was established lower down the Wabash in 1727 (Benton 1903).

Harold Innis notes that the construction of these forts along the Wabash route were aimed at protecting French interests from the English, "Detroit continued to prevent penetration to Lake Huron and Lake Michigan, and Fort Vincennes was built on the Wabash route in 1727, to check trade with the Indians of Lake Michigan, and the Mississippi" (2001:89). This line of posts along the Wabash was meant as a barrier to English incursion. Keene's (2002) examination of the artifacts at Fort de Chartres, and the differences between that assemblage and that of Fort Ouiatenon, further suggests that perhaps the residents of the region around Fort de Chartres were more concerned with an economy of production, rather than the resource extraction. He suggests

that the archaeological signature of that post demonstrates further that the fur trade was no longer the point of the French colonial presence in this region, but rather keeping an eye on the British.

These posts also provided the interior French trade outlets a means of exportation at both ends, in New Orleans and Montreal. The trade of the upper Wabash posts and Detroit went to Montreal either by way of Lake Erie and the St. Lawrence or by Lake Huron and the Ottawa River route. The lower Wabash and Illinois settlements took their goods to Mobile, and later New Orleans, for the market (Benton 1903). There is evidence to suggest that even the upper posts may have had more ties with Louisiana than elsewhere, as a note from the early portion of the eighteenth century stated "while out of the Wabash valley 20,000 skins were said to have been shipped in 1702. Three years later 15,000 hides and skins were sent out of the same region to one point, Mobile" (Benton 1903:25).

The rivalry between the French and the British was evident throughout this region, in the constant fights for control of the dominant routes and prominent villages. As Benton (1903:30) states, "from 1727 to 1750 the contest was thus narrowed to the region south of Lake Erie. The English made Pickawillany, an Indian village at the mouth of Lora-mie creek, a centre of their Ohio traffic and were engaged north and south of the Ohio River in a lucrative fur trade." As he notes, the trade in the southern Great Lakes may have had some relation to the trade in the Ohio River Valley, which both Hinderlaker (1997) and White (1991) further link to independent traders coming up from Charleston.

The Ohio Valley thrived in the 1740s and 1750s. However, the lucrative trade that developed was a magnet for French hostilities, who also wanted the trade. However, they did not hold the area long, as the Pennsylvania traders returned in force bringing guns, cannons, and horses. By the 1750s the French trading empire in the Ohio Valley had collapsed, and

Pennsylvania traders gained it. In some instances, Illinois groups traded both with the Pennsylvania traders in the Ohio Valley, as well as with New Orleans. The series of posts constructed along the Wabash, though intended to waylay the British, did not make the Miami tribes loyal to the French; they continued to maintain connections with British traders (Hinderaker 1997). Evidence for these relationships is visible at Ouiatenon, and the villages surrounding it, where Trubowitz (1992) demonstrates the presence of trade silver, when none of the French merchant records show it bound for that area.

Between 1753 and 1772 the region remained highly contentious between the European and American powers (McConnell 1992). Traders had followed the migration of Iroquois, Delaware, and Shawnee into the region, bringing with them the web of trade networks that bound them to both French and British colonial societies (McConnell 1992:47). "French trade in the Ohio Valley, as elsewhere in North America, was a strategic tool, a means to the greater end of exclusive control over the middle west and the Mississippi Valley" (McConnell 1992:52).

Sleeper-Smith's (2018) recent work on the Ohio River Valley trade focuses on its influences on the Wabash River posts. She notes that the Ohio River, despite its long journey from the east coast to the Mississippi, was not an ideal route for most to take, as it was often too shallow to allow boats. However, its richness in environmental resources made it a desirable location for trade. With access to the post at Albany, Detroit, and St. Louis, the region also could accommodate the plethora of traders present during the late eighteenth century, as well as their economic demands.

In fact, it was the Ohio River Valley that allowed for the substantial, unofficial, trade to develop very early on and prosper. It provided a cross roads, of sorts, for goods taking less official routes. This continued to be a difficulty for both the French and the British in the region.

The British Indian agent during this time, the later period of the French and Indian War, and during the Pontiac Uprising, was George Croghan, and his journals provide considerable insight into the complications for officials attempting to regulate the trade. Croghan was responsible for the negotiations at Fort Pitt and Detroit in 1758-1761, and those in Illinois in 1765. Not only did he manage negotiations for the British, but he actively campaigned among the Native groups to take back several locations from the French, including Fort Detroit, Michilimackinac, and Fort St. Joseph (Thwaites 1904:104). As such, his journals provide a unique perspective on trade during this period.

Attempts were made by both the French and the English to gain control over the region. The governor of Canada attempted to drive out all the English traders by sending French agents to the Ohio with presents of goods, while Croghan was sent with a small present to counteract the French and keep the Native Americans on the side of the English (Thwaites 1904:53). The goods they were trading were not necessarily of their own manufacture either. In another key document written by Edmond Atkin, he made "clear reference to what historians have suspected, that some of the French forts received supplies and Indian goods from British traders" (Jacobs 1954: xxi). The specific manufacture of an item was of less of a concern than who was providing it.

These diplomatic presents played a considerable role in negotiating politics within the Ohio Valley region. In a letter dated 1764 to Colonel Bradstreet in Detroit, Thomas Morris noted that, "I am certain, sir, that a few presents to the chiefs cannot but have a good effect. Kind treatment will infallibly open a way to the Illinois country. The navigation this way is utterly impracticable; nothing but canoes can pass, at present with great difficulty; & in case of opposition I think it impossible." Croghan's papers also document just how fluid the politics in

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the region were. The Ohio River was a negotiable region that continued to be influenced by

Pennsylvania, Virginia, French, and British up through the War of 1812 (Thwaites 1904:58).

This region is notable in that it provided access to the interior of North America for a

variety of individuals. It connected the east coast to the Mississippi River, and the Great Lakes to

the Gulf of Mexico. It was contentious to hold politically, and as such it also was not highly

regulated and allowed for a robust illicit trade network.

Trade Outside the Limits

Trade was not limited to 'established' rounds. In Andreas' (2013) recent work on the

influence of illicit trade in America, he notes that "the first six decades of the eighteenth century

can be described as the golden age of illicit trade in the American colonies" (2013:16). These

illicit traders were often referred to as "free traders," and the institution was so prevalent and

institutionalized that Andreas claims merchants in Boston could buy insurance policies to cover

them in the event of a seizure (2013:18). He notes that it is difficult to ever know the exact

amount of illicit trade; few records were kept, which frustrates the official trade data (2013:15).

On paper, the British imperial trading system was tightly controlled; in practice, there were

significant holes in the system. These holes were quite evident in the Ohio River region.

Because of the connections between regions, the illicit trade ended up becoming integral to the

very functioning of the Atlantic trading system (Andreas 2013:13-14).

British merchants were at the forefront of this complex and convoluted system of trade.

While this chapter has presented on the trade from a more geographic perspective, understanding

the trade and exchange that occurred during this period means understanding the variety of

economic interactions as well as the economic and political policies during this time.

Understanding trade from a regional perspective is only a small piece of the puzzle. The official economic policies that in place also played a considerable role in how trade developed during the latter portion of the eighteenth century.

Economics of the Trade, 1750-1830

As previously mentioned, Native Americans were at the heart of all the trade systems that developed. As the primary producers/procurers of the goods, they were a necessary component for the British colonial world market economy. Looking at the deer skin trade in the southeast "combined with the northern beaver trade, the animal hide industry generated the fourth highest export earnings in the British North American colonies on the eve of the American Revolution" (Murphy 1999:152). It was a substantial endeavor, as the diversity of trade regions demonstrated in the previous section.

Such a complex system meant that the British went to considerable trouble to try and regulate it to best succeed in their goals. How the British trade was conducted in the eastern portion of North America was influenced in part by the French system of doing trade, through the use of diplomatic presents and the ready availability of a gunsmith to repair Native weapons. They recognized the success of the French trade enterprise at negotiating relations with the Native Americans and were looking to replicate this success. In one of the more concise reports, Edmond Atkin, the British superintendent of the southern Indians in 1756, presented to the Board of Trade in London a plan outlining the management of Indian Affairs through the use of superintendencies (Smith 1988; Jacobs 1954:xvi). This plan provides details about how the British system of trade operated, even though many of Atkin's recommendations were not put into place.

Many of the independent "free" traders had trouble with the British trade policies as well; in a letter from Samuel Wharton in Philadelphia to his partners, he complains profusely about the issues he has had trying to get permission from General Thomas Gage to sell their goods (Wharton 1765). He even suggests applying to Colonel Bouquet, who was in command of the British forces in the upper Ohio Valley, for permission to travel throughout that region. Given the volume of illicit trade travelling through this particular region, it is unsurprising his request was denied.

The Ohio Valley was not the only region creating issues for colonial trade regulation. In fact, the Illinois country and its French inhabitants posed a significant problem for the British. The ease with which goods could be transported up the Mississippi and along the Illinois River meant that the British could not control what (or who) came into that territory. In a report by Lieutenant Fraser in 1766, he states,

> the Illinois Indians are about six hundred & fifty able to bear arms.
> Nothing can equal their passion for drunkenness, but that of the French
> inhabitants, who are for the greatest part drunk every day while they can
> get Drink to buy in the Colony. They import more of this article from
> New Orleans than they do of any other, and they never fail to meet a
> speedy & good market for it (Dunn 1894:411).

Fraser identified the major flaw in the British practices of granting only a few licenses to traders, especially while other methods of supply were still prevalent. He noted that most of the trade ended up coming from New Orleans;

> I discovered also a few days before I left the Illinois that many traders
> who are permitted by us to come up from Canada with small quantities
> of goods, on their arrival in the Indian Nations commissions great
> quantities of goods from the French Merchants at the Illinois with which
> they purchase skins in the neighborhood of our Posts & transport them
> afterwards to the Illinois- but this I hope will be put a stop to when we
> have troops enough in that colony to establish proper posts or enable the

commander to send Detachments to detect any we may find committing
such Frauds (Dunn 1894:412).

In fact, many of these French fur traders continued to trade in the Illinois region, often

following the Potawatomi and their allies as they migrated and expanded into other areas long

after France's official exit in 1763. In response, many of the British traders began to vie for

trade in these villages as well (Keating 2012:24). In 1767, the Governor of Canada noted

> that the French who must allways be our Rivals in Trade, often our open
> Enemies, should take every Opportunity of gaining the Affection of the
> Indians, and of misrepresenting us, I expect as a Thing of course; it belongs to
> us to defeat their Endeavors, whether fair or fraudulent, and by wise
> Regulations, honest dealing, and by Kind Treatment to attach them to us, and
> avail ourselves of those extensive Channels of Trade, to enlarge our Commerce
> to the utmost— (Carleton 1890:8).

Trade continued to develop in the region, with French, British, and later American traders

present. In the 1780s, the trade had developed so that most traders fell within one of three

categories. The first category was an individual enterprise, where trade was carried on from a

single post, generally with a single band of Native Americans. The next category was a small

partnership, which was comprised of several of these individual enterprisers. They established a

system of posts over a river valley, and traded with a larger group of people, though generally

maintaining relationships with a single tribe. The third category is a highly organized company.

These companies controlled hundreds of men and traded over thousands of square miles with

many different people (Tohill 1926).

After the Americans defeated the British in the Revolutionary War, and the treaties were

signed, the American government had to come up with their own method of dealing with Native

Americans, and trade in particular. The Americans adopted a system very similar to the British

for dealing with the Native American trade and supplying licenses to traders in an attempt to

regulate what was sold to the Native Americans. This generally caused more issues than it

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solved, as in 1795, Anthony Wayne was "beset by chiefs in favor of a few more favorite traders."

In an earlier letter from 1793, Wayne describes the problems he is having getting the Miami to

agree to his terms (Wayne 1792-1795). This particular trade policy was an ongoing problem.

With the adoption of the same system the British used, the Americans also appointed Indian

agents for negotiating with the Native Americans. In 1799, William Wells was appointed the

government Indian agent for Fort Wayne, where he served in that capacity until 1809 (Griswold

1927). He was appointed as the United States Indian Agent to the territory from Fort Wayne

west to the Mississippi River in 1803. Two years after, in 1805, the Jefferson administration

decided to create an agency at Chicago to handle relations with the Native Americans; the

Department of War built an Agency House, just west of Fort Dearborn. Charles Jouett was the

first Indian agent at Chicago. He was previously Indian agent at Detroit from 1802 to 1805

(Callis 1914; Keating 2012:61). As popular hubs of trade for many of the trade networks, Fort

Wayne and Detroit were of particular interest to the United States government.

Throughout the early 1800s, the United States government put into place policies for

regulating trade through specific Indian Agents and government trading houses/factories (a

factory being another term for a trading post; the term was generally used for government posts)

across the eastern United States, as noted above. These were run by appointed Indian factors or

agents along with a clerk or assistant agent. Most of these were established in 1802, though the

factory at Chicago wasn't established until 1805 and the Michilimackinac factory in 1808

(Anderson 1810). The delay in the construction of the Chicago factory probably had more to do

with the lack of any significant garrison in the area until Fort Dearborn was built in 1804

(Blanchard 1883:89-90). John Johnston was appointed Indian factor in 1802, and until 1811 he

conducted the government trading house at Fort Wayne (Griswold 1927).

Despite the establishment of factories and agencies across the region, goods destined for trade still took somewhat circuitous routes. The goods for the Fort Wayne factory went from a factory in Philadelphia to Albany, where they were then shipped to Fort Wayne. The furs heading back to the Philadelphia factory were routed through Detroit instead (Griswold 1927). The trade networks in operation during the French occupation were still in place at this time, which further influenced these routes. In 1806, goods arriving in Pittsburg were still destined for Louisiana (Ashe 1808). In fact, Ashe claimed that many towns along the Ohio River had a market for their goods in New Orleans. New Orleans was the prime market for many people: "all the wealth of the Western parts of Pennsylvania; of the back parts of the entire of the Kentucky and the Ohio States and the Indiana Territory, are conveyed to it, by means of the Ohio and her tributaries, which flow into the Mississippi as before described" (Ashe 1808: 338).

As time went on, and relationships between the British and the Americans became more strained, trade became more challenging for British traders. To avoid the custom's fees the Americans wanted to charge them, they started bypassing the custom's house at Michilimackinac; the British would smuggle goods up to St. Josephs' Island rather than go through Michilimackinac to avoid the custom house (Tohill 1926:28). For example, in 1812, Robert Dickson received his supply of goods from the Montreal merchants at St. Joseph's Island, evaded American customs officials at Michilimackinac, and carried on trade successfully (Tohill 1926:43). In January 1814, American allied Indian traders set out to capture Joseph Bailly and three other traders. By arresting traders like Bailly, the Americans sought to cut Indian supply lines from the British, making it more difficult for them to continue waging war (Keating 2012:191).

That same year that Americans were trying to capture and arrest British traders, a broadside was put out entitled "Broadside: Regulations for the Indian Department" (Cass 1814). This document detailed how trade at the American factories should occur. This broadside makes a clear delineation between goods owed due to annuities, diplomatic presents, and trade. Diplomatic presents could only be granted by the governor, or, in his absence, an appointee. Only the Indian Agents could distribute these goods, and only to the person listed on the warrant for the presents. Presents were obtained from government approved stores, and the cost was reimbursed to the Indian Agent. Annuities were distributed as well by the Agents. In fact, the Agents were expected to provide several different services: procure information from Native Americans, to issue provisions to all who visit, ensure that every expedition is appropriately furnished, keep an eye out for those who may be giving false information to the Native Americans.

The broadside also includes guidelines for the duty of interpreters, which provides evidence for the secondary nature of the trade: intelligence gathering. They needed to always be ready to interpret, they needed to "endeavour to procure all the information in their power from any Indians who may arrive, & will report it to one of the Agents. They will ufe their exertions to prevent & to detect any felling of whifkey to Indians." They needed to provide reports after every trip, and also acted as spies, "the fecret infractions which interpreters receive, they will accurately obferve & will not communicate to others" (Cass 1814). Finally, the broadside details that the armorer employed by the governor should also repair the Native Americans' guns for them, to be paid from a separate account.

On April 29, 1816, Congress passed an Act allowing only American citizens access to purchasing licenses to trade with the Native Americans. In a letter from John Calhoun to William

Clark, Calhoun quotes a letter to Lewis Cass, clarifying that foreign boatmen and interpreters were still allowed; otherwise the American traders might experience considerable inconvenience (Calhoun 1818). On May 10, 1816, Congress passed another Act that passed all the commercial dealings of foreigners with the Native Americans to the control of the President. Governors and Indian Agents within those territories were responsible for enforcing the act; in particular those at Michilimackinac, Green Bay, and Chicago (Crawford 1816).

In an article in the Detroit Gazette in December of 1820, some considerations were laid out to help the average citizen understand the Indian Trade, in response to a series of allegations from another newspaper regarding St. Louis's position in the trade. The article is an interesting source of information, as it makes numerous claims, including the notion that all trade gets directed through Michilimackinac. The article also notes, probably correctly, the new system of making traders apply for licenses (and the fees associated with them) was leading to a decline in good traders. However, the author's biggest grievance was to respond to the notion that St. Louis will become the center of all trade. He was also against the idea of any given company having monopoly over a location for trade (which this company is apparently applying for). The author spends most of the article discussing why a trade monopoly is a bad idea. Trade, he contends, has been conducted in a very similar manner since the French;

> it is considerably more than a century since the French first explored this country, and by their enterprise laid the foundation of that intercourse with the Indians which has subsisted until this time. Every avenue of communication was known to them, and the system which they adopted, and which was founded upon an intimate acquaintance with the Indians and a perfect knowledge of the country, is yet pursued with little variation. In the months of June and July, when the persons engaged in this trade are assembled at Michilimackinac, men can be found, acquainted with every foot of the country and with every influential Indian on this side of the Mississippi, including the heads of that river, the river St. Peters, and the heads of the Wabash and Illinois. The road

between Philadelphia and New York is scarcely better known, than are the different routes which are pursued in the course of this trade (Anonymous 1820).

Interestingly, and contrary to the then current U.S. policy, the author discussed how the trader must go to the Native Americans;

> but we have never heard of an instance where this process became necessary [Indians travelling in canoes with furs] – In the exchange of furs for goods, it is the white man who seeks the Indian. Our traders are scattered through every part of the country – they are stationed at every important point where experience shows that the interchange required can be most easily effected (Anonymous 1820).

In fact, there were too many traders and their *engagés* (men who were under contract to conduct trade, usually to a voyageur master) to limit the trade in any way. Deciding that a monopoly of trade, apart from being a ridiculous idea, was next to impossible to accomplish, he moves on to discuss any abuses to which the trade may be liable. In particular, he discusses the impact the British had upon the trade, and the Native Americans:

> the effect of foreign influence upon the feelings and conduct of the Indians, has been long known through the whole Union, and has been severely felt upon every part of this frontier. The lessons which we received upon this subject during the late war, will not soon be forgotten; But the whole of this result must not be attributed to an attachment existing on the part of the Indians to the British government. That this attachment did exist to a certain degree, and that every art was used to strengthen & perpetuate it, there can be no doubt. But with reference to the Indians, we were the more powerful party – the great body of them lived within our boundaries, and year after year they saw our population advancing and their own receding. It is not, therefore, surprising that they should make common cause with the party from which they had least to apprehend. Circumstances, however, lead to the conviction, that a systematic plan was long since adopted by the British authorities, to acquire influence over the minds of the Indians (Anonymous 1820).

Yet he clings to the notion that all goods are going to Michilimackinac, "it is a well known fact that peltries ascend the Illinois every year from St. Louis, destined for the

Michilimackinac market" (Anonymous 1820). He does acknowledge the lingering influence the British have on the Native American population, "but, unfortunately, it is easier to exclude foreign traders, than it is to exclude foreign influence from our Indian territories. As long as the Indians can pass into the British possessions, and can bring back with them British presents, we may consider all efforts to destroy or even to reduce this influence as hopeless" (Anonymous 1820).

While the British were officially expelled from the United States at the end of the War of 1812, their influence still lingered. Even though the Americans now had almost exclusive control over the trade, many of the same networks were still in place. Letters dated to 1822, from John Jacob Astor of the American Fur Company, confirm that trade was still being conducted in New Orleans (Astor 1822). This confirms the bias present in the Detroit Gazette article; perhaps individual companies had specific trade routes that they used, or posts that they routed goods through, but these routes and posts did not apply to all the various companies and traders present in the region. This demonstrates the importance of examining these interactions on a case by case basis, by individual Native village or by individual trader.

Prominent Trade Locales

As noted in the previous sections, there were several locations throughout the southern Great Lakes that were of considerable economic and political importance to the trade. Within each of these regions were hubs where goods were shipped in, divided up, and shipped out for trade. This next section describes a few of these hubs, focusing in particularly on the traders who frequented them, to demonstrate the diversity of traders and goods that were present in these regions during this time.

Fort Detroit/Detroit

When George Croghan visited the fort at Detroit in the 1760s, he noted that it enclosed about eighty houses; the country surrounding it was "thick settled with French, their plantations are generally laid out about three or four acres in breadth on the river, and eighty acres in depth; the soil is good, producing plenty of grain. All the people here are generally poor wretches, and consist of three or four hundred French families" (Thwaites 1904:152). Prior to the Seven Years' War, the Potawatomi, Ottawa, and Wyandots lived in the area as well. These groups fluctuated significantly during the subsequent decades.

Detroit's location on the Detroit River and attached to both Lake Erie and Lake Huron, made it an ideal place to ship goods in from New York or from Montreal, placing it within multiple trade realms. As such, many traders in these different regions had a partner here that could receive these goods for them. For example, British trader William Park partnered with George Meldrum at Detroit, creating the Miamis Company in 1786 (Cunningham 1967:7-8). Alexander Robinson often supplied many traders in the region, including Chevellier who traded along the Tippecanoe River (Cunningham 1967:34). Openly pro-British trader Robert Patterson operated within Detroit, passing along goods to his trader along the Wabash, John Griffing. When Griffing died in 1804, Patterson sent his clerk John Conner to retrieve his goods, even though the judges at Vincennes had already taken inventory and locked the goods up (Cunningham 1967:168, 188).

In Detroit at this same time (1798) were John Kinzie (trading for William Burnett and others), Robert Forsyth (British subject, trading partner of John Kinzie), and James Forsyth (intermittent trading partner of John Kinzie) (Keating 2012: xi). While initially based at Detroit, Kinzie & Forsyth established a network of trading posts to the north at Milwaukee and along the

Rock River and to the south on the Illinois and Kankakee Rivers into Sangamon County in the early 1800s, connecting the Great Lakes networks to the Illinois. At each place, John Kinzie or Thomas Forsyth sent a head trader, a group of voyageurs and *engagés* who paddled canoes and carried packs (Keating 2012:72). They often received their goods from Patterson as well (Keating 2012:75). There were undoubtedly many more suppliers of goods and traders that either resided in or visited Detroit. Its prevalence as a trade hub for several major networks also meant that it was connected to much larger spheres of influence.

Michilimackinac

Another prevalent trade location was Fort Michilimackinac, located at the northern tip of Michigan's Lower Peninsula, on the southern side of the Straits of Mackinac. While it is not the focus of this research, it is discussed briefly here as it did play a significant role in the networks that developed across the region during this time. This fort is somewhat unique in that while Michilimackinac was a huge hub for trade, even during the British period, it was largely occupied by French traders. The brief discussion here will be limited to information on British traders at this site.

British trader Robert Dickson traded from 1785 on, generally as an individual (rather than being affiliated with a partner or company). He was supposed to trade out of Michilimackinac, but often ventured out into Sioux territory and other places. His general trade outfit (i.e., what he took out on a trading venture) consisted of 100 gallons of rum, 50 gallons of wine, 8 guns, 500 pounds of powder, and 600 pounds of shot and ball (Tohill 1926:6). In 1805, he organized Robert Dickson & Company, but this only lasted for 2 years (Tohill 1926:28).

Of further note for this discussion are the documents of Samuel Abbott. Samuel Abbott was a notary public at Michilimackinac from 1807 to 1817. It was his job to keep an account of the engagements prior to their embarkation. His notary book covers the time period from 1807 to 1817 (excluding 1812-1814 during the War of 1812). British traders were left out during the post war period (Russell 1982). His book provides an interesting list of the traders and their agents that were active in the region during this time; agents are listed from the southern Mississippi to the Upper Mississippi and from the Illinois territory to Lake Huron. Numerous traders and agents are listed for the Grand River in Michigan, the St. Joseph River, and the Illinois and Kankakee Rivers (Russell 1982). Much like Detroit, traders who traded out of Michilimackinac could be connected to trade routes throughout the Great Lakes and Ohio River Valleys.

Kekionga and Fort Wayne

Fort Wayne, initially known as Post Miami or Fort Miami, had numerous French commanders from 1702-1760. It was surrendered to Lieutenant Robert Butler in December of 1760 (Griswold 1927:4-5). During the British regime, the fort grew and thrived as a trading town, to the point where there was a resident silver smith, Jean Baptiste Bequette (Griswold 1927). Several traders are known to have resided and traded here, including Capuchin, Baptiste Campau, Nicholas Perot, Pierre Barthè, Bergerson (Bergeron), Berthelemy (Bartholomé), Dorien, Francois Maisonville, and Laurain (Dunn 1894:440). The Governor of Canada in 1767 noted several of these individuals travelling among the Native Americans without passports, including "Capucin, Lorain, La Motte, Pot de Vin, Bartholomé, Bergeron, and Richarville" most of which had settled among the Miamis and Weas, except Pot de Vin, who was in Detroit. Carleton suspected that Capucin was a fictitious name, which may have been a way to get around

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punishment for trading without a license (Carleton 1890:15-16). Maisonville may refer to the British Indian agent on the Wabash River in 1774, Francois Rivard dit Maisonville, who often also conducted trade (Thwaites 1904:146).

The native village nearby the fort is generally identified as Kekionga. The village itself consisted of forty or fifty cabins, nine to ten French houses, and a runaway colony from Detroit. As with Vincennes, George Croghan noted that the French were fond of "breeding mischief, and spiriting up the Indians against the English" (Thwaites 1904:150). Despite this perceived bias against the English, the Native Americans living there, after meeting with Croghan, offered him the English prisoners they had. The village was also home to a variety of traders. In 1790, traders included: Matthew Elliott (British trader), Simon Girty (British trader), John Kinzie (British trader and silversmith), John Clark (Kinzie's trading partner), and Alexander McKee (worked in the British Indian Agency with George Croghan) (Keating 2012:xi). Kinzie had apparently been here since sometime in the 1780s (Keating 2012:26).

The traders present here changed drastically with the political events of the 1790s. Several traders were known to live in this region in 1803, including Francis LaFontaine and James Abbott (Cunningham 1967). In fact, through an agreement with William Henry Harrison (that he did not abide by), William Burnett would have had exclusive right to trade on the eastern shore of Lake Michigan and on the Illinois River; the territory of the Wabash and Ft. Wayne was allotted to LaFontaine and Abbott, though Burnett had several agents on the Wabash (Cunningham 1967: viii, xiii).

While the city of Chicago was not officially founded until 1838, its location on the bank

of Lake Michigan around the Chicago River was a prime location for Native American

settlement. Several villages were in the area, and in 1798, this had attracted several traders,

including: Jean Baptiste Point de Sable (trader), Antoine Ouilmette (French trader), Francois Le

Mai (metis trader), and Jean Lalime (French trader, associated with William Burnett). Of course,

this composition was not static. Fort Dearborn was constructed in 1804. The United States set

up a trading house/factory at Chicago in 1805. In 1808, Matthew Irwin was chosen as the third

factor at Chicago. Irwin supervised the arrival of goods chosen by eastern bureaucrats for sale:

blankets, kettles, traps, silver trinkets, and tobacco; Irwin had to set the prices, to cover costs and

yield a profit only as would indemnify the establishments for the expenses at the trading house

(Keating 2012:64-65).

By 1806, the dynamic had changed slightly. In Chicago, traders included: Antoine

Ouilmette family, Francois Le Mai and family, Jean Lalime and wife, and John Kinzie and

family. William Burnett outfitted Kinzie & Forsyth when they set up a trading outpost at Fort

Dearborn (Keating 2012:75).

In the surrounding Calumet region and around the Fox River were Joseph Bailly (a

British allied trader previously of Detroit), Alexander Robinson (metis employee of Bailly, who

may have originally come from Detroit), and Jean Baptiste Beaubien (French trader working for

Bailly) (Keating 2012: xi). The war of 1812 led to a lot of movement by traders, particularly in

this region. In Chicago in 1812, Archange Ouilmette and John Kinzie and his family were

present. For Dearborn was evacuated in 1812 due to the war but was rebuilt in 1816 (Blanchard

1883:89-90). By 1814, Louis Buisson and his family and Francois des Pins (a British allied

trader) were in Chicago, but the Kinzie family had moved. Thomas Forsyth had moved to St.

Louis to be the United States subagent for Indian affairs of the Missouri Territory. John Kinzie reappears in Detroit in 1814 as an interpreter for the United States government, after a long ordeal following the attack on Fort Dearborn in 1812 (Keating 2012:xii).

In 1817, fur traders Conant and Mack came from Detroit and set up in Chicago under the superintendence of John Crafts, though they were bought out by the American Fur Company soon after (Blanchard 1883:90). The trade history of Chicago and Fort Dearborn appears to have been much more fluid than some areas; it never really became a hub for distribution, but rather more of a local trade post. Local Native American villages would make use of it, but it was never a waypoint for larger trade networks. Many of the traders from Fort Wayne or Detroit would travel through the region, but rarely stayed for long.

Peoria/Fort Clark
Coming from up the Mississippi River, and related to the Wabash River/Ohio River Valley networks, was the trade throughout the Illinois territory. One of the many posts established to protect this was near Peoria. Several traders were living at Peoria in the 1770s and 1780s, including Louis Buisson, Louis Chatellereau, Pascal Cerré (Franke 1995:36). Louis Buisson traded on the Ohio, Mississippi, and Illinois rivers for more than 50 years. He lived at Old and New Peoria Village, and is reported to have sided with the British in the War of 1812. He traded frequently at Chicago, though he stayed mostly in Peoria. He relocated temporarily after the burning of the town in 1812, and resided in Chicago from then until 1818, when he returned in the employ of the American Fur Company (Franke 1995:54).

Louis Chatellereau was a habitant at the Old Village at Peoria, where he was a farmer and fur trader from 1778 to 1795. He presumably bought merchandise from St. Louis to trade for deerskins, which were shipped downriver (Franke 1995:38-40). Jean-Baptise Maillet was

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another trader that later founded a new fort and village at Peoria in 1778 (Franke 1995:41). Of note is Jean-Baptiste Point du Sable, who lived at Old Fort (Peoria) from 1773-1783. He became the first permanent settler at Chicago (1784-1800) where he owned a trading post and farm; he sold his nine buildings in Chicago to the Forsyth and Kinzie families in 1800 (Franke 1995:36-37). In 1806, in the region surrounding Peoria, Thomas Forsyth and Louis Buisson were trading (Keating 2012: xi).

Fort Vincennes

At the far end of the Wabash River valley, and the outer reaches of the Ohio River Valley trade, was Fort Vincennes. While most of Fort Vincennes was inhabited by French soldiers and settlers, a Piankashaw village loyal to the British was also nearby in 1765 (Thwaites 1904:142). When Croghan was captured, he was taken there, though he had little praise for its inhabitants, "the French inhabitants hereabouts, are an idle, lazy people, a parcel of renegades from Canada, and are much worse than the Indians" (Thwaites 1904:141). He does note, however, that the fort is in a prime trading location, surrounded by woods and along the Wabash River (Thwaites 1904:142). Vincennes, however, never became a prime trade location, as it was often at the end of most of the networks and its primary function was to protect against British incursion and influence in French territory.

Fort Ouiatenon

Fort Ouiatenon, however, upriver from Vincennes, became a considerable trade outpost. Fort Ouiatenon consisted of fourteen French families, along with a Kickapoo and a Mascouten village on the same side of the river, and an Ouiatenon village on the south side of the river (Thwaites 1904:144). According to Croghan, this post had always been a considerable trading

place, as the quantity of furs in the region was significant (Thwaites 1904:145). Oscar Craig quotes a French writer when discussing Ouiatenon,

> this river Ouabache is the one on which the Ouyatanons are settled. They consist of five villages which are contiguous, the one to the other. One is called Oujatanon, the other Pennguichias, and another Petitscotias and the fourth Les Gros. The name of the last I do not recollect, but they are all Oujatanons, having the same language as the Miamis, whose brothers they are and properly all Miamis, having all the same customs and dress. The men are very numerous, fully a thousand or twelve hundred. They have a custom different from all the other nations which is to keep their fort clean, not allowing a blade of grass to remain in it. The whole of the fort is sanded like the Tuilleries…Their village is situated on a high hill and they have over two leagues of improvements, where they raise Indian corn, pumpkins and melons. From the summit of this evaluation nothing is visible to the eye but prairies full of buffaloes. Their play and dancing is incessant. All these tribes use a vast quantity of vermillion. The women wear clothes; the men very little (Craig 1893:329).

It is hard to tell where their alliances lay, according to Croghan, "the French have a great influence over these Indians, and never fail in telling them many lies to the prejudice of his majesty's interest, by making the English nation odious and hateful to them. I had the greatest difficulties in removing these prejudices" (Thwaites 1904:144). They were just as easily swayed the other direction, in a letter from the governor of Canada in 1719, Vaudreuil, "these Indians had resolved not to move to the river St. Joseph and to remain where they are. As this resolution is very dangerous on account of the facility they will have of communicating with the English, who are constantly distributing belts in secret among all the nations to attract them to themselves by means of certain Iroquois runners and others in their pay" (Craig 1893:330). As many of the towns in this region were French, it is perhaps Croghan who had the more difficult job. This area also had many connections to Detroit (Craig 1893:343).

Types of Goods Being Traded

Just as important as who was participating in the trade and how it was functioning is what goods were being traded. Of course, on the one side, furs of many of the animals native to eastern North America were being traded in and shipped out: deer, beavers, musk rat, raccoon, fox, large cat, etc. On the other side of the equation were the goods being shipped in from Paris, London, and the Caribbean for sale in North America.

British trader Alexander Mackenzie also provides additional detail on the process of bringing goods to those interested in them. Mackenzie joined the company of Gregory, McLeod & Company in 1779. This iteration of the company was formed in 1783, though a previous version of the company had been formed in 1773 (Lamb 1970: 3). Mackenzie stayed on until 1784, during which time he was made a partner in the company. When he decided to set out on his own, Gregory entrusted him with goods and he set out to seek his fortune in Detroit (Lamb 1970:4). As part of his letters and journals, Mackenzie details the length of time needed to return goods to the Native Americans, as well as the types of goods that were called for.

> It will not be superfluous in this place, to explain the general mode of carrying on the fur trade. The agents are obliged to order the necessary goods from England in the month of October, eighteen months before they can leave Montreal; that is, they are not shipped from London until the spring following, when they arrive in Canada in the summer. In the course of the following winter they are made up into such articles as are required by the savages; they are then packed into parcels of ninety pounds weight each, but cannot be sent from Montreal until the May following; so that they do not get to market until the ensuing winter, when they are exchanged for furs, which come to Montreal the next fall, and from thence are shipped, chiefly to London, where they are not sold or paid for before the succeeding spring, or even as late as June; which is forty-two months after the goods were ordered in Canada; thirty-six after they had been shipped from England, and twenty-four after they had been forwarded from Montreal; so that the merchants, allowing that he has twelve months credit, does not receive a return to pay for those goods, and the necessary expences attending them, which is about equal to the value of the goods themselves, till two years after they are considered as cash, which makes this a very heavy business (Lamb 1970:81).

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Because of this, the types of goods present for trade were oftentimes slow to change. Mackenzie also discusses the actual items needed and/or requested:

> the articles necessary for this trade, are coarse woolen cloths of different kinds; milled blankets of different sizes; arms and ammunition; twist and carrot tobacco, Manchester goods; linens, and coarse sheetings; thread, lines and twine; common hardware; cutlery and ironmongery of several descriptions; kettles of brass and copper, and sheet-iron; silk and cotton handkerchiefs; hats, shoes and hose; calicoes and printed cottons, &c. &c. &c. Spirituous liquors and provisions are purchased in Canada (Lamb 1970: 82).

An undated document published in the Wisconsin Historical Collections details a list of items commonly given to the Native Americans, including: arm bands, gorget, a gun or rifle, linen, cloth, knife, flint, gun worm, shoes, 3 point blanket, hat, gunpowder, ball and shot, tomahawk, ribbon, vermillion, ear bobs, brooches, brass or tin kettle (Anon 1892:102). This list varies based on age, gender, and status. A "Common Indian" would instead receive: a common gun, powder, shot, butcher knife, gun flint, shoes, hat, 3 point blanket, stroud, molton, linen, and a brass kettle (Anon 1892:103-104). An example of what a typical small British trading outfit could contain can be seen in British trader Robert Dickson's inventory from 1785: 100 gallons of rum, 50 gallons of wine, 8 guns, 500 pounds of powder, and 600 pounds of shot and ball (Tohill 1926:6).

One of the most popular items was cloth and blankets, followed closely by guns and ammunition. This did not preclude the continued usage of the bow and arrow. One of the trader's daughters in the Illinois country noted that the Native American guides employed by her father were always armed with a bow and arrow (Callis 1914).

Of the items offered for trade, alcohol was very contentious. Several policies forbade the sale of alcohol to Native Americans, but traders often found ways around these. One such trader, John Kinzie, was cited as often drunk and made his living selling liquor to Potawatomi and

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traders who could ill afford it (Keating 2012: xx). When the United States banned the sale of liquor to Indians, Kinzie managed to continue making most of his money from it. It was understood that goods could be purchased cheaply at the Chicago factory, but liquor could only be purchased from private traders. Kinzie and Forsyth's political alliances were dubious; they were both American citizens with deep British roots. At times, they were working against the United States; during the embargo of 1807, they continued to trade with British traders at Detroit, despite the prohibitions (Keating 2012:77).

Another popular trade item during this time was silver decorative items. Silver goods became increasingly popular during this time period, with silversmiths listed in city directories as early as 1698 in New York, and 1730 in Montreal (Carter 1971). William Burnett, in his letters, repeatedly asks for silver ornaments to be sent from Detroit to Fort Wayne, or to his post on the St. Joseph River (Cunningham 1967). While the request for these goods increases in the early 1800s, they could have been present in the region as early as 1700. In 1785, John Kinzie was working in Detroit as a silversmith; at the same time, he made connections with prominent British traders, including Alexander McKee (Indian agent), John Hay (deputy Indian agent), Matthew Elliott, and Simon Girty (Keating 2012:22).

Given the long period of time, and the considerable socio-political changes occurring worldwide, one must also consider the changes in the types of goods that may be available. Sleeper-Smith (2018:196) details how these goods, typical for the early portion of the study period, changed through time to cater more and more to their intended audience. As such, the composition of items destined for the Native American trade became comprised more of cloth and cloth related items towards the latter end of this period, along with luxury goods, such as

ribbons, tea, or silverware. Native women were adept at modifying and personalizing the cloth into distinct symbols of identity.

This is even more obvious in a comparison of the types of goods offered for trade through time. At the York Factory of the Hudson's Bay Company in 1762, a wide variety of goods were being offered, from kettles, to cloth, tobacco, firearms, tools, and beads. This list is similar to British goods arriving at various outposts throughout North America.

Only a few decades later, in the early 1780s, there is good information for the firm of Gregory and McLeod out of Montreal, which shipped large quantities of goods to both Detroit and Michilimackinac (Duckworth1990: xvii). As a supplier, we might assume that the quantities of goods shipped to these locations were similar to those it shipped to the Northwest Company in 1786. If this is true, then the following charts demonstrate the breakdown of types of goods (from Duckworth 1990:116-126):

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	12	52.2	17.25	9.3
Tools	3	13.05	60	32.5
Guns	2	8.7	22	11.9
Decoration	3	13.05	74.5	40.3
Tobacco	1	4.3	2	1.1
Personal	2	8.7	9	4.9

Table 1: Goods sent by Tourengeaux to Trade with the Indians between L'Isle a la Crosse & the River au Rapid, May 1786

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	8	72.7	22	62.85
Tools	2	18.2	12	34.3
Guns	1	9.1	1	2.85
Decoration	0	0	0	0
Tobacco	0	0	0	0
Personal	0	0	0	0

Table 2: Account of Goods found at the Rivierre au Rapid from Lac la Ronge, 1786

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	5	19.23	9.5	2.7
Tools	9	34.62	247	70.3
Guns	4	15.38	62	17.6
Decoration	1	3.85	3	0.9
Tobacco	2	7.69	5	1.4
Personal	5	19.23	25	7.1

Table 3: Inventory of Goods left with Mr. Primo 1786 at the Rat River

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	30	34	150.75	5.88
Tools	34	39	1819	70.94
Guns	7	8	162	6.32
Decoration	7	8	278	10.84
Tobacco	3	3	4.5	0.18
Personal	7	8	150	5.85

Table 4: Inventory of goods left at L'Isle a la Crosse in the Hands of Mr. Le Sieur – 4 June 1786

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	29	40	216.6	10.9
Tools	20	28	769	38.7
Guns	7	10	240	12.1
Decoration	5	7	621	31.2
Tobacco	2	3	18	0.9
Personal	9	12	124	6.2

Table 5: Account of Sundries sent in 2 Canoes to Arabaska the 31st of May 1786 – to be delivered Mr. Pond by A. Derrie

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	17	48.5	66.5	10.9
Tools	7	20	318.5	52.2
Guns	5	14.3	154	25.2
Decoration	2	5.7	22	3.6
Tobacco	1	3	1	0.2
Personal	3	8.5	48	7.9

Table 6: Inventory of Goods left at Arabasca 8th May 1786

These charts demonstrate several important items to note when analyzing these types of documents: 1) percentages will not be the same based on number of entries in the account and total number of items available (see Table 7 for a chart comparing these) and 2) percentages for these six instances are similar based on category, as well as similar based on actual count of goods (see Figures 1, 2 and 3 for this comparison). This suggests that similar ratios of goods were being sent to various traders, even if the exact quantities were very different (ex., Table 1 had a small number of goods, where Table 5 had a large number of goods represented). Table 2 is somewhat of an anomaly; a very small number of goods were represented here. This is probably due to the context in which this data was recorded; the title suggests that these goods may be left over after a trading season as a final inventory of what was not sold.
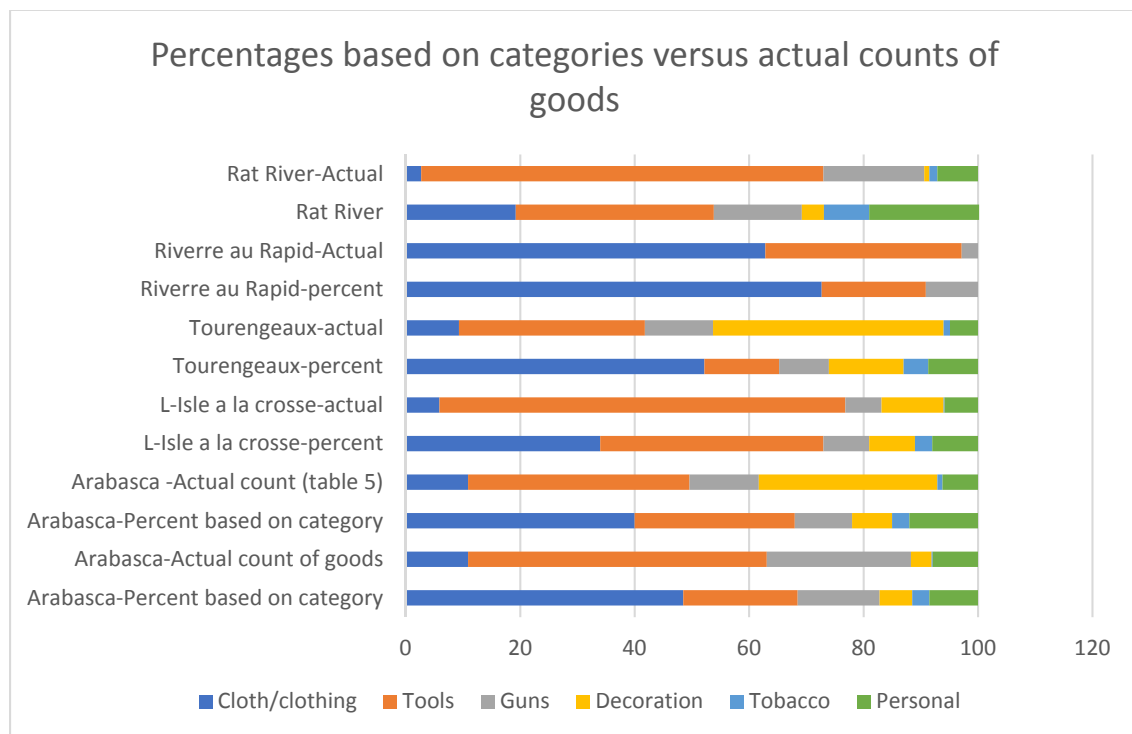
Figure 1: Comparing Percentages Based on Categories versus Based on Actual Counts
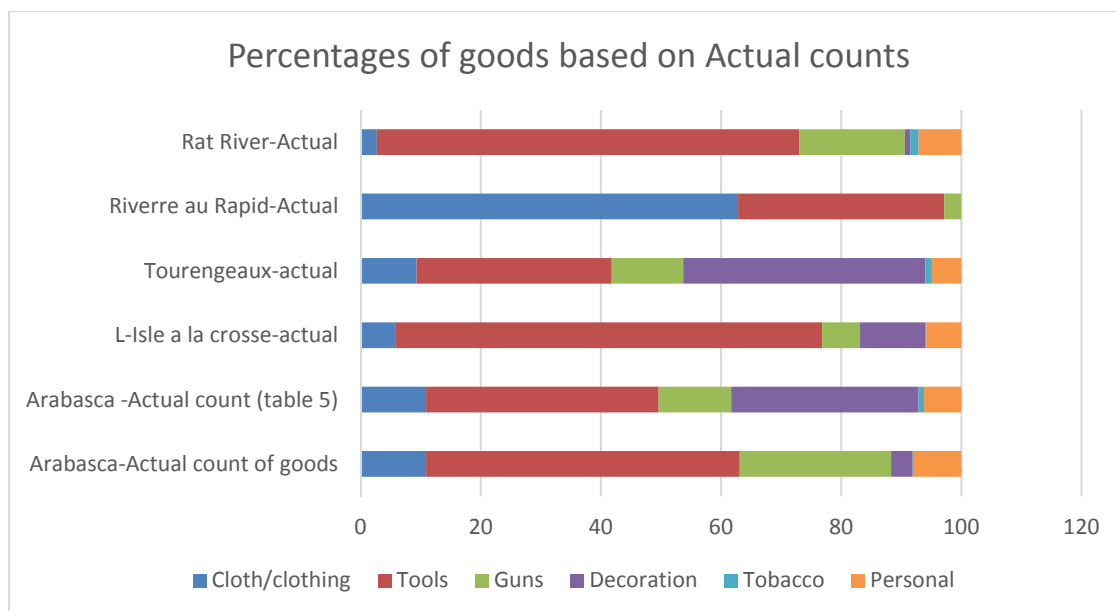
Figure 2: Percentages of Goods based on Actual Counts
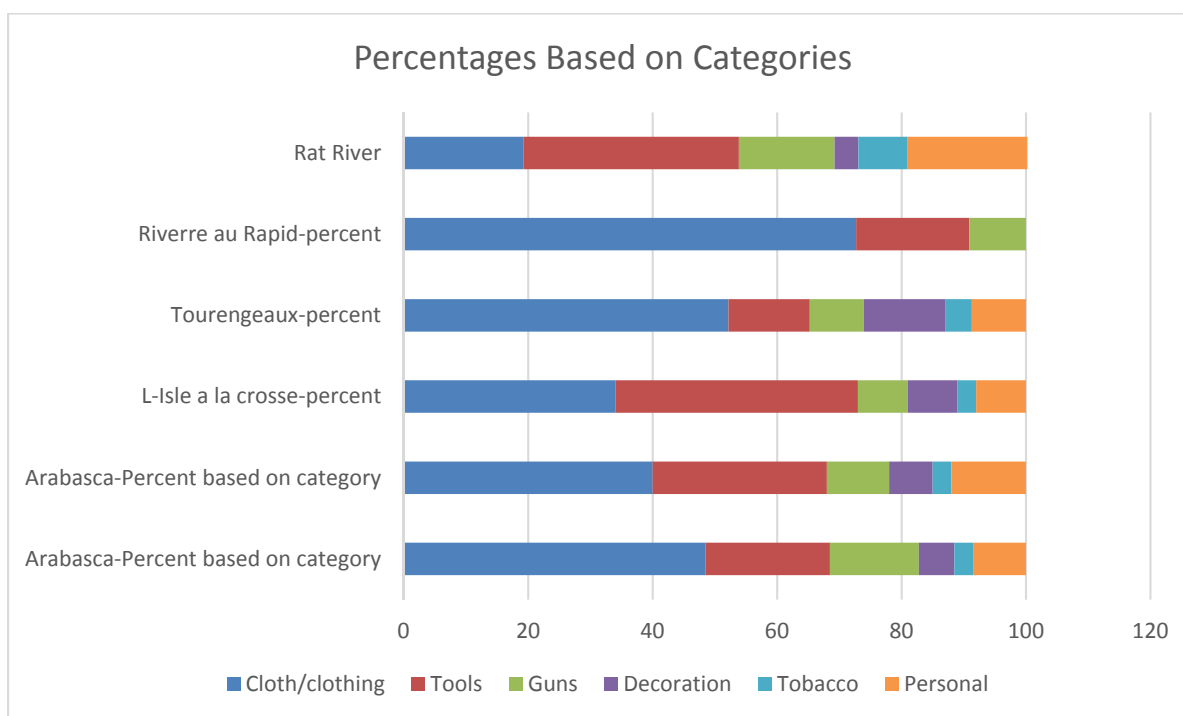
Figure 3: Percentages of Goods Based on Categories

The 1794 inventory for the York Factory at Hudson's Bay shows more emphasis on cloth, though tobacco, beads, firearms and tools are still present. Further inventories from the 1814-1815 season suggest that again, there are no substantial changes in the types of goods being

offered for sale, but rather in the quantities. In a list of goods sent from John Askin at

Michilimackinac to Western Department Agent and Superintendent Robert Dickson in 1814, we

see that the emphasis was more heavily on firearms than on tools, though clothing and decorative

items were still prevalent. This is also the first time that food stuffs are noted; most of the

personal category is comprised of flour (though this may not be for trade but for the traders

themselves). At this point, the British were still involved in the trade, despite the war (Askin

1814). In fact, it may be because of the war that the gun category is so high during this time

period.

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	21	38.89	9114	26.4
Tools	11	20.37	1070	3.1
Guns	9	16.67	16167	46.7
Decoration	11	20.37	4226	12.2
Tobacco	0	0	0	0
Personal	2	3.70	4006	11.6

Table 7: Goods sent to R. Dickson

In 1822, the American Fur Company was going strong. A packing list of goods being

sent by Hercules Dousman to J. Palent demonstrates similar proportions to these (Dousman

1822).

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods	Percentage
Cloth/clothing	83	50.3	658.5	9.47
Tools	45	27.3	1036	14.89
Guns	10	6.1	4935	70.95
Decoration	8	4.8	31	0.45
Tobacco	1	0.6	4	0.06
Personal	18	10.9	291	4.18

Table 8: Goods distributed by Hercules Dousman for the AMC, 1822

Given the political climate from 1812 to 1822, it is not surprising to see an increase in the number of requested firearms, especially considering the considerable lag between making the request and actually receiving the goods. These changes in goods may reflect a shifting political climate. They may also be the result of the types of goods they could not acquire form other sources. Not all the goods Native Americans received were the result of direct trade. The next section will discuss this in greater detail.

Where goods are coming from

While most European manufactured goods were likely coming into Native American possession from various traders, this was not the only source that Native Americans had for goods. They could also acquire items through their promised annuity payments, which were often paid for in goods. Another option was to play off the beneficial nature of many of the religious organizations.

For example, in 1802 in a report to the Quakers at Baltimore, Ellicott and Hopkins detailed their journey to the Miami at Fort Wayne. In particular, they note that they were encouraged to teach the Miami how to grow corn. To that end, they would return with implements and tools to do so and teach them how to use these implements.

> Having been encouraged by the Opportunity which we then had with our
> Red Brethren, we sent to the care of William Wells some ploughs,
> harness for Horses, axes, hoes and other implements of husbandry which
> were made for the use of our Red Brethren and desired that they might
> be distributed among them as tokens of our friendship (Ellicott and
> Hopkins 1929[1802]).

Based on the text of the report, it would appear that they believed the Miami to have inadequate knowledge on growing crops. This likely refers to the fact that the Miami were not farming using Euro-American methods, as other sources make mention of the substantial fields of corn

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surrounding the Miami villages in this area, which are also visible in a 1790 map made of the area (Denny 1859).

> We are fully convinced that if you will adopt our mode of cultivating the earth, and of raising useful animals, that you will find it to be a mode of living not only far more plentiful, and much less fatiguing, but also a mode of living much more certain and which will expose your bodies less to the inclemency of the weather, than is now attendant upon hunting (Ellicott and Hopkins 1929[1802]).

A comment made to Philip Dennis, who Ellicott and Hopkins left behind to demonstrate the tools they left with the Miami, stated that his "corn was equal to any they had ever seen on the Wabash" (Ellicott and Hopkins 1929[1802]). This individual went on to inform Dennis that "they would gladly receive assistance from friends – Some farming Utensils, such as Ploughs, hoes & Axes, he says would be very acceptable" (Ellicott and Hopkins 1929[1802]). This cunning use of their resources not only created good relationships with people who could potentially help them later, it also gave them access to items that they would not have to buy.

Presents, and the distribution of annuities, were both another source of goods for Native American groups. In several speeches given to the Chippewa and Ottawa in 1796, Winthrop Sargent clearly stated that these presents could be received from one of several locations: that they can receive presents at Fort Wayne, Defiance on the Grand Glaize and at Detroit. He also specifies that the Ottawa can receive their presents in the form of strouds (cloth) or tools to cultivate the ground (Sargent 1796). These annuity payments made by the United States government to the various Native American groups were usually paid out in goods, rather than as cash payments. According to a document created by William Henry Harrison, the Wea and Piankashaw (both factions of the Miami), varied considerably in the types of goods they received in their annuity payments (Table 9 and 10; Figure 4).

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods (by price)	Percentage
Cloth/clothing	14	58.3	2431.92	72.7
Tools	4	16.7	597.69	17.8
Guns	3	12.5	210	6.3
Decoration	1	4.2	23	0.7
Tobacco	0	0	0	0
Personal	2	8.3	82.98	2.5

Table 9: Goods received by the Wea, 1806-1811

Type of Goods	Number of times listed (categories)	Percentage based on categories	Actual Count of goods (by price)	Percentage
Cloth/clothing	18	60	3234.9	81.2
Tools	2	6.7	16	0.4
Guns	4	13.3	597.80	15
Decoration	1	3.3	18.8	0.5
Tobacco	0	0	0	0
Personal	5	16.7	114.29	2.9

Table 10: Goods received by the Piankashaw, 1806-1811
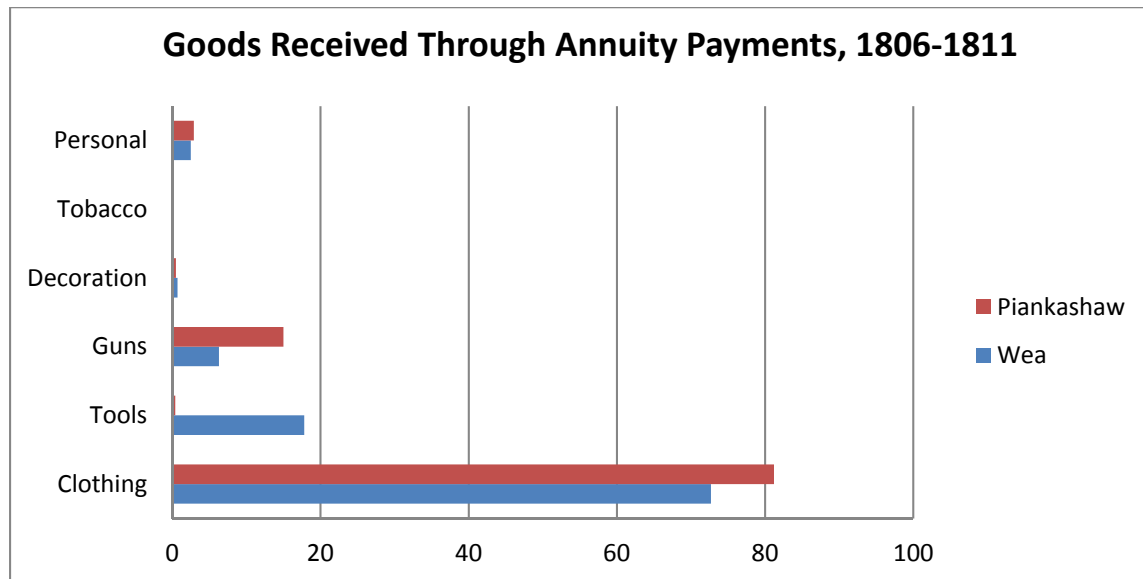
Figure 4: Percentages by Category of Goods Received through Annuity Payments

These tables and figure show a compilation of all the goods received between these years, based on the percentage of the total goods. A comparison of the two groups demonstrates the differences in goods that they were requesting for their annuity payments from the United States government (United States War Department 1811).

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In a report from the Secretary of War in 1816, annuity payments for the years from 1811 to 1816 are detailed, in particular for the United States factories at Michilimackinac and Chicago. Annuities paid to the Miami, Eel Rivers (Miami), Potawatomi, Ottawa, and Wea are described by year. It further discusses what they received from each treaty (United States War Department 1816). Each of these reports clearly demonstrates that Native groups were able to receive a variety of goods through these alternate channels.

Trade from 1760-1820

As these examples demonstrate, trade between Native American groups and Euro-American traders from approximately 1760 to 1820 was complicated. It involved sometimes competing, and sometimes complementary, trade networks spanning across all the eastern United States. It involved a variety of traders of varying allegiances and often based out of multiple locations, as they navigated complicated trade and social obligations. They were constantly trying to negotiate their political situation, as every group vied for power in its own way. This complexity sets the stage for the trade relationships that will be examined in this research: it was a world of consumer choice and a well-established market dictated by consumer demands.

Chapter 3: Theoretical Framework: Resource Dependency Theory

Given the complexity of the trade relationships that were created and maintained from 1760-1820, a world of supply and demand within a contentious political framework, a theoretical framework was chosen that was focused on better understanding the interplay of economics and politics or power. The theoretical framework that guided the data collection and the analysis for this research is resource dependency theory (RDT). This approach combines an account of power within organizations resulting from economic exchanges with theory on how organizations seek to manage their environment (Davis and Cobb 2009:3). This chapter will provide an overview of the theory, including its origins, definition, development, and continued use within the fields of business and organizational studies. Then, a short overview of trade network studies in anthropology and archaeology will be presented. The remainder of the chapter will focus on describing the utility of resource dependency theory to archaeological research on exchange and to trade network studies. The specific application of RDT to this work will be presented on further in Chapter 4.

Origins and Definitions of Resource Dependency Theory

Resource dependency theory (RDT) gained public awareness as a theoretical framework with the publication of Jeffrey Pfeffer and Gerald Salancik's (1978) book, *The External Control of Organizations: A Resource Dependence Perspective*. Since its inception, RDT has become one of the most influential theories in organizational studies and strategic management (Hillman et al 2009:1404). It has been so influential that Pfeffer and Salancik rereleased their book in 2003, twenty-five years after its initial publication (subsequently, all citations from here on out will reference the 2003 version). Since then, RDT has been used as the central explanatory

framework for research on the formation of interorganizational arrangements of various kinds (Drees and Heugens 2003:1667).

RDT states that organizations survive because of their ability to acquire and maintain critical resources (Pfeffer and Salancik 2003:2). Organizations will be influenced by those who control the resources they require; these resources are then generally acquired through interdependence with those other organizations. Interdependence occurs "whenever one actor does not entirely control all of the conditions necessary for the achievement of an action or for obtaining the outcome desired from the action" (Pfeffer and Salancik 2003:40). Critical resources are a crucial part of this framework; these are resources that are necessary for the survival of the organization. Werner Nienhüser (2008:12) states that a resource is critical "if the missing of that resource endangers the ability of the organization to function." The more critical the resource, the more dependence that will be created because of its exchange. The availability of that resource from alternate suppliers also factors into determining dependence (Biermann and Harsch 2017:140).

Organizations are defined as groups of individuals with varying interests and preferences that come together under some common thread. Thus, "to survive, the organization need only maintain a coalition of parties who contribute the resources and support necessary for it to continue its activities, activities which themselves are outcomes desired by the coalition members" (Pfeffer and Salancik 2003:26). Given that the members of an organization may choose if they will continue to participate based on the given circumstances, organizations within RDT are viewed as open systems, dependent on contingencies in the external environment (Hillman et al 2009:1404; Pfeffer and Salancik 2003:26).

Viewing organizations as open systems allows the behavior of an organization to be understood within its larger context. It also allows for managers of the organizations to react to constraints within their context/environment by either working to reduce environmental uncertainty or to reduce dependence (Hillman et al. 2009:1404). Actions are considered constrained whenever responses to a situation are not random; whenever one response is more likely than any other (Pfeffer and Salancik 2003:14-15). As such, if outside circumstances dictate that a specific action take place over others, that action is considered constrained. Organizations will act to reduce constraint through a variety of means.

Pfeffer and Salancik (2003) identified five main ways in which organizations may try to reduce constraint or dependencies on others within their network: mergers/vertical integration, joint ventures, board of directors, political action, and executive succession. Drees and Heugens (2013:1666) expand upon this in their survey of 157 different tests of RDT to suggest that a common prediction is that organizations will respond to dependencies by forming alliances or other mergers/acquisitions. Casciaro and Piskorski (2005) suggest that dependency is actually a dyadic relationship between the two parties; the two are linked and proportional to one another. If one party is highly dependent of the other, the other party should have considerably more power in the relationship. Casciaro and Piskorski note that typically, people only focus on how one side is dependent to another but focusing on mutual dependence and power imbalance can illuminate the relationship from both sides.

If constraint cannot be dealt with within the system, organizations will seek to alter the external environment, such as the political structure surrounding the organizations. This is possible in part because the patterns of dependence and interdependence produce inter- and intraorganizational power. Richard Emerson's description of this relationship states that "the

power to control or influence the other resides in control over the things he values, which may range all the way from oil resources to ego-support, depending upon the relation in question. In short, *power resides implicitly in the other's dependency*" (1962:32, emphasis in original). These organizational relationships could, in fact, produce different types of power. This power then influences the corporation's behavior (Biermann and Harsh 2017; Casciaro and Piskorski 2005; Emerson 1962:32; Hillman et al 2009:1404-1405).

Casciaro and Piskorski (2005) operationalize power as two different types: either power imbalance between groups or as mutual dependence. Thus, this provides a useful framework for thinking about power differences across organizations and describing the choice of adaptive strategies as political activity (Johnson 1995). Scott (1992) identifies another link to power within RDT, stating that resource dependencies give rise to political problems, which often result in political solutions.

To summarize this in another way, within the resource dependence framework, organizations are not autonomous but constrained by a network of interdependencies with other organizations. This interdependence, along with the uncertainty regarding the actions of other organizations upon which the organization is interdependent, leads to a situation where continued success is uncertain. Given this uncertainty, organizations will then take actions to manage these interdependencies. Johnson (1995:1) identifies the key foci of RDT as such: "resources; the flow or exchange of resources between organizations; those dependencies and power differentials created as a result of unequal resource exchange; the constraining effects such dependence has on organizational action; and the efforts by organization leaders to manage dependence." With its focus on power as part of the exchange process, some have likened RDT to a political economy model of organizational behavior (Johnson 1995:1).

RDT has largely been used in the field of business to explain why firms engage in mergers and acquisitions and in joint ventures (Hillman et al 2009). While not as prevalent within the larger body of literature on the topic, RDT has also been used to explain political action, under the notion that if firms are unable to reduce uncertainty or interdependence, they will act to reduce uncertainty from the larger environment (Hillman et al 2009:1411). The tenets of RDT have been empirically tested within the field of business and been found to be overall sound (Biermann and Harsch 2017; Brettel and Voss 2013; Casciaro and Piskorski 2005; Hillman et al. 2009; Nienhüser 2008:18-23).

Critiques of this approach state that it overlooks the impact of other external environmental forces on the organization (Pfeffer and Salancik 2003: xx). Others have noted similarly that this approach is largely focused only on materialistic forces and may not adequately regard the role of cultural, ideological, or institutional forces (Johnson 1995). Pfeffer and Salancik (2003: xx) point out that resource dependency theory was designed to focus specifically on *transactional interdependence* and that certainly other forces would come in to play. This is important to note, specifically with how this framework will later be applied to this research.

Despite its critiques, RDT has been accepted as empirically well confirmed for explaining the behavior of organizations and inter- and intraorganizational behavior. Overall, it contributes not just to explaining organizational behavior, but also organization structure, stability, as well as change (Nienhüser 2008).

Archaeological Approaches to Trade and Resource Dependency Theory

To date, no archaeological research has applied resource dependency theory to an empirical study of the trade and exchange that occurred between Native Americans and Europeans during the eighteenth and nineteenth centuries. As such, the application of this framework to this research is exploratory in nature. However, as will be discussed below, models of trade operation are not a new concept within anthropology and archaeology. This section will start with a quick note on the nature of dependency within this framework, provide a short overview on trade network studies within the fields of anthropology and archaeology, examine how these studies can be improved, and then end with a short discussion on how RDT can provide a better framework for examining these interactions.

A Note on Dependency

The term dependency has been used in many studies of trade and exchange with a variety of definitions. In some situations, it has come to suggest the total and complete dependency of one group on another, with an implicit power relationship of domination and subordination (usually representative of a colonizer/colonized relationship). Early work on the fur trade demonstrated this specific definition, such as by E.E. Rich (1958) who claimed that participation in the trade resulted in a loss of Native autonomy and complete dependence. Subsequent research has worked to dispute this view, such as by Trigger (1987) and Ray (1974), who demonstrated that Native groups were active and intelligent decision makers in matters of change within their own cultures. Recent research has continued along this path, focusing on adaptation and negotiation within Native cultures (see DuVal 2006 or White 1991, for example).

While use of the term may be indicative of the power relationships present, dependency specifically means relying on or needing someone or something. The use of the term within the

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framework of RDT means a reliance on a particular resource from a specific source. Pfeffer and Salancik (2003:51, emphasis added) define dependence as "the product of the importance of a given input or output to the organization and the extent to which it is controlled by a relatively few organizations. *A resource that is not important to the organization cannot create a situation of dependence*, regardless of how concentrated control over the resource is. Also, regardless of how important the resource is, unless it is controlled by a relatively few organizations, the focal organization will not be particularly dependent on any of them." This definition of dependency will influence the results and analysis of this study, as it focuses specifically on materialistic dependencies of crucial resources.

Trade Network Studies

Studies on the nature of exchange and trade interactions have had varied popularity among archaeologists, though they have long dominated anthropological literature (see Oka and Kusimba 2008). Earlier approaches used a variety of definitions for what exchange and trade encompassed, and research on the topics focused largely on systems analysis (Kohl 1975). The popularity of such studies waned briefly but has begun to grow again with the advent of more refined, and affordable, technology for artifact sourcing studies. However, current studies have built off the foundation of these previous studies on both prehistoric and historic exchange. As Nassaney and Sassaman note, it is "useful to consider that pre-Columbian native interactions differed from European contacts not in kind but in degree and content" (1995:341). Bridging the prehistoric/historic archaeology gap can also aid in "providing new conceptions that implicate long-term histories, large spatial arenas, and continuous change that may be relevant to studies of prehistoric societies" (Nassaney and Sassaman 1995:342).

Stein (2002) has noted that the study of interregional interaction had often previously overemphasized the importance of interregional interaction as a cause of culture change; as such, anthropological models of interaction have taken on a misplaced directionality. He criticizes these unidirectional models of interaction and poses a "new paradigm for interregional interaction" (Stein 2002:905). This paradigm is comprised of seven interrelated elements: a fusion of processual and postprocessual approaches, a rejection of unilinear models, is multiscalar, recognizes the patterned variability in the power relationships of the polities linked by a network, recognizes that the interacting complex societies must be seen as heterogeneous entities, recognizes the importance of internal dynamics, and finally, that human agency is important in the organization of interregional interaction networks. This new perspective necessarily leads to shifts in research methodologies: the effects of interpolity power relations must be empirically documented rather than assumed, that foreign material culture objects and styles cannot serve as direct indices for acculturation or foreign control, and that we need to incorporate gender, class, and ethnicity into our analyses (Stein 2002:907-908). He suggests a method of examining this by treating colonies as trade diasporas and suggests several types of diasporas that may fit the model.

Earle and Ericson (1977:3) note that exchange is central to maintenance and change in cultural systems. Thus, in order to better understand culture, we need to be able to understand a group's exchange interactions with others, including through trade. Irwin-Williams (1977:141) noted that there are three major areas of concern in trade studies: 1) the material objects involved in the exchange (through source identification, distributional studies, 2) the specific economic function of trade and how it relates to other cultural subsystems, and 3) exchange as a symbolic medium and a focus for patterns of social interaction. Implied in these concerns is the network

of interaction between people created through the exchange and trade of objects. DeGarmo (1977:153) adds that these exchange networks are important at three geographical levels: interregional, intersettlement, and intrasettlement. For the purposes of studying these networks, Irwin-Williams (1977:144) believes they can be viewed in three ways: from a global view, examining the entire network but only concentrating on one or two types of relationships, from a zonal approach, which separates out a specific zone within the network, and then the anchored approach which looks at a small anchorage point and links it to the larger network.

One of the most prolific scholars on trade and the use of trade analysis in archaeology is Colin Renfrew. While his ideas took several forms, they revolved around the notion that the quantitative investigation of trade or distribution patterns can allow for the observance of underlying regularities in the patterns observed, which would allow an understanding of the mechanisms of exchange (Renfrew 1977:71). He even suggests several models based on the logarithmic distribution of artifacts at the site, representing many different types of exchange transactions such as down-the-line trade, middleman trade, and prestige-chain exchange (Renfrew 1977:72). Renfrew's (1977) down the line model is a linear pattern based on the percentage obsidian versus distance on a logarithmic scale. A problem with his model is the assumption of equal distance between sites, as well as a uniform distribution of population at each site. It further assumes that the reduction in the number of artifacts is proportional to the quantity left at the point in question. He suggests that a large number of uncoordinated events will produce a coherent, quantifiable fall-off curve (Renfrew 1977).

Additionally, Renfrew's (1977) discussion of a central place as a locus for exchange activity adds a degree of complexity to the down-the line model. In this scenario, more of the material passes through this site than any of the smaller settlements, and in fact, suppliers from a

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distance bring goods first to the central place, from which they are disseminated to the smaller localities. He later notes that this does assume some regular relationship between the quantity of artifacts recovered at a location and the quantity passing through it (Renfrew 1984:135). This central place does provide a strong tie in with models of trade focusing on entrepots (such as Tordoff, for example).

While he keeps this next model separate from his down-the-line model, it could add a degree of complexity to his down-the-line model: the model for competing sources. In this model, the material that is being exchanged has a desirability factor or attractiveness, so that the source will supply a quantity directly proportional to its attractiveness and inversely proportion to a function of distance from the source (Renfrew 1977:87).

These studies have spawned numerous other studies on topics such as network analysis. Network analysis has also played a large role in trade and exchange studies. As Earle and Ericson (1977) note, this descriptive technique can be used to analyze patterns of interaction where the sites are the nodes of the network and the exchange linkages are the interactions. This type of analysis allows the researcher to look at the exchange interactions between sites rather than just between sites and sources. This systematic modeling also allows for an examination of the dynamic properties of exchange systems (Earle and Ericson 1977).

Since Renfrew initially started publishing his models of various forms of trade and exchange, archaeologists have become more concerned with the spatial aspects of these interactions. Ericson (1977), in particular, finds the focus on the two-dimensional analysis of observed changes in quantity of an item as a function of distance from the source limiting. It masks significant sources of variability in the data. A three-dimensional analysis that can take actual spatial locations into account can help describe the spatial patterning of the exchange

items, regional trends, local trends, spatial anomalies, and observational error. Renfrew (1984:118, 125) had speculated that a spatial analysis could reveal further trading mechanisms, such as middleman trade, but he also noted that the spatial distribution of finds never represents a situation at a single point in time, it is a series of events over a time span. He also notes that the items found are those that left the trading system for some reason, and the only thing you will find is that which can be preserved archaeologically.

More recent studies on the topic have provided more complex definitions of trade and exchange, which encompass not only the objects but also the social factors of the interaction. As Agbe-Davies and Bauer (2010:13) state, "we argue for a concept of trade as a fundamentally social activity, a concept that focuses not just on the movement of goods but also on the social context and consequences of the exchange." They further suggest "exchange to refer to the transfer of goods from one party to another through a wide range of mechanisms…trade is a more specific category of activity in which the exchange is more formalized and marked based, both in the individual interaction and on a systematic scale" (2010:15). They further argue the social aspect of trade is visible even in modern times, that such things as the use of trade embargoes or the signing of a free trade agreement among nation-states has important social aims and effects (2010:41).

This background has demonstrated the complexity of the topic, as well as the variation in approaches to it. It has also demonstrated the clear larger socio-political framework in which trade occurs, in all circumstances. Re-examining the relationship between the economics of the fur trade and the resulting political relationships means thinking about trade from a different perspective. In particular, one focusing on the relationships that are created by the buying and trading of goods, such as the framework provided by RDT.

Improving Models of Trade with RDT

With its focus on power relations at the organizational level, RDT is consistent with Colin Renfrew's models of trade; except within RDT, a group's survival hinges on its ability to procure resources from the external environment. With the focus on multidirectional power relationships, RDT also allows for empirically documenting the effects of interpolity power relations, which is a critique Gil Stein proffered in his discussion on interregional interaction as noted above. Archaeology had (at that point) been too long focused on unidirectional models of exchange, or on exchange only between two parties (Stein 2002; Pfeffer and Salancik 2003).

In fact, an archaeological application of RDT provides the seven features that Stein (2002) calls out as necessary for a new model of interregional interaction. These seven features will be highlighted next with a short statement on how RDT fulfills them. First, RDT as a theoretical framework can take into account multiple factors simultaneously: concern with agency, practice, ideology, and the active role of material culture; the importance of historical contingency; importance of political economy; comparative analytical framework; concern with regularities; and replicability. Blending of these factors into one theoretical framework merges together aspects of the processual and post processual approaches within archaeology, which provides a more cohesive and encompassing view of interregional exchange. Second and third, RDT rejects unilinear models as limited to a narrow range of interactions and provides a framework for examining multidirectional interactions at a variety of scales. Fourth, RDT includes within its framework the recognition that politics plays a key role in interaction networks. The fifth aspect noted by Stein is that the interacting complex societies must be recognized as heterogenous entities, rather than homogenous groups as often internal dynamics play a critical role. RDT makes accommodations for this within its framework. Finally, Stein notes that a good model for interaction will include the notion that agency plays a role in

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structuring parts of the system (Stein 2002:907). RDT is structured to acknowledge the role of individual agency within various interactions/transactions. The application of RDT to archaeology provides for Stein's (2002) necessary features for a new model of interregional interaction.

Application of RDT should provide new insights to archaeological studies of trade and exchange. By using Native villages and trade companies as organizations, power dynamics between villages, companies, and others can be examined through the lens of economic exchange between all of them. This exchange creates relationships which may be proportional to one group's investment in another (Emerson 1962:32). Power relations emerge from these dynamics: more reliance on a group means having less power over the relationship with them. This fits Stein's critique for a framework for trade that includes politics as a key feature.

Several other of Stein's (2002) components are visible through the manner in which RDT suggests that groups act to reduce the ways in which they may be reliant on another group, such as through reducing uncertainties (perhaps in resource availability), absorbing constraint (i.e., giving rights to certain resources that create reliance to the reliant group), and restructuring the sources of their reliance to their advantage within the power relations. Such tactics could include bypassing the source of constraint by reducing interest in valued resources, cultivating alternative sources of supply, forming coalitions, or coopting/socializing members of the other group through exchange of status, friendship, or information (Casciaro and Piskorski 2005). These methods show agency, complexity, and a broader range of interactions. Additionally, this can all be observed through the archival and archaeological record.

As Casciaro and Piskorski (2005) note, RDT allows for trade to be examined from multiple directions. This approach speaks to Stein's (2002) elements for new models of

exchange, in that it provides a mechanism for examining the multidirectionality of trade. Power imbalance is the direct result of trade imbalance, or an imbalance in the acquisition of goods between the groups involved. Within this framework, assumptions that Native Americans became completely dependent on Europeans during this period would mean that Europeans had complete power over the relationship, while also ignoring any dependence Europeans may have had on Native Americans.

Finally, RDT provides a basis for a comparative, analytical study of the material culture and its effects on the social, political, and economic ties between various organizations. The very definition of organizations allows for the heterogenous nature of groups, and the effects of internal dynamics on the larger organization's decisions. Based on this, RDT should provide additional insights on trade within the study area, which will be demonstrated in the following section.

Applying RDT to the Middle Ground

The interrelated concepts of mutual dependence and power imbalance provoke a scenario very similar to that of Richard White's middle ground, a scenario which White describes as "mutual accommodation" (1991:x) between two different parties, which depended on each sides' inability to gain their ends through force (1991:52). The middle ground was the result of the daily encounters between individuals with problems that needed immediate solutions and could be described as a common conception of suitable ways of acting (1991:50, 56). In this scenario, neither side had the ability nor power to gain what they needed through force. White's premise that the entire Great Lakes region (dubbed the *pays d'en haut*) from 1650-1815 operated within this middle ground illustrates historically Casciaro and Piskorski's (2005) dyadic power relationship of both mutual dependence and power imbalance.

White's research further demonstrates the tactics both sides used to limit reliance (and thus either sides' ability to obtain more power) through many different means, including the formation of coalitions and alliances. Natives who remained as independent political agents were able to force competing powers to give them gifts to maintain peace and alliance. Natives also faced not a single large monopoly, but many small competing traders whom they partially integrated into their own kinship system, at least early on (1991:485). This integration further demonstrates tactics used by organizations within RDT to reduce uncertainty within their environment.

Given this short discussion, RDT should offer significant additional insights into the trade and exchange that was occurring in the Great Lakes region during the eighteenth and nineteenth centuries. Specific details on how this framework will be applied to this research will be discussed in the following chapter.

Chapter 4: Methodological Application of Resource Dependency Theory to 18th Century Trade Relationships

This chapter describes the application of resource dependency theory (RDT) to this archaeological study of trade and exchange in the Great Lakes region by first identifying the key feature necessary for RDT, the organization, and how these were identified in this dataset. The next section will provide details on what, where, and how the data were collected for each of the organizations under study. As RDT is an approach focused on material transactions, artifact inventories were compiled for each organization to be used as a proxy for these transactions. The next section discusses how this was done and how the data were organized. The specific formula, and how each was used to test relationships within RDT is then presented, followed by how the artifact inventories that were compiled were tested using these formulae. The chapter ends with a short note on how the hypotheses will be tested using these analyses. The results are presented in chapters 5, 6, and 7, and then a complete analysis of these results in chapter 8.

Determining Organizations/Data Acquisition

To use RDT as a framework for this study on the economics and politics of trade during the late eighteenth century, information needed to be collected on the organizations present during that time. At its core, RDT revolves around the organization. As mentioned in the previous chapter, RDT defines the organization as a collection of individuals, groups, or interests that come together to achieve something that they could not achieve through individual action to continue existing (Pfeffer and Salancik 1978:23-24).

For this study, the Native organization is defined as a single Native American village, which is also the unit of analysis White (1991) uses in his historical work on the middle ground. The use of a village as the unit of analysis, as an organization, is reflective of the autonomous

nature of many of the villages during this period and the unique decisions and strategies these villages may have made regarding economic choices that were not reflective of the larger cultural group.

Additionally, a Native village fits the definition of an organization within RDT as a group of individuals with a common purpose. For the purposes of this study, archaeological site locations for known eighteenth century village sites were used as village organizations. The archaeological sites used here were determined to fit the definition of a village based on several criteria: 1) enough of the site had been excavated to represent several possible structures within the larger village, 2) the site displayed evidence for long term habitation, 3) site had to have been occupied at least partially during the time period under examination, 4) the site must have been occupied simultaneously to the traders it was being compared to. In Anderson's (1992) dissertation, he notes that very different assemblages come from habitation versus burial sites, and that to arrive at a complete sample of the goods available to a Native American village, both the habitation area and burials should be included in the analysis. This has been done where there is relevant data on both site types however, the primary criteria to be included in the analysis was evidence for long-term habitation.

A European organization is defined here as a single trader's operation; examples include a single trading post, fort, or an independent trader sent on a venture to a village or villages. Again, a trade operation fits the definition of an organization within RDT. In some instances, archaeological sites of known trading posts were used as the organization. In other cases, archival documentation for a known trader's operation served as the basis for that organization. Both types of organizations provided the basis for this project, as the goal is to compare relationships between organizations. The archaeological assemblages from these sites, or

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organizations, were then used as a proxy for the possible material transactions that may have occurred between that trader and the village. How this was accomplished is described in further detail below.

Specific Organizations to be Used

As the primary focus is on how Native Americans dealt with the Euro-American system of trade that was in place at various times from 1760-1820, it was decided to focus on a small sample from three specific Native American groups: Miami, Ottawa, and Potawatomi. Focusing on these three specific groups should provide a good cross section of the variety of interactions taking place across the southern Great Lakes, as well as allow for an identification of any cultural differences in trade participation.

Identifying where each of these groups had villages at a given time can be difficult. Croghan provides a table of tribal locations in 1765, which places the Miami along the Maumee and Wabash rivers, near Fort Miami (Fort Wayne) and Fort Ouiatenon (near modern Lafayette Indiana). The Ottawas were located near Detroit, in the Saginaw Bay area, near Fort St. Joseph, and near Michilimackinac (spread out across Michigan), and the Potawatomi were located near Detroit and Fort St. Joseph (Thwaites 1904). In determining cultural affiliation, emphasis was placed on the archaeological background research conducted for each site, to aid in the determination of the cultural affiliation of the individuals who resided there.

The first step was to identify which of these organizations (based upon presence of known archaeological sites or collections) were to be used in the analysis. Information on archaeological assemblages was collected from sites dating from approximately 1750 to 1830. The geographic focus covered portions of Illinois, Indiana, and Michigan, or those areas

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encompassing the geographic range of Potawatomi, Ottawa, and Miami. These groups were chosen because of their different experiences during this time period, because of their known geographic ranges and site locations, and because of the likelihood that a given site can be affiliated to one of these groups.

Initially, this data was collected from each state's archaeological site file, housed within that specific state's Historic Preservation office. For Indiana, research was conducted at the Indiana Division of Historic Preservation and Archaeology (DHPA) in Indianapolis, Indiana. Basic archaeological information is recorded in Indiana within the SHAARD database; this was searched for sites dating to the 18th century, as well as those sites with artifacts diagnostic of the late 18th or early 19th century (i.e., specific Euro-American ceramic designs, silver, gun flints). Additional files and information was pulled as necessary from the paper files. The Illinois site file was accessed remotely, with permission from their site file coordinator, using their GIS layers and searching site forms for sites from the correct time. The Michigan site file research was conducted at the Michigan State Historic Preservation Office (SHPO) in Lansing, Michigan where the records were searched for sites from the 18th century, as well as those containing common European trade goods.

Site forms and reports were pulled for those sites that fit the search criteria to narrow down the list to those that fit the criteria the best. Once this list was completed, artifact inventories were collected for each of the sites from archaeological reports on file within the respective state's repositories. This narrowed down the list of potential sites considerably, as many of the archaeological sites dating to the appropriate time period had not been surveyed or excavated. In some cases, the institution holding the artifact collection was visited to provide clarification for the artifact inventory; these included Grand Valley State University and the

Michigan SHPO. In other cases, the archaeologist who had completed the survey/excavation work at the site was contacted for more information regarding the work conducted and artifact inventories, as the inventory was not always included within the report. These artifact inventories provided a portion of the data used for the analysis.

Information concerning trader transactions was also compiled from primary and secondary documentation. This information was collected from the Indiana Historical Society (Indianapolis, Indiana), State of Michigan Archives (Lansing, Michigan), the Newberry Library (Chicago, Illinois), the Hudson's Bay Company Archives (Winnipeg, Manitoba), the University of Michigan archives (Ann Arbor, Michigan), and the Northern Indiana Historical Society (South Bend, Indiana).

From these various archives and sources, information was collected on the types of trade goods traded during the 18th century, notes on the types of transactions occurring, and notes on the circumstances surrounding trade (previously summarized in Chapter 2). While trader account books would have been the ideal source of information, few of these were located for known traders in the region. Thus, more generalized information was collected from letters and other records.

Once a list of tentative sites and inventories was compiled, several sites were chosen as a representative sample of Ottawa sites, Potawatomi sites, and Miami sites. These sites were selected based on the quantity of information available, including excavation data, artifact inventories, and archival documentation. Of those sites with a suitable quantity of information, the list was further narrowed down based on known exchange relationships. Only those sites with known relationships were of interest for this study. This led to a final list of six trade operations and eight Native villages (4 Miami villages, 3 Potawatomi villages, and one Ottawa

village). The trade operations included Fort Ouiatenon, Fort Wayne, Cicott Post, William

Burnett, Rix Robinson post, and the De Marsac post. The Miami village sites include the Ehler

site, Richardville house, the Wea Village, and Kethtippecanunk. The Potawatomi villages

included Benack's village, Pokagon's village, and the Windrose site. The Ottawa village

identified for this research was the Ada site. Table 11 shows the organizations, relationships,

and cultural affiliation that were used for this research.

Site Numbers	Site Names	Affiliation
12T6 ←→ 12T9	Wea Village to Fort Ouiatenon	Miami
12T6 ←→ Burnett	Wea Village to William Burnett	Miami
12T9 ←→ 12T59	Fort Ouiatenon to Kethtippecanunk	Miami
12WA59	Cicott's Post to Ehler site	Miami
12WA59	Cicott's Post to Richardville Site	Miami
Burnett ←→12T59	William Burnett to Kethtippecanunk	Miami
Fort Wayne	Fort Wayne to the Ehler site	Miami
Fort Wayne	Fort Wayne to Richardville site	Miami
20KT36 ←→ 20KT105	Ada village to De Marsac Post	Ottawa
20KT36 ←→ 20KT165	Ada village to Rix Robinson Post	Ottawa
20KT165 ←→ 20KT105	Rix Robinson Post to De Marsac Post	Traders to Ottawa
12MR231 ←→ Fort	Benack's Village to Fort Wayne	Potawatomi
12WA59 ←→12MR231	Cicott's Post to Benack's Village	Potawatomi
20BE13←→Fort Wayne	Pokagon's Village to Fort Wayne	Potawatomi
Burnett ←→ 11KA326	William Burnett to Windrose Site	Potawatomi
Burnett ←→20BE13	William Burnett to Pokagon's Village	Potawatomi
Burnett←→12MR231	William Burnett to Benack's Village	Potawatomi

Table 11: Sites and their Affiliations Used in This Research

For each of these sites, the artifact inventories were compiled into an access database,

with each individual artifact type separated out, with a few exceptions. The data revealed a

diversity of artifacts within the assemblages, as well as varying assemblage sizes. This data is

provided in Appendix B.

Given the diversity of artifacts mentioned both in trader's inventories and found

archaeologically, it was necessary to be able to separate out those goods destined as supplies for

the traders versus those destined for the trade. Anderson (2009:392-397) details the differences

between supplies and trade goods in his work on the Montreal Merchant Records. Supplies were those items necessary for a given outfit to conduct trade expeditions. This often included items such as canoes or other related boat paraphernalia, paper and writing utensils, or scales and weights. If documentary records were available, annotations surrounding an entry, or even its location in the invoice, could further indicate if that item was meant as supplies or for trade.

Quantity of an item could also indicate whether it was intended for trade or as supplies. As Anderson (2009:396) notes, trade goods tended to appear in the entries in much larger quantities. A single coffee pot may be intended as outfit supplies, whereas 144 tin kettles were likely destined for trade. Finally, following Anderson's example, if a trade item was found at a Native American site for this time, it was considered evidence that that particular item was a trade good. Thus, based on Anderson's (2009) work, trade goods were determined based on several criteria: 1) are of European make and appear at Native American sites, 2) are present in trader assemblages in large quantities, 3) were not those items clearly intended for use by the trader (such as boat equipment), and 4) the presence of written records that could dictate the intended disposition.

The use of the Fort Wayne daybook made this distinction necessary. Several items listed in the daybook were likely meant for the garrison at the fort and were likely not traded. Items such as coffee pots, paper, spinning wheels, a stove, shaving implements, weights and measures, scales, canteens, and measuring cups were determined to likely have been destined for the garrison and were not included in the analysis. This designation was based on comparing the inventory from Fort Wayne to the journal entries from the fort, as well as to the lists of goods given to the tribes for annuity payments (Harrison 1811; Griswold 1927).

The use of archival documentation for some of these sites led to the inclusion of several artifact types not generally recovered from archaeological contexts: cloth, thread, soap, and food items. Perishable items such as these, and other items that typically do not last in the archaeological record, were addressed in part through the creation of artifact categories. For example, food items listed in the archival documentation were placed in a "Food" category, along with faunal and floral remains recovered archaeologically. It is assumed that the faunal remains present at a site would be indicative of at least some of the food eaten and fur pelts being traded. This research is also relying on the assumption that these perishable items Native Americans received from Euro-American traders were likely not traded back to the same traders but kept for personal use. Most sources indicate that of the perishable items, Native Americans likely only traded out food and pelts (though receiving in several other types of perishable goods), which can be investigated and accounted for through an analysis of the faunal and floral remains. Other items, such as cloth and thread noted in trader inventories, were again accounted for through the creation of a "Clothing" category, which lumped together items related to these perishable materials that would be more likely to appear archaeologically: shoe buckles, rivets, pins and other clothing related paraphernalia. Finally, it is possible that some perishable items just cannot be accounted for within an archaeological context. However, until a better means of accounting for these items can be found, it is hoped that their lopsided presence in the assemblage will not drastically skew the results.

Another issue was in translating how items were recorded in the Fort Wayne and Burnett daybooks to make them comparable to the archaeological assemblages. For example, items such as copper kettles and lead shot were recorded in weight, rather than count. In the instance of the lead shot, given that it could be a variety of sizes, average weights were figured based on the

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artifact assemblage from Branstner's 1986 work at the Marquette Mission site. This was necessary as the width and weight of the lead shot from the sites used in this analysis was not recorded. Branstner's report details 205 pieces of lead shot that were recovered during this work, measuring in diameter from 3mm to 6.6 mm, and weighing from 0.2 grams to 1.8 grams. An average diameter was found to be 4.7 mm, and an average weight of 0.8 grams. This average weight was used to determine that 683.5 pounds of lead shot, with one lead shot averaging 0.8 grams, could equal 387,538 pieces of lead shot (Branstner 1986).

Additionally, the recovery of a complete copper kettle from the Marquette Mission site provided an average weight for this item as well, 0.254 pounds, providing an estimate for the 674 pounds of copper kettles mentioned in the daybooks to equal approximately 2645 kettles (Branstner 1986).

Artifact categories

As mentioned above, artifact categories were created, in part, to account for those perishable items which cannot be observed archaeologically. These categories were also used as a means of mitigating broad assemblage diversity where there may be many similar artifact types present. The diversity of different colored glass beads, for example, often represented personal preferences, and by placing some of the items into more generic categories such as "Beads" or "Tools," this research focuses on the choices of the village at large, rather than specific individual choices. These categories can also help account for differences in identification by archaeologists; where one archaeologist may identify a rasp, another may identify a file. The use of a "Tools" artifact category helps to account for these, hopefully minor, differences (Anderson 1992:109 also notes this possibility).

Another reason for the use of artifact categories comes from the necessity of comparability between archival documents and the archaeological record. Beads, for example, may be present archaeologically in a variety of shapes and forms, but may only be recorded in archival documentation as beads, with no indication of style or type. In this regard, the use of categories for some of these artifacts follows that of previous work comparing archival documentation to archaeological assemblages (Anderson 1992:91-92). The level of description that may be obtained with archaeological artifacts may not be represented in the archival documentation. As such, for better comparability between these two types of data, broader categories for some types of objects were necessary. However, where better information was available within the archival documentation, or where the artifacts are considered diagnostic (such as silver), they were left as more specific categories. In effect, the lowest common denominator was used when deciding what artifacts should be placed within what categories: if 'tool' was as specific as one source would allow the category "Tools" was used for all hammers, files, and rasps. For another example, there were vast differences across archival references to various gun parts, as well as differences in the level of identification conducted by archaeologists. In several instances, an item could only be identified as a piece of a firearm, rather than the specific part. As such, all the interlocking pieces that comprise a firearm were placed within the "Gun parts" category.

The total categories created for this research are Adornment, Beads, Cloth, Fishing, Food, Furnishings, Gun parts, Kettle, Lead, Silver, Tools and Equipment, Transportation, and Utensils and Kitchenware. These categories are based on the Chenhall system for museum cataloguing, which provides a standardized nomenclature for the classification and organization of man-made artifacts. The Chenhall system is the standard tool for organizing information and provides a

basis for indexing and cataloging museum collections. This system relates each object term to a hierarchical taxonomy based on the object's functional context (Bourcier et al 2015). As the system is only designed for historic period artifacts (and not Native American made items), all Native American made artifacts were not associated with a category and remained separate. The intent behind the system is to make it easier to compare, share, and locate collections; as such, it seemed an appropriate basis for the formation of categories for ease of the analysis here.

A quick summary of the categories used follows. For the full list of what items were included in which category, refer to Appendix A. Any horse-related artifacts (horseshoes, horseshoe nails, sleigh bells, etc.) were all lumped together under "Transportation." All items related to firearms, excluding lead shot and gunflints, were considered "gun parts." The "Accessories" category includes personal items that were not already accounted for by the "Buttons" category, including ribbon, clothing clips, hooks and eyes, coins, or other personal items. Tools is a broad category that includes all types of tools, such as awls, chisels, and hammers. The "Furnishings" category includes all artifacts related to furniture, which mostly includes upholstery tacks but also smaller hinges. The "Utensils" category includes all knives, forks, spoons, and serving ware, excluding clasp or pocketknives. Items that were notable to the trade, such as glass beads, silver decorative items, and copper or tin kettles remained in their own, individual categories.

The categories of brick, flat glass (window glass), mortar or chinking, and metal architectural elements (i.e., nails and other building materials) were noted for all sites but were not used in any of the final tallies. This data was used as a proxy indicator for whether a structure had been present in that location but were excluded from the final inventories.

Application of RDT to Material Culture

One of the benefits of using the formulae created for the RDT framework is that differences in assemblage size are mitigated using proportions rather than specific quantities. It is assumed that each collection/assemblage is an adequate sample of the total artifacts from a particular site; thus, even for small assemblages, the proportion of goods for each category should still be representative of the proportion for the entire site. Any deviations from this will be discussed when that site is presented in subsequent chapters.

The use of archaeological collections for this research necessitates making several additional assumptions. The first is that the archaeological assemblage serves as an adequate proxy for the material transactions that each village or trader's organization would have made. The second is that most of these material transactions are represented within archaeological assemblage in some form. For trading post sites, it is assumed that if a trade good is present at the site, it was offered for sale/exchange by that trader. Any additional assumptions will be noted within the relevant section.

Analysis Using RDT

Empirical studies using RDT have developed several formulae for testing dependence between organizations based on acquisition of resources, mutual dependence, and power imbalance between those organizations. The formula that will be used here to test the type of relationship that existed between Native villages and European trade entities is based on Casciaro and Piskorski (2005). The main formula states that the dependence of a given organization on another ($C_{j \rightarrow i}$) will be equal to the proportion of total goods purchased from that organization (p_{ij}) plus the proportion of total goods sold to that organization (s_{ij});

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$$C_{j \to i} = (p_{ij} + s_{ij}),$$

Where $p_{ij} = \left(\frac{z_{ji}}{\Sigma_q z_{qi}}\right)$ *and* $s_{ij} = \left(\frac{z_{ij}}{\Sigma_q z_{iq}}\right)$ *and* w*here* $z_{ji} =$

total flow of goods from industry j to i; and

$z_{ij} =$ *the total flow of goods from industry i to j; and*

z_{iq} *or* $z_{qi} =$ *total goods available to that organization*

In this equation, the total goods purchased (p_{ij}) is a proportion of goods purchased to the total goods offered for sale (those items that could have been purchased). The total goods sold (s_{ij}) to that organization is the proportion of goods sold to the total goods offered for sale. Group A's dependence on B is then equal to the proportion of the total goods available purchased from Group B added to the proportion of total goods available sold to Group B. For example, if Group A only buys one type of goods from Group B, but Group B buys multiple types of goods from Group A, Group B will have a higher dependence value because they have a stronger reliance on the goods offered by Group A.

Power imbalance (PI) then is the absolute value of the difference between two organizations' dependence values:

$$PI_{i \leftrightarrow j} = |C_{j \to i} - C_{i \to j}|$$

A value close to zero indicates little power imbalance; higher values indicate higher power imbalance. In the previous scenario, the power imbalance between Groups A and B would be high, because one of the groups is more reliant on the goods available for exchange than the other. A value close to zero indicates that goods are traded between the two organizations at even frequencies. To be able to test whether or not a power imbalance value

was indicative of a significant degree of power imbalance, a bootstrap paired sample T-Test was done within the social network software UCINET. This compared the power imbalance matrix to a matrix of similar size with randomly assigned values that were then permutated thousands of times to determine the absolute difference between the power imbalance values and random numbers. This value, 0.138, is used as the baseline for determining if power imbalance is statistically significant. A scale was then devised incorporating this value to create a range. This method was used as previous studies have not been done in a comparable manner to provide a statistically significant means of determining levels of significance for power imbalance. Using this value, limits were determined as such: 0.138=statistically significant slight power imbalance; 0.414=moderate power imbalance (original value times 3); 0.69=large power imbalance (the difference between the first two values, added to 0.414 to create an evenly spaced scale). This scale encompasses the range of power imbalance values found in this research (0.027-0.896). This is preliminary and future research should work to refine this scale based on additional archaeological research.

Mutual dependence is measured as the sum of the dependence of two organizations:

$$MD_{i \leftrightarrow j} = C_{j \rightarrow i} + C_{i \rightarrow j}$$

A higher value indicates a higher degree of mutual dependence. A lower value indicates a lower degree of mutual dependence. This numbers represents how reliant the two organizations are on goods traded between them. As the value for mutual dependence may return from anywhere from 0 to 4, mutual dependence was ranked on the following scale: 0-1=little to no mutual dependence; 1-2=slight mutual dependence; 2-3=moderate mutual dependence; and 3-4=strong mutual dependence. This scale was arbitrarily designed based on perusing the data, as again no

work has been done to define a scale for providing a meaningful association for this data. Future work should also work to refine this scale based on additional archaeological research.

As mentioned previously, applying these formulae to archaeological collections means making several assumptions about the nature of the archaeological data and what it represents, primarily that all of the material transactions that organization took part in are represented in the archaeological record in some form. Any deviations from this assumption are noted where applicable.

As specific information about transactions was not available in many instances, some additional assumptions had to be made. When looking at the proportion of total goods purchased from that organization and the proportion of total goods sold to that organization, it was assumed that if a given item was present within the trader assemblage, it was available for purchase. It was assumed that any items in the village assemblage of the same type as trade goods available from the trader could have been purchased from that trader. It was also assumed that the trade goods present in the trader artifact assemblage were available for sale to organizations. When thinking about the trade goods sold to an organization, only items that the Native village would have been interested in (i.e., are present within the archaeological assemblage) were considered. It was assumed that the types of artifacts the Native village routinely purchased would be represented, in some form, in the archaeological record. It was also assumed that if the members of the village were not interested in a given type of artifact, it would not be present in the assemblage.

Inputting Data into the Formulae

The data within the access database provided the basis for the numbers inputted into the formulae, for the (p_{ij}) or the (s_{ij}), as applicable. These values represent the goods that a

specific group purchased from or sold to the other. The dataset also provided the totals necessary for the *z* values, or the total goods available for sale or purchase. This is discussed further below.

This inventory allowed for tallying of three different categories necessary for the analysis: total items, total trade items (this broadly encompasses all items that could have been procured through trade, not just European made items), and then total items that could have been traded/procured from the other organization. This final category includes only those trade items that the other organization had available for trade; this was identified by comparing the artifact inventories, marking all the categories that could be considered trade and then of those, highlighting the categories that had values for both sites (i.e., those trade items both sites had in common).

These three categories were used for the formula in two different ways. The formula examines the total nature of economic reliance between two organizations by using information on items purchased and items sold. This was investigated by looking at just the trade items, and then by looking at the entire assemblage. The first analysis was done using the categories of total trade items and total items that could have been traded. In this equation, P + S = total reliance, and the P (purchased items) is equal to the ratio of items that could have been purchased from the trader to the total trade goods present at that site. The S (sold items) is equal to the total items the trader could have sold to that group over the total items for sale. This resulted in a value that indicated how many trade items present within the village assemblage could have originated from this particular trader, and how many of that particular trader's goods were acquired by the people of that village. The resulting value provides a numerical indicator of the strength of the economic relationships between the two parties.

The second way of using the formula was to focus on the entire artifact assemblage, rather than just the trade goods. In this analysis, the S remains the same, but the P changes to the ratio of items that could have been purchased from the trader to the total artifacts found at the site. The results of this formula show how reliant the people of the village were on trade items in general for their economic goals.

Many of the same assumptions previously made applied to this process as well. There are some obvious difficulties with this, in particular the sale or exchange of furs and other perishable items (such as food stuffs or cloth) in either direction. This research attempted to rectify this by including both faunal and floral remains into the "Food" category. However, it should be noted that this may not adequately compensate for all the furs or food stuffs the Native residents may have been trading.

Testing the Hypotheses

As stated in chapter 1, the main hypotheses of this dissertation focus on the central proposition of RDT, that groups can gain power in a situation as a result of the economic relationship between these groups, or that the economic relationship between two organizations can help explain their political relationship. To test whether a specific Native American village was more dependent on Euro-American organizations than the Euro-American organization was on a Native American village, dependence values were calculated for all possible pairs of interactions. These values were calculated using the archaeological data (trade goods found at a site) and the historic documents (trader's records, account books, etc.) to determine total number of goods and proportion of goods acquired from specific organizations, using the methods mentioned above. The resulting totals were then incorporated into the formula. This provided a series of values on a scale from 0 to 2.

Regarding the hypothesis that Native Americans were completely dependent on

Europeans, if this is accurate then the Native dependence values should be higher than the British

value, the mutual dependence value should come close to zero, and the power imbalance value

will be high. For the hypothesis that Native Americans and Europeans were mutually dependent,

the dependence values should be close to equal, power imbalance should be close to zero, and

mutual dependence should be high.

Finally, to test that power relations and the goods groups were reliant on varied by group,

were historically contingent, and that this is observable in the types of goods they decided to

trade, the numbers compiled for the above hypotheses will be tested for significance against

group cultural affiliation using two-tailed quadratic assignment procedure (Casciaro and

Piskorski 2005). This allows for a test of significance of non-normally distributed data that

maintains the relationship between dependent variables (dependence between two organizations)

while randomizing the independent variable (cultural affiliation) to create a distribution should

there be no correlation between variables. The observed values can be tested against this

distribution to determine significance. This can determine if group cultural affiliation plays a

significant role in an organization's reliance on another for specific goods. This will be

discussed further in Chapter 8.

Results and Analysis

The results of the applications of these formulae to the data will be presented in the

subsequent chapters on the Ottawa, Miami, and Potawatomi. While the results will demonstrate

the relationship between various villages and various trade organizations, the aggregate data

should provide information on basic relationships between the various Native villages and the

British and other traders during this period, as well as between various Native groups. Other

factors, however, may influence the results, such as length of occupation, changing economic roles throughout the length of an occupation, and geographic location. This larger scale analysis will be presented in chapter 8, including a discussion on how well RDT explains the economic and political relationships of the Ottawa, Miami, and Potawatomi and various traders throughout the region.

Chapter 5: Trade Relationships of the Ottawa Living along the Grand River

This chapter focuses on the application of the methods described in chapter 4 from

resource dependency theory (RDT) to the trade relationship between the Ottawa residing along

the Grand River in west central Michigan and the local traders, Daniel de Marsac and Rix

Robinson. This chapter will provide a short description on the overall culture of the Ottawa

during this time, followed by a summary of the Ottawa villages within the specific study area.

The specific research sites from within this region will be discussed in more detail, focusing on

how the data used in this dissertation was recovered or retrieved for each site. Any idiosyncrasies

with the data from these specific sites will be highlighted. This chapter will end with a

presentation and short discussion of the results from the application of RDT methods to the

artifact assemblages from the study sites. This data will be further analyzed in Chapter 8.

Who are the Ottawa?

The Ottawa people speak a southeastern dialect of Ojibwa, and throughout the last 300

years have resided in villages throughout Canada, Michigan, Ohio, Indiana, Illinois, Wisconsin,

and possible even into Minnesota (Feest and Feest 1978:773; Tanner 1987). Some accounts

suggest that the Ottawa from very early on in their recorded history were highly mobile and

would travel large distances (Feest and Feest 1978:772). This mobility allowed them to take on

a prominent role in the burgeoning trade in eastern North American during the mid to late 1600s,

though there was a significant decline in mobility by the 1800s (McClurken 1986). The Ottawa

politically negotiated their situation during the mid-1800s so that they were able to remain within

Michigan, when other groups were experiencing forced removal. The Ottawa still live in

Michigan today; the Little River Band of Ottawa Indians traces their lineage and political history

back to the historic bands of the Grand River Ottawa people discussed in this research (Little River Band of Ottawa Indians 2018).

Socio-political organization

The historic records, compounded with the inability of the Europeans at the time to fully grasp the socio-political organization of the Ottawa, suggest several different organizational schemes for the Ottawa during the eighteenth century. McClurken (1986) further expounds on this difficulty of determining what sort of socio-political organization may have been present based solely on European written records from the time. Feest and Feest (1978) and McClurken (1986) note several different schemes that may have been used. One scheme was by clan or totemic group. Another was by village. Some accounts suggest that at one point in time it may have been a combination of both, with several clans living within one village. However, by the eighteenth century, it appears that most villages were of a single clan. Each independent subgroup of Ottawa, as well as each of the villages, had its own chiefs (Feest and Feest 1978:776-777; McClurken 1986:16-17). This led to each village being an autonomous collective that made decisions in the interest of that group.

Use of Landscape & Subsistence

The Ottawa of the eighteenth century lived in permanent villages along riverbanks or lakeshores; as such, fishing was an important subsistence activity (Feest and Feest 1978:774-775). This was subsidized with horticulture, including mainly corn, but also squash and beans. Gathering of blueberries, raspberries, and strawberries was also important (Feest and Feest 1978:774; McClurken 1986).

Despite being horticulturalists, they were still seasonably mobile, and spent a considerable amount of time hunting (Feest and Feest 1978:781). Sources note that while firearms were used for hunting, traps were more often used as they preserved the hide for trade. Bow and arrows were often still used as well (Feest and Feest 1978:781).

The Ottawa Villages of the Grand River

As noted above, the Ottawa lived throughout Michigan in the eighteenth and nineteenth centuries, but this study focuses on the permanent villages of the Grand River band. These villages are some of the few Ottawa villages from this time where both the village and the neighboring trader's post have been the subject of archaeological investigation. As such, these villages can provide more in-depth information on the nature of the economic and political relationships at that time.

The Grand River region was likely settled initially in the mid-eighteenth century. McDonnell (2015:245) interpreted the Ottawa move from Michilimackinac to the Grand, Muskegon, and Manistee River regions as an attempt to 'reorient' the empire in their favor; initially this meant against the British, but eventually shifting in favor of the British as relationships soured with the American government. These new villages also helped reinforce ties to Michilimackinac, as well as with the Potawatomi of the St. Joseph River region (though, McDonnell notes, the two groups were acting increasingly independent of one another when it came to their interactions with Europeans). These villages also provided a measure of autonomy for the group, as they were outside of the direct influence of Michilimackinac, Detroit, Chicago, and the St. Joseph River region. During this period, most of the Ottawa were divided into largely autonomous regional units of multiple villages each (McClurken 1988:54). The largest of these

autonomous units during the late eighteenth century to early nineteenth century was the Grand

River band (McClurken 1988:54).

Not only was the Grand River region home to the largest autonomous unit of the Ottawa

during this time period, but it is particularly useful in that several archaeological sites have been

excavated in this area. Few archaeological sites have been excavated to the degree that the

assemblage could provide answers regarding the economic transactions occurring between the

villages and the various traders present in the region. The other necessary data for this project,

trader's inventories, is also crucial. One location from the appropriate time provided the

necessary detail to allow for analysis, the Ada site, and the associated Rix Robinson and De

Marsac Trading Posts. All three sites are located within a few miles of one another along the

Grand River in Kent County.

The Ada site was likely occupied around 1775 and may have lasted until the late 1830s.

The site was one of the historic nineteen villages of the Grand River Ottawa (McClurken

1988:81). The land the site is located on had been purchased and was being farmed starting in

the mid-1850s (Chapman 1999:3). Rix Robinson built a post about a mile and a half down the

river, opening it in 1821 and conducting business from that location until about 1850. Daniel

Marsac ran the nearby de Marsac Trading Post, which was in operation from about 1829 to 1857.

Despite being located somewhat further away, Marsac was known to trade with the local Ottawa

villages. His post was at the intersection of the Flat River and the Grand River; only a few miles

east of the Ada site (see Figure 5). There is some overlap between the occupation of the Ada site,

and the presence of the two traders in the region. Given historical accounts of Rix Robinson's

known acquaintance with this village, and de Marsac's propensity for trading with the Ottawa, it

is likely the residents of the Ada site could have traded with both individuals.

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Rogue River

Bear Creek

Seely Creek

Flat River

20KT165

20KT36

Grand River

20KT105

Lake Creek

Plaster Creek

N

Bear Creek

Thornapple River

Coldw

Site_Type

Fort
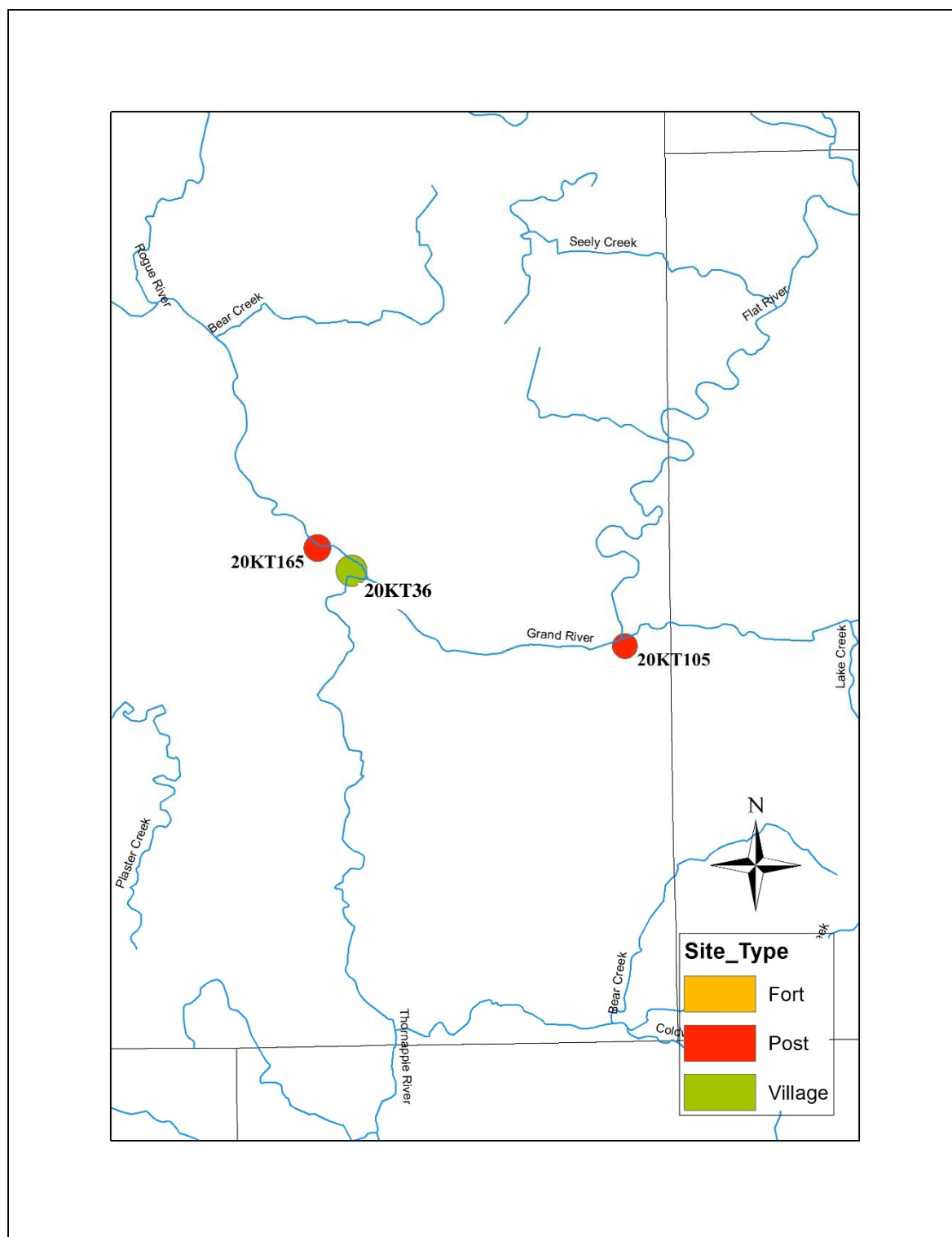
Post

Village

Figure 5: Location of Ada Village and the de Marsac Post and Rix Robinson Post

The following sections examine the nature of the assemblage for each site, including assemblage origins, the portions of the sites that have been investigated (if known), and how the assemblages were classified for use in the analysis. A brief explanation of how these data were applied to the previously mentioned formulae will follow, along with the results of this analysis and the interpretation.

The Ada Site, 20KT36

The Ada site is a Native American village with two burial localities at the junction of the Thornapple and Grand Rivers. It is one of the nine horticultural villages located along the Grand River occupied by the Ottawa when they moved south to settle in the area in the early 18th century. This particular village was also called Nongee's Village (McClurken 1988, 1996). This location has seen considerable ground disturbance, from dirt removal activities in the 1940s and 1950s, to the construction of M-21 and the relocation of the Thornapple River in the 1950s. Most of the available information on the site's features and artifacts comes from avocational collectors attempting to salvage what they could prior to the site's destruction. However, survey work by avocational archaeologist Lynn Chapman (1999) located a few areas that may have avoided destruction, when he observed flakes, faunal remains, and pottery sherds on the surface.

Based on the presence of considerable artifacts on the surface, the site has been known to local collectors for a long time, such as Edmond Gibson, president of the Wright L. Coffinberry chapter of the Michigan Archaeological Society. Gibson knew about the site location from an 1830s era map of the area made by Lucius Lyons which he had in his possession (Anonymous 1952). Despite knowledge that a site was in this location at this early date, collectors did not start frequenting the site until 1917-1918, when one of the earliest known collectors, Henry Bouwknegt, visited the site (Chapman 1999:18).

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Even though the location of the village appears to have been well known to local collectors early on, its location was revealed writ large in the 1940s and 1950s, when the city of Ada started scraping the location for dirt for landscaping and city lawns. This revealed the presence of several hearth features, fire-cracked rock, and faunal remains. As the city continued to remove dirt from the site, additional materials were located. When Gibson visited the site in 1952 after such an episode, he located additional hearth features, pottery, flakes, and faunal materials. Among the faunal remains were several clamshells, bird bones, and deer bone. He identified a lone historical artifact, a piece of a white clay pipe stem that was also located amongst the scatter. Gibson visited the site on several occasions, periodically collecting there (Anonymous 1952:1). He also created one of the first maps of the site (Gillis 1965a).

During this period of ground scraping activity in the mid to late 1940s and 1950s, Ruth Herrick also visited the site several times over a period of 5 years. Herrick was an avid avocational archaeologist. She reported that the hearth features were circular, measuring 3 to 4 feet in diameter and lined with hard rocks. They were filled with ash, as well as "occasional animal bones, many potsherds and now and then a projectile point" (Herrick 1958:1). A considerable number of pit features were also noted, most containing a large number of faunal remains. Some of the pits also contained several mussel shells, including purple wartyback. This type of mussel is notable in that it is now considered a threatened species. At the time the village was occupied, however, it was likely plentiful as the Grand River basin is one of its prime habitats (Badra 2004).

Hammerstones and anvils were also located near the faunal remains, which may be indicative of processing. While Herrick notes no obvious pattern in the layout of the hearth features, she does note that the refuse pits appeared to be largely clustered closer to the

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riverbank. In Chapman's (1999) review of Herrick's notes, he is not able to delineate feature locations any better.

Based on the information provided in Herrick's report of her work at the site, it is likely that some, if not most, of the features date to the 18th century occupation of the village. For example, one pit containing Late Woodland style projectile points also contained the "butt of an iron tomahawk" (Herrick 1958:2). A hand-hammered iron tool was collected from near one of the faunal features, as well as the iron portion of a musket.

According to reports compiled by Ruth Herrick (1958) and Lynn Chapman (1999), a variety of materials have been recovered from across the Ada site. Pottery sherds were found over the entire site. All the pottery was grit-tempered, suggesting the mussel shells found at the site were not collected for use as temper. What Herrick calls "trade objects" were also noted scattered across the village site. These items include copper kettle scrap, some with score marks, and copper triangles. Herrick noted that some of the fragments appeared as though they were being made into tinkling cones; slides of the collection at Grand Valley State University (GVSU) verify this may have been the case. Other historical period decorative items include a thimble fragment and two flat-topped pewter buttons, which were also recovered from this same area.

Along with the iron portion of a musket mentioned previously found near the faunal remain features, both Chapman (1999) and Herrick (1958) note locating several brass plated pieces of gun ornamentation as well. One appears as though the owner was attempting to reshape it into a harpoon (Herrick 1958:2). Other gun related items include large lead bullets, some up to a half inch in diameter. Smaller lead bullets ranged from lead shot sized to larger. Finally, gunflints were found throughout the entire site as well; most were of Brandon chert from England (Herrick 1958, Chapman 1999).

Additional historical artifacts found across the site include silver, clap pipes, and beads. Silver brooches and pieces of strap silver were also collected from the ground surface. Clay pipe bowls and stems were also found throughout. Beads were of both glass and shell, and in many different colors, including opaque white, white oval wire wound, black cut glass, cobalt cut glass, green cut glass, tubular opaque black, light blue, and reddish (Herrick 1958). Herrick later donated many of these items to the Grand Rapids Public Museum (GRPM). Prior to being repatriated in 2009, they were loaned to GVSU, where the entire collection was photographed. These images, in conjunction with the NAGPRA (Native American Graves Protection and Repatriation Act) inventory created by GRPM, were used to verify Herrick's and Chapman's reports (National Park Service 2009).

Based on the work of Herrick and other avocational collectors, two cemeteries were noted at the site (Chapman 1999). The first, and older of the two, was located on a strip of land right at the junction of the Thornapple and Grand Rivers. This cemetery was located when soil was removed from the area for use in gardens and portions of skeletons were located. Collector George Harrington found an iron knife blade, iron awls, rusted spatula, a small crucifix, bone beads, bone harpoons, and a clay bead (Herrick 1958:5).

The second cemetery was shown to Herrick in 1949. The area was a series of humps and depressions that had been bulldozed a year or so prior. Silver ornaments and beads had appeared at that time. She looked through the various dirt mounds and located silver bracelets, crosses, brooches, gun ornaments, iron knife blades, red ochre and gun flints, along with the remains of several individuals. Several intact copper kettles of quart size and larger were also found, two of which contained wooden spoons (Herrick 1958:6-7).

Eventually the remains of 27 individuals were recovered and donated to the Grand Rapids Public Museum. The museum worked to acquire much of Herrick's, and others, collections from the site, from both the village context and the cemeteries. Unfortunately, the GRPM did not separate out artifacts coming from the village versus artifacts recovered from the two cemeteries; they were all lumped into a singular collection. The entire collection (both the material from the village and the burials) was listed in the NAGPRA notice for the site, and eventually repatriated to the Little River Band of Ottawa Indians (National Park Service 2009, 74(161):42321). The lack of records on the provenience of specific items made it difficult to separate out what may have originated from where at the site; thus, the entire collection as listed in the NAGPRA inventory was used as inventory for the site.

Rix Robinson Post, 20KT165

Rix Robinson is first noted in 1821 as a trader affiliated with the American Fur Company. He resided initially with the Ottawa at the Ada site, but built his own trading post by 1822, about a mile upriver (Chapman 1999; Thwaites 1888).

The archaeological site of the post was apparently well known to residents. After hearing rumors that the location was to be sold off for industrial use, the Wright L. Coffinberry chapter of the Michigan Archaeological Society decided to investigate the site, to obtain any information they could prior to its possible destruction. In the summer of 1967, a group of volunteer avocational archaeologists investigated the site. Their work revealed a cobblestone structural foundation measuring approximately 25 feet by 50 feet, with pieces of plaster chinking with log impressions scattered throughout. The only other architectural evidence noted in the report is the presence of square nails (Flanders and Stockton 1968:38).

The group also found considerable artifactual evidence at the site, including ceramics, glass bottles, faunal remains, and one 1836 penny (Flanders and Stockton 1968:38). Compared to domestic sites from this same time, there was an unusually high number of ceramics found, 1829 sherds. Of this number, 990 of the sherds were plain earthenware. A total of 368 decorated ceramic sherds were examined and identified by Richard Stockton (Stockton nd). This left 471 decorated sherds which have not been examined or identified. Based on these counts, approximately 75% of the ceramic assemblage has been identified to date. Decorated ceramic types include edge-decorated wares, yellow wares, some transfer-printed wares, and painted blue wares, all of which can be dated to between 1820 and 1840 (Flanders and Stockton 1967). Based on these diagnostic ceramic decorative styles, and the single 1836 penny, the group concluded that the excavated structure was likely the location of Rix Robinson's post.

The group also found another feature that may link the site to Rix Robinson, an intact horse burial just east of the foundation. The horse had suffered from a broken rear leg, and there was some healing evident on the bone suggesting the horse had lived for a while after the break. One of the group members had recalled hearing a tale in grade school of Robinson attempting to heal a horse's leg during his stay near Ada (Flanders and Stockton 1968:39). Unfortunately, no evidence for this tale could be located, so for the moment it is just hearsay.

Few detailed notes were available regarding this investigation. Flanders and Stockton (1968:38) note the presence of at least two distinct strata, including a layer of top soil measuring 0.3 to 0.5 feet in thickness and a cultural layer, measuring between 0.3 to 0.8 feet in thickness. This thick layer of top soil was also observed at the nearby Ada site (Chapman 1999; Herrick 1958) and is likely the result of alluvial deposits following the flooding of the Grand River. The excavation was extensive enough to uncover the full length of the foundation. A total of 24

separate catalog numbers were used for the artifacts, though there is no indication how large

individual units were, if the catalog numbers represented different levels, or where any of the

units were in relation to the foundation and one another. Despite these issues, the artifact

assemblage uncovered in 1967 appears to be a sufficient sample of the variety of items available

at the post, with a total of 3319 artifacts in the GVSU collection for the site.

This collection was visited and reviewed for the purposes of this research at GVSU, using

the catalog records as a guide. The goal of the examination was to clarify indeterminate listings

in the inventory (for example, glass was often lumped together in one category, so one goal was

to determine counts for flat or window glass versus bottle glass). While a worthwhile endeavor,

the remaining 471 unidentified decorated ceramics were not examined (past a cursory look

through), as all ceramics for this research are included in a single category. All artifacts listed as

beads, tinklers or tinkling cones, miscellaneous metal, and gunflints were re-examined. Glass

artifacts were also sorted to determine quantities of window glass versus bottle glass. This

examination of the collection allowed for further refinement and a greater degree of specificity in

the artifact inventory and for this research.

Daniel de Marsac Trading Post, 20KT105
Daniel de Marsac started his career as a trader in 1829, when he came from Detroit to

begin trading with the Ottawa along the Grand River, particularly those living in Segwun. He

constructed a log cabin in 1831 at the mouth of the Flat River in Kent County (Gibson et al.

1960). He ran the post for a while, but the local Ottawa started to ignore him when he spurned

his Ottawa wife Je-Nute for a French woman from Detroit. He got little to no business from

them, and an associate, John Hooker, took over the post in 1846 and ran it until 1857 (Flanders

1973:49; Shields 1978:53).

The archaeological site of the de Marsac Post was initially identified through a metal detector survey by several avocational archaeologists in 1957. They eventually found signs of metal approximately 100 feet from the mouth of the Flat River, which included a rusty knife blade, two-tined fork, and some non-metal artifacts, including historic ceramics, window glass, and fire-cracked rock (Gibson et al. 1960).

This evidence prompted the group to excavate two short exploratory trenches parallel to the riverbank. Architectural debris was encountered, including a rectangular stone pile at a depth of to 10 inches from the surface. The group returned in 1958 to further investigate the stone pile and found that it contained a layer of ashes and a crude lime mortar mixed with some of the lower stones. This location was interpreted as the chimney footprint. Stones likely from the foundation were found across the site, the spread of which was interpreted as damage from plowing. Excavation units were placed west of the purported chimney and located high concentrations of window glass, ceramics, iron fragments and tools, bottle glass, and other debris (Gibson e al. 1960).

Evidence for a hearth was also located to the west of the foundation, with Native American ceramics present. Another excavation unit placed south of the foundation revealed additional ceramics and a piece of worked granite. These were interpreted as a late prehistoric component to the site but may be related to the site's use as a trading post (Gibson et al. 1960). Additional evidence for interpreting this as related to Ottawa visitors to the post comes from the presence of several pieces of worked bone, including an antler perforator with a handle (Gibson et al. 1960).

The window glass found at the site is a light green, very thin, and with a considerable quantity of air bubbles throughout, indicating an early origin. At least five blown-in-mold

whiskey flasks were identified as well. A small blown essence bottle also appears to date to the first half of the 19th century (Gibson et al. 1960).

The ceramics from the site were all identified as English Staffordshire ware, and appear to date to the occupation of the site. Designs include transfer-printed wares, sprigware, gaudy Dutch, spongeware, edge decorated wares, and hand painted patterns (Shields 1978:55). Maker's marks from some of the ceramics also place the date range between 1818-1846 (Linebaugh 1980a:2).

The metal identified at the site appears to provide the best evidence for use of the site as a trading post, including pieces of animal traps, clasp knives, forks, scissors, thimbles, buttons, a hand axe, gun parts, weights from a scale, spoons, jaw harps, a hand-forged hammer head, and kettle pieces (Gibson et a. 1960). These items are all consistent with archival references to trader inventories (Thwaites 1888).

GVSU continued excavations at the site throughout the 1970s, placing 6 total 10-foot by 10-foot units across the site. The field crew located similar artifacts as the avocational archaeologists before. There appears to be no formal write-up of these investigations however, though field notes in the form of profile and plan drawings of the units do exist. These artifacts are held in the collections at GVSU.

Given the location, and the artifact assemblage, it is likely that this location is the remains of the de Marsac post. While it is unclear how large the initial exploratory trenches were, or how much was excavated in 1958, the 1970s excavations uncovered 600 square feet across the main portion of the site. This would suggest that a substantial portion of the site has been investigated in some form. Unfortunately, there is no complete inventory for the work done in 1958. As such,

only the inventory from the 1970s excavations will be used, as it is the only complete inventory of excavations available.

Data Collection & Methodological Issues

Data for this study largely originated from the excavations and avocational work mentioned above. Site specific details regarding data collection will be discussed next, followed by any methodological issues that were not previously mentioned in Chapter 4. The rest of the chapter will focus on the analysis of the artifact inventories and the basic results.

Given the history of the Ada site, and the attempts of the Grand Rapids Public Museum to collect the entire artifact assemblage from the site, it was determined that the NAGPRA inventory would serve as the master inventory for the site. This inventory represents many years of collections by avocational archaeologists, including most, if not all, of Ruth Herrick's collections. While it likely is not the complete inventory from the site, it provides a large sample of the material present. Based on the historical accounts, both the village and burial areas were investigated, so that this inventory also provides information on the overall life at the village. Additionally, the items listed on the NAGPRA inventory were all photographed, and the images available for research at GVSU. This allowed the collection to be 'revisited', providing additional details, especially given that the entire collection was repatriated in 2009. Thus, the NAGPRA inventory served as the basis for the artifact inventory used in the analysis of the Ada site.

The data for the Rix Robinson post comes from the single excavation conducted by the Wright L. Coffinberry chapter of the MAS members in 1967. Field notes from this work were not housed at GVSU with the collections; it is unclear where these may reside, if they still exist. Attempts to track down the field notes did not locate any information on their whereabouts.

Without the original field notes, it is difficult to say how much of the total site was excavated. In their brief publication following the work, Stockton and Flanders (1968:38) do note that each unit was 10-foot by 10-foot in size, and that there was a layer of top soil and a cultural layer (presumably followed by a sterile layer). If we assume that each unit produced artifacts from the two layers (and that the layers noted in the report were the same as the layers excavated), they would have excavated 12 units, for a total of 1200 square feet, based on the 24 unique catalog numbers assigned to the collection. They also make the statement that "the structure that was uncovered measured approximately 50 feet by 25 feet" (Stockton and Flanders 1968:38). This puts the square footage of the structure at 1250 square feet. If they excavated the entire structure, the approximation based on the catalog numbers matches well with the overall size of the structure. However, they later state that they may have estimated the size of the foundation based on the presence of cement flooring supports at intervals of 8 feet apart, "this dimension held true for the total extent of the building, allowing us to "locate" the dimensions of the building without extensive searching" (Flanders and Stockton 1968:38). This statement is somewhat unclear but does indicate that at least some work was done over the majority of the structure. Enough work was done at the site not only to confirm its suspected affiliation with Robinson, but also to provide a sufficient number of artifacts to allow for use in this analysis.

The data for the de Marsac post comes from the excavations conducted in the 1970s by GVSU. The artifacts are stored at GVSU, and a complete inventory of them has been completed by lab staff and students. These artifacts were reexamined for this research to clarify any ambiguous or indeterminate listings in the artifact catalog. Based on this artifact catalog and the available field notes and plan drawings, seven excavation units were investigated, each measuring 10 feet by 10 feet in size, suggesting a total area of excavation of 700 square feet. The

plan drawings indicate that at least two walls of the structure were located. Given this data, and the quantity of artifacts recovered, it is likely that they are a good representative sample of items from the post.

The data from for the Ada site (compiled from the NAGPRA notice compiled by the Grand Rapids Public Museum), from the excavations by GVSU at the Rix Robinson Post, and from the 1970s work at the de Marsac Post by GVSU were used for the analysis. There were no notable deviations from the presented methodology in chapter 4 for this dataset. For information on the artifact inventories compiled for this analysis, see Appendix B.

Results

Since the Ottawa living at the Ada site traded with Rix Robinson and likely also had access to trading with de Marsac, the analysis was conducted to compare the Ada assemblage with both trading post sites. The assemblages of de Marsac and Rix Robinson were also compared, to see if they were offering similar goods for sale. The artifact inventories and how they were compared using RDT, are presented in Appendix B. The results of this analysis are presented in Table 12 below. The first column, P + S, is a measure of the economic dependence when just looking at the trade goods. The second column, Total P + S, is the measure of the economic dependence when considering the entire artifact assemblage.

As mentioned in Chapter 3, the maximum value for P + S (or Total P +S) is 2, so values coming close to 2 indicate a strong degree of economic reliance. Starting with the P + S column, there are several observations that can be made. To start, because this analysis relies on only archaeological evidence without any archival documentation, there is no way to distinguish which goods within the trade goods present at the sites were intended for whom. It is assumed that all of the trade goods present were intended for the village/post, which unfortunately leaves

out any furs or foodstuffs that the residents of the Ada village may have traded, as these are not visible archaeologically. The other effect this has on the data set is that it artificially makes the reciprocal relationship between the two groups being compared look identical. Additional archival data on the nature of the transactions at both Rix Robinson's post and De Marsac's post would help clarify this relationship. However, the values quantifying the nature of the relationship between the Ada village and each post should be as accurate as the archaeological sample allows.

Sites being compared	P + S	Total P + S
Village of Ada to Rix Robinson Post	1.941	1.592
Rix Robinson Post to Village of Ada	1.941	1.923
Village of Ada to De Marsac Post	1.990	1.623
De Marsac Post to Village of Ada	1.990	1.886
Rix Robinson Post to De Marsac Post	1.992	1.976
De Marsac Post to Rix Robinson Post	1.992	1.889

Table 12: Economic Dependence Quotients for Relationships between the Ottawa and Local Traders

In examining the relationship between the Ada site and the Rix Robinson post, the economic dependence quotient returned at a value of 1.941. The economic relationship between the two groups appears to be a strong one, as almost all the trade goods present in the village of Ada could have been traded for at Rix Robinson's post. The economic relationship between the Ada Village and the de Marsac post is higher, however, returning at a value of 1.990, demonstrating that a few more of the trade goods present at Ada were available through de Marsac. This difference is slight, however, and both values show that the trade items present in the village of Ada could have originated with either trader. This is further demonstrated by the comparison of the Rix Robinson and de Marsac assemblages, which have almost identical trade

assemblages at a value of 1.992. The differences between these values are reflective of a few items, of low quantity, offered by either one or the other trader, including silver, utensils, jaw harps, hawk bells, thimbles, and axes.

The economic reliance on trade items in general, however, is not nearly as strong when the entire village assemblage is considered. The residents of Ada were still using pottery and stone tools, so when trade items are considered as part of the overall assemblage of items used at Ada, their overall economic relationship with Rix Robinson drops to a value of 1.592. This is very similar to the value arrived at for the economic relationship between Ada and de Marsac, of 1.623. Again, the small degree of difference between the two is a factor of the small difference in items offered by each trader. However, while many of the items used in the village could have originated with one of these two traders, the Ottawa were still procuring and making some of their own tools.

Perhaps the most interesting observation in the Total P + S column is the economic dependence quotient for Rix Robinson to Ada, and de Marsac to Ada. The first value returned at 1.923, a relatively high value. The second value returned at 1.886. These values demonstrate that both Rix Robinson and de Marsac were *more economically reliant* on the residents of Ada than the residents of Ada were on them. The residents of Ada purchased/traded for items that each of these traders specifically stocked for the Ottawa living along the Grand River, so the fact that the traders were more reliant on the Ottawa's continued business than the Ottawa were on them is not surprising.

Finally, the assemblages for the Rix Robinson post and the de Marsac post were compared in both directions. The overall differences between the Rix Robinson Post and the de Marsac post are also interesting, with a value of 1.976 when looking at the entire assemblage,

which includes the lithics and Native American ceramics present at both sites. In the other direction, the relationship from the de Marsac post to the Rix Robinson post returned a value of 1.889. This value indicates that more of the items present in the Rix Robinson assemblage are also present in the de Marsac assemblage, while there are more items present in the de Marsac assemblage that are not present at the Rix Robinson post. This is likely largely due to the numerous Native American made ceramics present at the de Marsac site. The two assemblages are nearly identical when only trade items are considered, with a value of 1.992, suggesting both traders offered very similar items for trade. In looking over the two assemblages, there are a few items present at the de Marsac post that are not present at Robinson's post, such as hawk's bells, jaw harps, tin, kettles, and utensils. Alternatively, there are a few items at Robinson's post that are not present in the de Marsac assemblage, including tinkling cones, a marble, an ax, and a thimble. In both cases, these items appear in very low quantities and were likely not a substantial trade item for either trader.

Another way to consider these relationships is by looking at the alternate values of power imbalance and mutual dependence. These values, as stated in Chapter 4, measure the strength of the relationship between two organizations in two ways. The first, power imbalance, looks at the absolute value of the difference in the relationship. Values close to zero indicate very little power imbalance between the two groups. The second value, mutual dependence, is arrived at by adding together both economic values for a group. Values for this will range from 0 to 4, with 4 indicating a very high degree of mutual dependence. The values for the Ottawa relationships are listed below, in Table 13.

Sites being compared	Power Imbalance	Mutual Dependence
Village of Ada to Rix Robinson Post		
Rix Robinson Post to Village of Ada	0.331	3.515
Village of Ada to De Marsac Post		
De Marsac Post to Village of Ada	0.263	3.509
Rix Robinson Post to De Marsac Post		
De Marsac Post to Rix Robinson Post	0.087	3.865

Table 13: Power Imbalance and Mutual Dependence Values for Ottawa Trade Relationships

As power imbalance is an absolute value of the difference, this value does not indicate in which direction the power imbalance is, just that it exists. For the relationship between the residents of Ada and Rix Robinson, there is a power imbalance of 0.331, and a corresponding mutual dependence value of 3.515. There are similar values for the relationship between the residents of Ada and De Marsac, with a power imbalance of 0.263, and a mutual dependence value of 3.509. It was previously determined that a power imbalance value higher than 0.138 would indicate a statistically significant power imbalance value. Looking back at the economic values, the organization with the lower economic value would then have more power over the relationship. In both cases, the village of Ada has lower economic values. This suggests that there was a significant power imbalance between Daniel De Marsac, Rix Robinson, and the residents of Ada, and that the residents of Ada held more power over the economic relationships. However, as the high mutual dependence values indicate (3.509 and 3.515), these were still mutually beneficial relationships. The Ottawa at Ada, however, just held slightly more economic power over their neighboring traders.

Interpretations

The high values for the reliance on the trade goods provided by both traders may be the result of at least one crucial main factor: both posts were in close geographic proximity to the village, specifically placed to cater to the Ottawa along the Grand River (Johnson 1919; McClurken 1988). This was likely a move to reduce the influence of free traders in the area, such as Louis Campau, Richard Godfroy, and Louis Genereaux (McClurken 1988:85).

Historical evidence also suggests that the Ottawa at Ada could have traded with both traders. In fact, Robinson married Sebequay, the sister of Noaquageshik, a prominent Ottawa figure at a village down river. This marriage created kinship ties between the Ottawa and Robinson, which would have promoted trade between them (McClurken 1988:110). After de Marsac was shunned by the Ottawa living in the Flat River village who were initially his primary trade partners, he may have had to compete with Rix Robinson for the Ottawa living at Ada's trade (Raad 1973:49). He may have been able to offer them a few odds and ends that Robinson did not. However, as Robinson was closer geographically, and in operation several years prior to de Marsac, it is easy to see why the people of Ada would make use of Rix Robinson's post as well.

The more intriguing values, however, are when the entire assemblage is considered. The overall economic reliance on trade goods drops to 1.588 for Rix Robinson, and 1.618 for de Marsac. As described earlier in this section, the residents of Ada were still using stone tools and Native-made ceramics. While some European made ceramics were present, Native-made pottery was still preferred. Copper kettles may have been used, but there is a very low count of kettle scrap (n=46) at Ada, which does not suggest a lot of use of kettles for daily life. It may be that the Ottawa reserved these kettles for special purposes, or just did not cut them up when they were worn out. While there is some evidence from the cemetery portion of the site that they used copper kettles, the fact that these were placed within the burials, whole, again suggests that they were not highly utilitarian, and may have served some other purpose (this is noted in McClurken 1988 as a fairly common burial practice for this period).

Another factor influencing these two dependency quotients is that they include the total count of seed beads (2182) found at Ada, rather than the number of necklaces these may

represent. Beads were not sold individually, but as strings. Assuming approximately 18 beads per inch, and necklaces of approximately 18 inches, this only converts to about 7 necklaces. This count may be fewer if the necklaces were much longer in length. However, as total counts of seed beads were also used for both trading posts, this should not inflate the value too much.

Perhaps most interesting is the presence of considerable quantities of silver in the cemetery at the Ada site; only one piece of silver was recovered from the de Marsac Post, and no silver was recovered from Rix Robinson's post. While this silver could have come from de Marsac, since it's presence at the post suggests he offered it as a trade item, it is also likely that the Ottawa at Ada procured this from a third, unknown source. This source may have also been responsible for the considerable quantities of gunflints and gun parts found at Ada, both of which were offered by Robinson and de Marsac but were found in very small quantities. This may be because of the Ottawa purchasing or trading for both traders' entire inventories of firearms, but this is difficult to say without additional evidence.

This evidence does suggest that even during the relatively late time period of the village at Ada, of 1775-1830s, the Ottawa living along the Grand River were not dependent on trade items (i.e., they were not critical for their survival), but rather were strategic consumers of the items available to them. This is evident in the presence of specific items in the assemblage, such as silver, that may demonstrate alternate sources for the procurement of goods. This data shows choices being made about economic sources, *even when a trading post was located only about a mile from the village*. The continued presence of Native-made ceramics and stone tools further demonstrates this; they could afford to barter and bargain for something they wanted, because they were not items that they needed to survive. In fact, clasp knives are just as prevalent in the Ada assemblage as bifaces, both of which would serve similar purposes. Small triangular

chipped stone arrow points are also just as prevalent as gunflints and lead bullets and shot. If the residents of Ada were dependent on firearms or knives for their survival, these chipped stone tools would not be present in the assemblages. Alternative forms of these tools suggest that the Ottawa could persist without the European counterparts. This is further supported in the ethnohistorical work on the Ottawa noted at the beginning of this chapter that bows and arrows were still in use during this period (Feest and Feest 1978:781).

As food is critical for survival, perhaps the evidence for dependence would be in the presence of farming implements. Historic accounts often mention the fertile fields used for crops. However, there are no Euro-American farming related implements in the Ada assemblage, indicating that these crops were cared for without the help of trade items. This was despite government-sponsored programs aimed at acculturating the Grand River Ottawa to full time agriculture (McClurken 1988:88).

While trade items were incorporated into the Ottawa lifestyle at the Ada site, none of the available evidence suggests that the Ottawa were in any way dependent on these items for their survival. They were smart consumers that took advantage of local items for sale, from a variety of sources. This is further noted in ethnohistoric accounts of the group, where the Ottawa resisted incorporation by forming a particular kind of capitalism, where they sold incoming settlers the food and supplies they would need to survive (McClurken 1988:83). When taken within the RDT framework, this lack of economic dependence (further evidenced by the creation of their own economic networks) suggests that the power relationship between the Ottawa and the traders, and perhaps even the United States government, was not as unbalanced as it may have seemed towards either party. While this will be discussed in greater depth in Chapter 8, from the stand point of the Ottawa, their economic freedom allowed them a greater degree of

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political freedom and choice, a tenet of RDT. This power may have emerged in part from the system of trade they developed to provide food for incoming settlers; in this scenario, the Ottawa traders would have been critical to incoming settlers (and as such, held a large degree of power over them).

Further, the creation of a kinship relationship though the marriage of Robinson to Sebequay is yet another means of reducing uncertainty within the environment of late eighteenth-century Michigan, and possible dependence, by creating strong linkages between organizations. Linkages such as this would work to stabilize the transactions that may occur between the two groups (Pfeffer and Salancik 2003: 143). These alliances may further work to provide more autonomy, because the residents of Ada would have a stronger degree of control over the source of their goods (Drees and Heugens 2013:1666).

When the Ottawa felt constrained or limited by the political situation, they further resisted these unequal power relations by dragging their feet, desertion, pilfering, or sabotage (McClurken 1988:2-4). These types of actions are noted within RDT as ways to influence the environment into their favor, and further balance out the power dynamics. These actions can be observed historically in many instances, but one solid example is in the reticence of the Grand River Ottawa to unite as an entity for the purposes of treaty discussions. In fact, they were notoriously difficult to unite at all (McClurken 1988:127). This tactic, involving both dragging their feet and in some cases sabotage of the treaty negotiations, worked to swing the power dynamic back towards their favor.

This application of RDT to the specific historical scenario of this research will be further investigated in Chapter 8, which will focus on a more regional perspective to these interactions. The Ottawa did not exist in a vacuum, and many of their actions were influenced, at least in part,

on their neighbors. As such, the following chapter will take a closer look at one of their closest

neighbors, the Potawatomi.

Chapter 6: Trade Relationships of the Potawatomi of the St. Joseph and Kankakee River Valleys

This chapter examines the trade relationships between the Potawatomi living throughout the southern Great Lakes (Michigan, Indiana, Illinois) and the local traders, William Burnett, Zachariah Cicott, and the Fort Wayne Indian Agency. The methods previously described from resource dependency theory (RDT) are applied to better examine the specific economic nature of these relationships. To accomplish this, this chapter will begin by addressing who the Potawatomi were during this period, then specifically focusing on the Potawatomi in the region of the southern Great Lakes. The specific village sites used in this analysis are described, with a focus on the archaeological work done at each of them. This chapter will end with a presentation and discussion of the results from the application of RDT methods to the artifact assemblages from the study sites.

Who are the Potawatomi?

According to Clifton (1978:725), the Potawatomi are distinctive from other groups based on "their named identity, their distinctive language, their own traditional history of separation from the ancestors of the modern Chippewa and Ottawa, their claims to a territory that expanded increasingly in size up to the time of American settlement in the Great Lakes region, and particularly by a tribal political organization based upon a dispersed clan structure." Much like other groups throughout the southern Great Lakes, the Potawatomi speak an Algonquin language, which is very similar to, but distinct from, Ojibwe (Edmunds 1978).

Historically, the Potawatomi comprised one of three groups in the Three Fires Confederacy, along with the Ottawa and the Ojibwe. They were the Keepers of the Fire, where the Ottawa were the Keepers of the Trade, and the Ojibwe the Keepers of Tradition (Pokagon

Band of Potawatomi 2018). This alliance meant that they maintained close relationships with both groups historically, which served them well during the migrations immediately following European encroachment in the 1600s. The Potawatomi experienced significant upheaval during this time; these migrations have been classified into three successive territories: the Potawatomi occupying the southwestern portion of Michigan around 1600; moving west to the Door Peninsula in Wisconsin in the 1660s; then by the 1780s occupying portions of southern Michigan, Northern Indiana, northeastern Illinois, and southern Wisconsin (Clifton 1978:726; Tanner 1987). At the beginning of the period of study for this research, the Potawatomi were in the third stage, and had villages throughout Michigan, Wisconsin, Illinois, and Indiana.

Socio-political organization
   Potawatomi social and political organization during the eighteenth century was somewhat reflective of the environments in which they lived, and the significant upheaval they had been through up to this point. Secunda et al. (2002:19) present a summary of some of the work on Potawatomi organization during the eighteenth century, which has been classified as village coalitions, alliances, or networks shaped by internal interests and articulated by a given village's leader. At the heart of these models is a band level organization, where the basic political unit was the autonomous village. Baerreis, based on historical treaty information, further aligns these bands into three regional bands, the Potawatomi of the St. Joseph, the Potawatomi of the Wabash, and the Potawatomi of the Prairie and Kankakee. Clifton infused this band model with religious affiliations; however, this approach does little to explain group affiliations. The most recent attempt at a model was by R. David Edmunds, who describes the Potawatomi band organization as hinging on the trade loyalties of the Potawatomi (Secunda et al 2002:19-27).

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Of particular interest in this research is the division between the "prairie" Potawatomi and the "forest" or "woodland" Potawatomi. The Potawatomi that resided in the St. Joseph River watershed became known as the "woodland" Potawatomi, whereas those residing in the Kankakee River watershed became known as the "prairie" Potawatomi (see Secunda 2006:58). This dichotomy is based in part upon a speech given to the United States government by Leopold Pokagon, where he stated that some of the Potawatomi were called wood and some prairie, and the government would need to be more specific about whose land they wanted (Secunda 2006:57). This divide has existed since as early as 1910 within the literature (Clifton 1978:727). Secunda (2006:64) further investigates the reasons for this dichotomy, citing it as the result of allegiance to specific trade outfits, specific geographic circumstances, and the emergence of specific leaders. This division is a direct reflection of the differing environments in which these groups lived, where the "prairie" Potawatomi living within the expansive grasslands of Illinois would have relied on different resources than their "woodland" kin.

By the eighteenth century, the Potawatomi had expanded into a large variety of natural habitats, including prairie lands, mixed hardwood forests, and marshlands (Clifton 1978:726). Despite this variation, groups were still all linked under the cultural umbrella of Potawatomi. However, the most important geo-political unit was the village (Clifton 1978:731). Villages made independent decisions though were still linked to others via kinship. Geographic clusters of villages were labeled as "bands" by Europeans, usually as a result of being brought together for treaties, or as a consequence of them. This is the origin of the Kankakee and Saint Joseph bands (Clifton 1978:732). These two geographic clusters were linked by many factors, though accessibility via the Kankakee and Saint Joseph Rivers was one.

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Use of Landscape & Subsistence

During the 18th century, Potawatomi groups resided in permanent summer villages while also making use of winter hunting camps. The permanent summer villages were almost always located along major waterways, either rivers or Lake Michigan. This allowed access to a variety of marine life, along with gathering of seasonally available foods such as berries, roots, and other plants and hunting deer, buffalo, or other animals. Clifton (1978:735) notes that corn and squash were also part of their diet, but there is little discussion in accounts from this time of large cornfields, suggesting smaller scale horticulture instead. Diversity was key to subsistence, making use of the many different plants and animals available in their environments (Clifton 1978). As such, the permanent villages were usually located in diverse habitats, with easy access to a major waterway.

The Potawatomi Villages of the Southern Great Lakes

During the 18th and 19th centuries, factions of the Potawatomi lived in villages throughout the St. Joseph River Valley and Kankakee River Valley. These watersheds cover most of what was Potawatomi territory in the 'Old Northwest' from 1785-1840 (see Schurr 2006:6 for a map, Secunda 2006:57). These watersheds also encapsulate both the "prairie" and "woodland" Potawatomi, and whatever economic differences this may entail. These interconnecting watersheds allowed the Potawatomi direct access to other villages and resources.

This accessibility also meant that traders had access to Potawatomi villages. Traders such as William Burnett and Zachariah Cicott took advantage of this and traded with villages throughout both river valleys. William Burnett, in particular, launched trading expeditions into the Kankakee River Valley from his post in St. Joseph, Michigan. Additional trade goods were introduced into the region through the Indian Agency at Fort Wayne, in the form of annuity

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payments. These annuities originated with the Treaty of Paris in 1763 and the Treaty of

Greenville in 1795 and were distributed to the signing tribes in exchange for land cessions.

This section examines the economic relationships between several villages throughout the

Kankakee and St. Joseph River valleys that have been the subject of excavations: Pokagon's

Village in southern Michigan, Benack's Village in northern Indiana, and the Windrose site in

northeastern Illinois (see Figure 6 for approximate village and trading post locations). These

villages have all been attributed to Potawatomi residents and may provide a look at the

differences between the woodland Potawatomi and prairie Potawatomi, and even the Wabash

Potawatomi (if there are any substantial differences to be noted between this band and the

others). These villages likely traded with a variety of independent traders in the region;

however, specific relationships will be examined between these villages and the traders William

Burnett and Zachariah Cicott, and the relationship between the villages and the Indian Agency at

Fort Wayne.

Burnett's records indicate that he likely traded directly with, or sent a trading expedition

to, all three of these village sites. In addition to trading with Burnett, the residents at Pokagon's

Village and Benack's Village also had access to the annuity payments, and trade, at Fort Wayne,

Indiana. Finally, given the proximity of Benack's Village to Cicott's Post, the residents of this

village may have also traded there. While the nature of these relationships is only suspected, the

results can still speak to relationships these villages may have had with various other traders

operating in the region, in particular those that may have had similar merchandise available for

trade.

Figure 6: Potawatomi Villages and Trade Sites

The following section will provide site descriptions, as well as details regarding excavations or archival documents available on those sites. These will be used to lead into a discussion on the data collected and used from each site, how it was analyzed within the RDT framework, and the results and interpretations of that analysis.

Pokagon's Village, 20BE13

Pokagon's Village was so named because it was the likely home of Leopold Pokagon from approximately 1820-1840. The village contained Pokagon's house, 10 to 12 other structures (likely wigwams), and a Catholic church and school according to the 1835 General Land Office survey map, visible in Figure 7 (Clark 1835). The village had a creek flowing into it (Pokagon Creek), with a large spring at the head of the creek. This village was the largest late Removal Period village on the St. Joseph River (Secunda 2006; Schurr 2010).

Figure 7: GLO Map of Pokagon's Village (Clark 1835); used with permission from RG 87-155, Department of Natural Resources, Drawer 1, Folder 2, Archives of Michigan

The site's geographic location has been known for some time. Survey work was conducted initially in 1937 by George Quimby while he was at the University of Michigan. Local collectors at the site have also found chert projectile points in this area. However, professional level survey work was not conducted until 1999, when the University of Notre Dame conducted the first professional excavations. These investigations located the church and Pokagon's house as well as several middens, one of which is associated with Pokagon's cabin (Schurr 2010). Further investigation around the location of the chapel used by the Catholic priests was also done. Notre Dame hosted field schools at the site from 1999 to 2001. Site inventories for the years 1999, 2000, and 2001 were available for research, however no formal final report was ever written about the site, though portions of the work have been published. Mark Wagner's (2010) dissertation provides the most complete summary of the work and findings available. Several additional articles have focused on how the material culture demonstrates the Potawatomi's resistance to removal (Bollwerk 2006; Schurr 2010; Secunda 2008).

Regarding village resident's relationships to known traders, Secunda et al. (2002) notes that, while the group was paid an annual annuity out of Fort Wayne, it was quite small, less than ten dollars annually (Secunda, Schurr, and Pribbernow 2002). They also note that traders such as William Burnett traded often with the church that was present at the site (Secunda, Schurr, and Pribbernow 2002). This provides motivation for testing the strength of the economic relationship between the residents at Pokagon's Village, Burnett, and Fort Wayne.

These known associations between different trading organizations allows for the use of this site for the analysis. The entire assemblage from the three years of fieldwork conducted by the University of Notre Dame provides a good representative sample of the types and proportions

of goods that could be found across the site. This could then be compared to the records/assemblages from both William Burnett and the post at Fort Wayne. This will be discussed in more detail further on.

Benack's Village, 12MR231
Benack's Village is located along the Tippecanoe River in Marshall County, Indiana. The village is known from several historical accounts, including one by Sanford Cox in 1860 which stated that he had visited the village in 1834. According to Cox (1860:138), Benack lived in a cabin with a door, while other people lived in wigwams around the cabin. The site is further pictured on the 1834 GLO survey maps, which corroborates this description (Schurr 1997:3).

The archaeological location of the site was initially identified by Charles Faulkner in 1961, who located archaeological material along the Tippecanoe River. While he noted a brick scatter that may have originated from a cabin, the site had been heavily bulldozed prior to his arrival (Faulkner 1961). The site is now located within the Potawatomi Wildlife Park.

Investigations at the site were revisited in 1996 by the University of Notre Dame. These initial investigations were focused on delineating the site boundaries, determining the age/cultural affiliations for the site, and testing for intact archaeological deposits through geophysical survey. No historic features were identified as a result of this survey; however, chert flakes, Native American pottery, and fire-cracked rock were all recovered (Schurr 1997). The site was revisited again in 1997. Three artifact scatters were identified during work, two of which may date to the period of site occupation (Schurr 1998). The third scatter was labeled as "prehistoric", as this scatter did not contain any Euro-American made artifacts. Given the overall paucity of Euro-American artifacts at the site, the decision was made to include *all* the artifacts recovered in the analysis. The Native American residents of many villages during this time were

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still using their own ceramics and stone tools, thus it is likely the residents at Ben-ack's Village

may have been as well. In fact, descriptions of Potawatomi settlements from this time indicate

minimal utilization of Euro-American items outside of those associated with the fur trade

(Wagner 2001). As such, these typically "prehistoric" artifacts will be included in the analysis.

Windrose Site, 11KA326

The Windrose site, though it had been first reported to archaeologists in the 1980s, was

first surveyed in 1991. The site was again investigated by Illinois State Museum (ISM) staff in

1992 (Wagner 2001:1). These investigations noted the presence of looter's pits at the site,

suggesting that the location had been in the public consciousness for a while. The site was named

Windrose at this time, after the landowners of an historic period farm that encompassed the site.

However, this was not the name of the village during its use. This was likely the home of the

Rock Village, or Little Rock Village, known from historic treaty negotiations (Wagner 2001:1).

It was also the likely home of Main Poc, a formidable Potawatomi leader during this time

(Secunda 2006).

Additional excavations were conducted at the site in the mid-1990s, with the goal of

clarifying the site's history, identifying the cultural affiliation of its occupants, and determining

the extent of the archaeological remains. In total, 54 square meters were excavated, in additiona

to a metal detector survey that helped delineate the site boundaries (Wagner 2010). This work

confirmed that the site had likely been, or formed a part of, Rock Village from between 1814-

1834. This village was a small Potawatomi encampment (Wagner 2001:1). Additional archival

work by Wagner (2010) has found references that suggest the Potawatomi may have been living

here much earlier than this, likely moving into the area right after the Treaty of Greenville in

1795.

Historical records indicate that by 1826, Bernardus Laughton and his brother David had

followed the Potawatomi to this portion of northeast Illinois and became affiliated with the

American Fur Company out of Chicago. The Laughtons also had kinship ties to the Potawatomi

at this site; David Laughton married Wais-ke-shaw, the daughter of Shaw-waw-nass-see, the

leader of the group around this same time. It is likely that the majority of the Potawatomi started

to utilize him for their trade rather than the other traders in the area (Wagner 2001:27). In fact,

early interpretations of the site suggested that the identified structure was the remains of the

Laughton household. However, the results of the 1994-1995 work located what is more likely a

Potawatomi household (Wagner 2001:165).

At each of these Potawatomi sites, at least one household or structure has been identified,

along with a likely contemporaneous artifact scatter. While the area excavated differs somewhat

across each of the sites, the located features and artifacts are comparable.

Cicott's Post, 12WA59
Zachariah Cicott's Post was first investigated in 1990, at the request of the county park

board. Using historic accounts and maps as a guide, a shovel test survey was conducted to

determine whether the site was even in the area. The results were promising and led to full-scale

excavations in 1991. Approximately 42 square meters were excavated during this project,

revealing seven cultural features. One of these features was a narrow trench measuring at least

13.5 meters east to west and 7 meters north to south (Mann 1994).

Additional excavations in 1992 located three more features, including part of a limestone

foundation interpreted as being from Cicott's post. Multiple artifacts recovered during the work

also elude to the use of the site for trade, including silver brooches, earrings, coils, and triangular

pendants, glass beads of various styles and colors, buttons, gunflints, and white clay pipes. Stone

pipes created to imitate the white clay pipes were also found, along with architectural evidence that helps link the site to Cicott's post, including an iron door handle, hand wrought iron pintles, keyhole escutcheon, bolt catch, window glazing compound, and pierrotage (Mann 1994:109-112).

In 1997, an additional 38 square meters were excavated, locating another 10 cultural features, including pit, trench, and architectural features. A wide variety of artifacts were uncovered as well, including chipped stone tools and a wide variety of architectural debris and fur trade related items, beads, trade silver, tinkling cones, rings, and arms related items (gun parts, gunflints, ammunition, etc.). Clothing items (hooks and eyes and buttons) were also prominent. A variety of historic ceramic wares were also uncovered. Clay pipes and stone pipes were also prominent in the assemblage (Mann 1999).

There is historical evidence that Cicott traded with both the Miami and the Potawatomi in the Wabash River Valley. Accounts and journal entries from Henry Hay from 1790 to 1791 suggest that Cicott was trading with the Miami along the Eel River, as well as the residents of Kethtippecanunk (Mann 1994:51-52). Additional documentation states that the Potawatomi travelled south to reside along the Wabash River after the raids on Ouiatenon and the surrounding villages in 1791; this would mean that the Potawatomi also could have made use of Cicott while they were in this area (Mann 1994:54). In later years, Cicott would benefit from the multitude of annuity payments the Indiana Potawatomi received (Mann 1994:76).

Sometime between 1802-1804, Zachariah Cicott began his career as an independent trader, trading along the Wabash River from Vincennes (Mann 1994:55). Cicott also began visiting the wintering camps of the various groups living in the area, until around 1811 when he constructed a building from which to conduct his operation (Mann 1994:56). He was one of

several traders operating in this area, including Joseph Barron, Antoine Gamelin, and Pierre Langlois (Mann 1994:68).

Cicott was primarily supplied by Menard and Valle, a firm operating along the Mississippi River out of Missouri. They had an additional store in Kaskaskia (Mann 1994:70). As most of the furs collected from along the central Wabash River were shipped to Detroit or to Chicago, this was an interesting political move suggesting continued ties to the French (Mann 1994:68-70).

William Burnett

Another prominent trader during this time in this area was William Burnett. Burnett was originally from Detroit but moved to the head of the St. Joseph River in 1775. His daybooks start in 1786. According to Anson (1953:23), he was the "most distinguished trader in the Great Lakes area" and the principal trader for the St. Joseph and Kankakee Rivers for many years. He remained at the head of the St. Joseph River until his death in 1814. While his main post was in the modern-day city of St. Joseph, Michigan, Burnett opened several satellite locations including one near Miamis Town (now Fort Wayne) and one near the St. Joseph and Kankakee River portages (Vierling 2006). Other accounts suggest Burnett also had a post along the Wabash River, perhaps even near Ouiatenon (Smith et al 2012:17-18). The Miamis Town post was operated by John Kinzie, who soon left to trade out of Chicago. Jean La Lime, another trader that often conducted the Kankakee River trade expeditions for Burnett, also resided in the Chicago area, along the Chicago River between the forks of the river and Lake Michigan (Blanchard 1898). Letters written by Burnett suggest that La Lime (or perhaps another trader) also conducted operations in the Chicago area for Burnett (Vierling 2006:7).

Chicago, especially as a trade hub, really started to grow with the construction of Fort

Dearborn in 1803, which is also when records indicate both Kinzie and La Lime were residing in

Chicago (Vierling 2006). It would appear, however, that sometime between 1802 and 1803,

Kinzie cut ties with Burnett to take over the Illinois trade for himself (Vierling 2006:13).

Construction of Fort Dearborn also included an appointment of an Indian Agent in 1805 to

handle trade and other issues revolving around the Native population (Vierling 2006:9). While

no records could be found on this early period of trade, it is mentioned as an alternate route

Potawatomi goods may have taken.

Unlike Cicott, who shipped and received goods from firms along the Mississippi River,

Burnett shipped and received most of his trade goods from Detroit. However, he ran into trouble

with the American government at one point and was forced to procure his merchandise from

Montreal instead (Anson 1953).

Burnett, then, through his intermediaries or directly, had trade access to southern

Michigan, northern Indiana, and northeastern Illinois. This wide scale access suggests that

Burnett likely traded with Potawatomi groups throughout this entire region. While specific

groups are rarely mentioned in his records (his records refer to Kankakee expeditions and St.

Joseph expeditions), given his widespread influence, it is likely that many of the groups residing

in the area at this time likely had access to Burnett or one of his agents.

Fort Wayne

The Fort Wayne factory was the first and only government sponsored trading house built

in the Indiana Territory. It opened in 1802 near Miamis Town/Kekionga (now modern-day Fort

Wayne). The Fort Wayne Indian Agency was also established in 1802, with William Wells

appointed the assistant agent for Indian Affairs in the Indiana Territory. It was the responsibility

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of the agent to help assimilate and acculturate the Native American groups in the area by

providing them with domestic animals and agricultural implements. One of the other main duties

was issuing the annuities guaranteed by the Treaty of Greenville in 1795 to tribal members

(Mann 1994:54-55). The Fort Wayne factory could also issue licenses to private traders. For

example, from 1801-1802, 13 licenses were granted (Mann 1994:55). The Indian Agency

continued out of Fort Wayne until 1828, when it was moved to Logansport, Indiana (Griswold

1927:20).

The practice of having resident representatives (Indian Agents) among the Native

American groups was inherited from the English system that existed prior to the Revolutionary

War. The fort served as a prominent location for trade for the Maumee and Wabash River

Valleys; both private traders and the government factory were involved (Griswold 1927:24).

Goods arriving at the Fort Wayne factory are listed as coming from Albany, Detroit, and

Pennsylvania (Griswold 1927). A unique feature of the fort and factory was the presence of a

silversmith on site who could create many of the silver items in demand during this period

(Griswold 1927). Officials at the fort were also responsible for dispensing the annuity payments

to tribes guaranteed through the many treaties, such as the Treaty of Greenville. This often

brought in tribes from across northern Indiana and southern Michigan.

Data Collected

Data from the Potawatomi village sites discussed above comes largely from the

archaeological research conducted at those sites. At Pokagon's Village and Windrose, at least

one structure was identified (possibly more), and in both cases this structure was interpreted as a

Potawatomi household. Ben-ack's Village has not been as extensively excavated, however, has

had considerably more coverage through magnetometry, ground penetrating radar, and

resistivity, which guided the excavation units. A scatter of brick and ceramics may be indicative of a past residence at this locale. In all three cases, all material was included in the analysis: chipped stone debitage and tools, Native American ceramics, as well as historic period items. As many of the Potawatomi groups during this time were resisting acculturation by not adopting many of the new technologies available to them, continued use of existing technologies is highly likely and cannot be considered separately, especially when often the material originates from the same provenience.

The data for Zachariah Cicott's post also comes from archaeological research done at the site. This research has uncovered a portion of the foundation of the site, as well as several archaeological features containing trade related materials. The archaeological inventory was used as a sample of what Cicott would have had available for trade.

The data for William Burnett and the trade out of the Fort Wayne Indian Agency comes from archival documents, including the William Burnett day book for the years 1800-1802 (Glenn 1981) and the Indian Agency Account Book for the years 1802-1811 (Griswold 1923). In both cases, a sample of a single year (1802) was used. Given the volume of trade at Fort Wayne, this was necessary to keep the sample manageable (even just 1 year of trade items from the fort resulted in a list of over 30,000 items), as well as comparable. As only a single year was used from the Fort Wayne day book, only a single year was used for the Burnett day book as well. Unfortunately, account books for the years the Potawatomi villages were occupied do not exist or have not yet been located. While those would provide a more thorough comparison, the entries for the earlier years will serve as a proxy of the types of goods available.

Results

The results of the analysis using the Potawatomi data set are presented in Table 14. The first column, P + S, provides the strength of the economic relationship between the two organizations when only looking at items that could have been traded (i.e., the economic reliance on trade goods specifically). The second column, Total P + S, provides a numerical indicator of the strength of the economic relationship overall between the two organizations (i.e., overall dependence on traded goods). The Power Imbalance column is a measure of the difference between two organizations' economic values, i.e., how imbalanced that relationship is. The final column is the mutual dependence measure; this column combines both organizations' economic value for a measure of how reliant both groups were on one another. Both the power imbalance and mutual dependence columns were factored using the economic values for the entire site assemblage. Each village will be discussed separately in the following section.

Sites being compared	P + S	Total P + S	Power Imbalance	Mutual Dependence
Burnett's Post to Pokagon's Village	1.953	1.953		
Pokagon's Village to Burnett's Post	1.953	1.926	0.027	3.879
Pokagon's Village to Fort Wayne	1.976	1.947		
Fort Wayne to Pokagon's Village	1.976	1.976	0.029	3.923
Burnett's Post to Windrose Village	1.984	1.984		
Windrose Village to Burnett's Post	1.984	1.848	0.136	3.832
Burnett's Post to Benack's Village	0.592	0.592		
Benack's Village to Burnett's Post	0.592	0.063	0.529	0.655
Cicott's post to Benack's Village	1.504	1.504		
Benack's Village to Cicott's Post	1.504	0.812	0.692	2.316
Benack's Village to Fort Wayne	1.003	0.107		
Fort Wayne to Benack's Village	1.003	1.003	0.896	1.11
Benack's Village to Pokagon's Village	1.938	1.063		
Pokagon's Village to Benack's Village	1.938	1.912	0.848	2.974

Table 14: Results of Application of RDT to Potawatomi Sample

Pokagon's Village

There are two distinct interactions presented in Table 14: Pokagon's village residents with William Burnett and Pokagon's village residents with Fort Wayne. In both instances, the strength of both the economic reliance on trade goods, and the economic reliance on trade in general, is quite strong (greater than 1.92, where a value of 2 would indicate complete dependence on that specific economic relationship). In both cases, the strength of the reliance on trade goods is marginally stronger than the reliance on trade overall, with the value between Pokagon's village and Burnett's post equaling 1.953, and the value between Pokagon's village and Fort Wayne equaling 1.976. This value indicates that a large percentage of the trade goods found at Pokagon's village were available for exchange from both William Burnett and the Indian Agency at Fort Wayne.

A possible interpretation for these high values is that the residents of Pokagon's village may have been accepting a standardized set of trade items, especially given that they were only receiving a very small annuity payment from Fort Wayne. By only purchasing or trading for the same items from each source, and by only procuring standard items, they would be assured access to what they needed, *regardless of the source*. This perhaps artificially inflates the results, while also suggesting the exact opposite of what the numbers might indicate: rather than being dependent on any one source, they could access any of the available sources for the goods they desired. This strategy actually alleviates any dependence, as a resource needs to be critical and only available from a limited number of sources to create a situation of dependence. By procuring the same trade items from every source, the Pokagon's village residents eliminate reliance on any one source and thus reduce their dependence. This may have been an economic strategy on the part of the Potawatomi at Pokagon's Village to hide in plain sight, by appearing

to have assimilated to Euro-American culture materially without doing so ideologically, what Secunda has referred to as "selective consumerism."

This is further evidenced by the values in the second column of Table 14, which present overall reliance on trade within the village assemblage. With values of 1.926 and 1.976, trade items from both Burnett and Fort Wayne comprised a large proportion of the artifacts found at Pokagon's village. As suggested above, this may be indicative of the Pokagon Potawatomi hiding in plain sight and appearing to have acculturated to American life materially. Clay pipes, metal, bottle glass, and European ceramics dominate the artifact assemblage; these are all items that would indicate to outsiders that the Pokagon Potawatomi were assimilating. The presence of domesticated animals, such as cattle, swine, and chickens at the site also provides the appearance of assimilation. However, the large numbers of deer, muskrat, woodchuck, bear, raccoon, and squirrel suggest hunting was still prevalent (Wagner 2010:328).

In both cases, the power imbalance value for the interaction between Pokagon's village residents and William Burnett/Fort Wayne is very low, 0.027 and 0.029 respectively. Neither of these values is statistically significant; therefore, there was not a significant power imbalance between Pokagon's village residents and William Burnett or Fort Wayne. With regard to mutual dependence, these values are quite high, 3.879 and 3.923. This suggests a high degree of mutual dependence between these organizations. This may be the result of several factors. First, this appears to corroborate Secunda's observation of selective consumerism among this particular village; materially, the residents of Pokagon's village appeared to be dependent on Euro-American trade, when in actuality they were not truly dependent on it at all. Second, these mutual dependence values are likely very high because the residents of Pokagon's village maintained strong ties to the local Euro-American traders as a means of further reducing

uncertainty during a time when they were threatened with removal, as well as further reducing

their individual dependence by ensuring the traders needed their business as well. These linkages

will be discussed more in Chapter 8.

Windrose Site/Rock's Village

The relationship between the Windrose site and William Burnett appears very similar to

that of Pokagon's village and Burnett. With a value of 1.984, the residents of Rock's Village

could easily have traded for almost all the trade goods present in the archaeological assemblage

from William Burnett. With a value of 1.848, a high degree of the artifacts overall in the

assemblage were a trade item of some sort. It is apparent from his account book that Burnett had

to send specific expeditions into the Kankakee River Valley; this strong relationship may

demonstrate that Burnett was specifically catering his expeditions, especially such a long

distance one, to the wants of his intended audience. According to archival research on the

village, the preferred trader was likely one of the Laughtons (Wagner 2010). Given the

competition, Burnett would need to cater more directly to the villagers to maintain their support.

Another interpretation for the high values for the economic relationship between William Burnett

and the Rock River Pokagon is that this may again be indicative of the group choosing to retain

the appearance of assimilation, while still maintaining their ideological identity.

The Rock River Potawatomi, however, may have chosen to appear assimilated in a

different manner than the Pokagon Potawatomi. Clay pipes, kettle pieces, lead, and silver all

dominate the assemblage, and unlike at Pokagon's village, there are very few bottle glass pieces

and European ceramic sherds. Chert tools and debitage are also prominent in the assemblage.

The faunal remains show a notable difference as well; domesticated species are rare, with deer,

raccoon, turtle, and fish far more prevalent. In fact, aquatic resources (bivalves, turtle and other

reptiles, and fish) comprise 40% of the faunal assemblage from the site (Martin 2001). While the trade goods may suggest some degree of acculturation, the Rock River Potawatomi were still reliant on the riverine resources they had relied on prior to contact. The floral remains further support this, with maize, nutshell, and cucurbit present in the samples examined, suggesting a continued reliance on horticulture and gathering (Parker and Newsome 2001).

Wagner (2001) provides an alternative explanation to the site, stating the belief that it was the home of a trader (perhaps one of the Laughtons), his Potawatomi wife, and children. This may explain the high degree of trade items alongside hunting, gathering, and horticultural activities. While the trade assemblage is diverse, with a large variety of items present, it is also small. If the faunal remains are excluded as a trade item, the value for the economic reliance on just trade goods drops to 1.78, while the overall reliance drops to 1.042. Given that most of the faunal remains include wild riverine resources, these values may more accurately portray the economic relationships for the Rock River residents. These values also more closely align with the neighboring Benack's Village.

The power imbalance between William Burnett and the residents of the Windrose site is 0.136, with a mutual dependence value of 3.832. This value is statistically significant, suggesting at least a minimal power imbalance between the two groups. Given that the economic value for William Burnett is higher than the value for the Windrose site, the residents of the Windrose site held more power over William Burnett than he had over them in the economic relationship. This seems sensible, as Burnett had much higher risk in the transaction; he traveled to their village with an expedition specifically catered to their needs. He would likely not do so if he held a higher degree of power over the village residents. The high degree of mutual dependence between the two organizations, much as it did with Pokagon's village, likely speaks to the

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maintenance of relationships and linkages between groups as a means of reducing uncertainty

and dependence within their exchange network.

Benack's Village

Benack's Village, and its residents' relationships with Zachariah Cicott, William Burnett,

and the Fort Wayne Indian Agency, present an entirely different picture of Potawatomi life.

When only trade items are examined, Benack's Village has the strongest relationship with

Zachariah Cicott's post (a value of 1.504). This suggests that many of the items the residents of

Benack's Village were using were available at Cicott's post. The next strongest relationship is

with Fort Wayne with a value of 1.003, indicating that only about half the trade goods present in

the Benack artifact assemblage were available at the fort. Finally, and somewhat surprisingly, the

relationship between Benack's Village and William Burnett comes in at only 0.592, suggesting

only a small portion of the artifacts present could have originated with this particular trader. This

may be a factor of the type of trade Burnett conducted, sending out trade expeditions rather than

maintaining a permanent post in the vicinity.

These numbers suggest that the residents of Benack's Village were actively making

choices regarding what types of goods they would exchange for, and whom they would get them

from. This is more evident when the entire artifact assemblage is considered. The values for the

economic relationships overall between Benack's Village and Cicott's Post are still the highest,

but only with a value of 0.812. The value for the relationship between the village and Fort

Wayne drops to 0.107; the relationship between the village and Burnett's Post comes in at 0.063.

Based on these results, overall the residents of Benack's Village did not have a perceptible

economic relationship with either Fort Wayne or William Burnett.

These values also demonstrate that trade goods comprise only a very small portion of the artifact assemblage for this site. The artifact inventory shows that the most prevalent artifact at the site is lithics, followed by Native American pottery. Some gun parts, European ceramics, and tools were recovered, but only in small quantities. This would suggest that the residents of the village were relying on their indigenous tool technologies rather than European tools. This also demonstrates that, unlike Pokagon's Village, where residents exchanged for European ceramics and bottles, Benack's Village residents did not attempt to present an appearance of assimilation. This becomes slightly more clear when looking at the power imbalance and mutual dependence values for this village. The residents of Benack's village and their relationship to William Burnett had a power imbalance of 0.529, to Zachariah Cicott a value of 0.692, and to Fort Wayne a value of 0.896. All of these values are statistically significant, suggesting that the residents of the village had much more economic power over these interactions than the traders did. When examining the mutual dependence scores, Benack's Village and William Burnett had a score of only 0.655; Benack's Village and Zachariah Cicott a score of 2.316, and Benack's Village and Fort Wayne a score of 1.11. These values are all incredibly low, and with the exception of the relationship with Cicott, show no mutual dependence between the two organizations. The relationship with Cicott only shows moderate mutual dependence and given the high power imbalance score between them suggests that the residents of Benack's village were clearly able to dictate the terms of their economic relationship with him, though they maintained a moderate relationship with his post. The residents of Benack's village took a different approach to trade; they did not create mutually dependent ties on trade organizations, but instead set their own terms for the relationship.

This is evident in the relationship between Benack's Village and Pokagon's Village, with a mutual dependence value of 2.974. Power imbalance between the two villages came to 0.848, suggesting that while the residents of Benack's Village maintained a relationship with Pokagon's Village, they held more economic power over the trade relationship. This relationship may have provided an avenue for the residents of Pokagon's Village to maintain their indigenous beliefs and values while still accepting Euro-American material goods. It would have also worked to reduce dependence on the Euro-American trade organizations.

Potawatomi Trade Patterns

The three Potawatomi sites presented here provide details on some very different types of economic relationships. Of particular note are the rather high values for the economic relationships when looking at complete assemblages, between Pokagon's village and Fort Wayne, Pokagon's Village and William Burnett, and the Windrose site and William Burnett. This may be evidence for the Potawatomi strategy of adopting the appearance of assimilation as a strategy of resistance (Secunda 2006, Bollwerk 2006). This was clearly not the case for all economic relationships. The residents at Benack's Village, when considering the entire assemblage, were still creating and using many of their own tools. However, the residents at the Windrose site and at Pokagon's Village may have been approaching trade and exchange from a very different perspective. To better examine this, the villages need to be considered within the larger framework of Potawatomi society during this time.

Wagner (2001) suggests that given the cohesion of Potawatomi society during the late 18th and early 19th centuries, a continuity of Native technologies and artifact forms should be observed. Given the examples here, a continuity is present; however, it is not completely clear what this might mean. In the case of Pokagon's Village, while some lithic tools and Native

pottery have been identified, the majority of the assemblage is actually European made ceramics. This continuity of Native technologies has been previously equated with cultural resistance or rejection (Bamforth 1993:51; Berkson 1992). However, the results presented within this section suggest that it may not be as straightforward as this, and that we need to consider more subtle nuances of these relationships. Returning to the case of Pokagon's village, it may be that while some Native technologies persisted, the material traditions and the switch to using more Euro-American made goods does not equal a cultural acceptance of all facets of Euro-American culture, but rather the appearance of acceptance while, in reality, maintaining their ideology, what Secunda (2006) refers to as adaptive resistance. He describes this as "a conscious response to a rapidly changing environment" (Secunda 2006:59). This created a cultural hybrid that "blended a functionally acculturated lifestyle, visible Catholic allegiance, and "woodland" Potawatomi traditions" (Secunda 2006:59). According to this theory, from a functional standpoint the Potawatomi would appear acculturated, having accepted Euro-American tools (such as ceramics, knives, or kettles), but still actually relying on other techniques and tools. This is evident in the artifact assemblage from Pokagon's village, where the largest quantity of artifacts are Euro-American ceramics and bottle glass. The third largest category is white clay pipes, which may be further indicative of 'appearing' acculturated. This is also evident at the Windrose site, where indigenous hunting, gathering, and horticulture appear to have been combined with a number of European manufactured items.

If the observed pattern is one of cultural resistance, Wagner (2001) further suggests that there should be a rejection of items associated with forced acculturation (i.e., agricultural implements). When looking at the artifact assemblage from these Potawatomi villages, the very small number of tools recorded at each site may be indicative of this. They continued to practice

agriculture, as the American government believed agriculture to be a significant sign of Native American group's intents to acculturate and become part of 'American society,' but they did this in their own way. The quantities of maize found at the Windrose site, as well as the few maize kernels at Pokagon's village, attest to at least some crops.

From an economic standpoint, the Potawatomi at these three sites were accepting a somewhat standardized package of trade items (i.e., procuring the same items from every source), items which they could acquire from any number of sources. However, the overall appearance of each village was quite different. Pokagon's village, which was operating under a strategy of "adaptive resistance" appears from the archaeological record to have adopted, and made use of, many types of European goods. Native American tool technologies are not a significant portion of the assemblage. Benack's village, however, choose very specific trade goods to use, while continuing to make use of their lithic and ceramic industries. The Windrose site falls somewhere in between this spectrum. They did not adopt the same degree of trade items that Pokagon's village did, but these still made up a large portion of their assemblage. There is still evidence for continued lithic and ceramic use as well.

If anything, this economic analysis demonstrates just how independent each of these villages were, with each making their own economic choices in the face of both increased pressure from the United States to acculturate, and the increased availability and diversity of new goods. The significant Potawatomi population throughout the region may have enabled this variation in response, as it allowed them greater freedom to make choices regarding the Euro-American cultural influences they would accept (Wagner 2001:23). Of particular interest here, is that fact that in every case where there is a significant power imbalance, it is *always* in favor of the Native village. As noted above, individual villages made unique choices about how to handle

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that. Chapter 8 will further examine how these economic relationships played out from a regional

perspective, including what they meant for the political alliances cultivated by these Potawatomi,

and how their Ottawa and Miami neighbors may have influenced these alliances.

Chapter 7: Trade Relationships among the Miami of Northern Indiana

This chapter discusses the application of the methods described previously from resource dependency theory to the trade relationships of the Miami living across northern Indiana and William Burnett, the Fort Wayne Indian Agency, and Zachariah Cicott. The Miami culture, including socio-political organization and subsistence, provides an introduction for a more focused discussion on the groups residing in the Wabash River valley. Each site used in this research will be discussed specifically, highlighting the archaeological work done to collect the data used. The results of the analysis using these data are presented and discussed, focusing on what they mean for the trade relationships of the Miami.

Who are the Miami?
The Miami have most recently resided along the Wabash River in Indiana since at least the early 1700s. As a group, they speak an Algonquin language most closely related to Illinois (Callendar 1978:681). European accounts of the Miami in the seventeenth and eighteenth centuries describe them as several different groups, including the Piankashaw, Wea, Pepikokia, Kilatika, Mengakonkia, and Atchatchakangouen. Throughout the subsequent century, many of these groups merged and were reformed, so that by 1873, they were all referred to as Miami (Callendar 1978; Indiana Historical Bureau 2018).

Culturally, the Miami have often been compared to the Illinois, with who they showed many similarities (apart from language). However, Miami culture has remained separate and distinctive through to modern day. Many of the Miami were forcibly removed from the Wabash River valley during the nineteenth century, so most of their modern-day descendants now reside

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in Oklahoma, though a small contingent were allowed to remain in Indiana and are still active there today (Miami Tribe of Oklahoma 2018).

Socio-political organization

The Miami are difficult to analyze based on seventeenth and eighteenth-century accounts. The information is fragmentary, and it is easy to see that their complex culture confused their European visitors. Some accounts suggest that there may have been a political unity of some type among all the Miami speaking groups, with a "great Chief" residing over all. However, other accounts suggest that, much like their Ottawa and Potawatomi neighbors, the village leader was of more importance. By the eighteenth century, it appears that there were three Miami speaking groups: Miami, Piankashaw, and Wea. The Miami were the conceptual older brother to all, yet they were still independent of one another (Callendar 1978:682). This may have been the basis for the "great Chief" notion. Each of these tribes were further divided into bands; for example, the Miami had an Eel River band and a Tippecanoe River band (Callendar 1978:682). Each band was comprised of several villages.

Each village was autonomous in some regards; each village had a village chief and a war chief. The village chief handled administration and negotiations for peace; the war chief handled the ritual aspects of warfare. When it came to warfare, however, each band's (or perhaps tribal) war chiefs would create a council that would make the important decisions. While general village affairs were up to individual village leaders, more complex decisions were handled by the larger band or tribe, depending on the matter (Callendar 1978:684-685). For the purposes of this research, it is likely that basic trade relationships were handled by the autonomous villages, whereas more important trade matters, such as treaty negotiations or alliance building, may have been the purview of the larger band, and perhaps even the tribe as a whole.

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Use of Landscape & Subsistence

The Miami relied on all the plant and animal resources native to the region, as well as larger scale horticulture. Historical accounts of Miami villages often note substantial cornfields surrounding the village, often extending down along riverbanks as well (Krauskopf 1955). While hunting was important because of the focus on the fur trade, fishing gradually became the preferred food source. This allowed the animals to grow and mature until their furs would be ideal to sell (Callendar 1978:682). Permanent summer villages were placed along riverbanks, where access to fish and nutrient rich floodplains allowed for a constant source of food. Winter hunting camps were also used for collection of meat and furs.

Miami and Wea of the Wabash River Valley

The Miami and Wea groups lived throughout the Wabash River watershed, covering most of northern Indiana. The Wabash-Maumee River area became an arena for interaction, as this route connected the Great Lakes with the Mississippi River and the major ports in Louisiana. By the mid to late eighteenth century, this area was the center of trade (Noble 1983). However, because of the extensive nature of the Wabash River region, this section will focus on three clusters of activity by focusing on the Fort Ouiatenon area, the Fort Wayne area, and the area around Cicott's Post. The villages and posts that are the subject of this chapter can be seen in Figures 8 and 9.
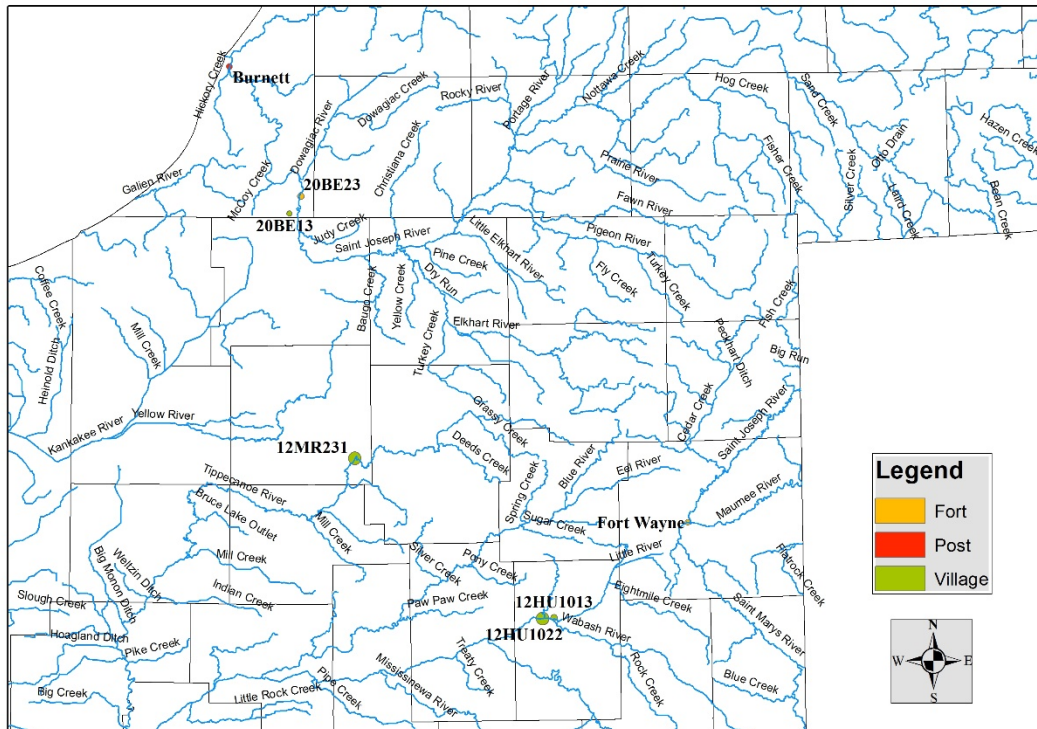
Figure 8: Miami Villages and Related Trade
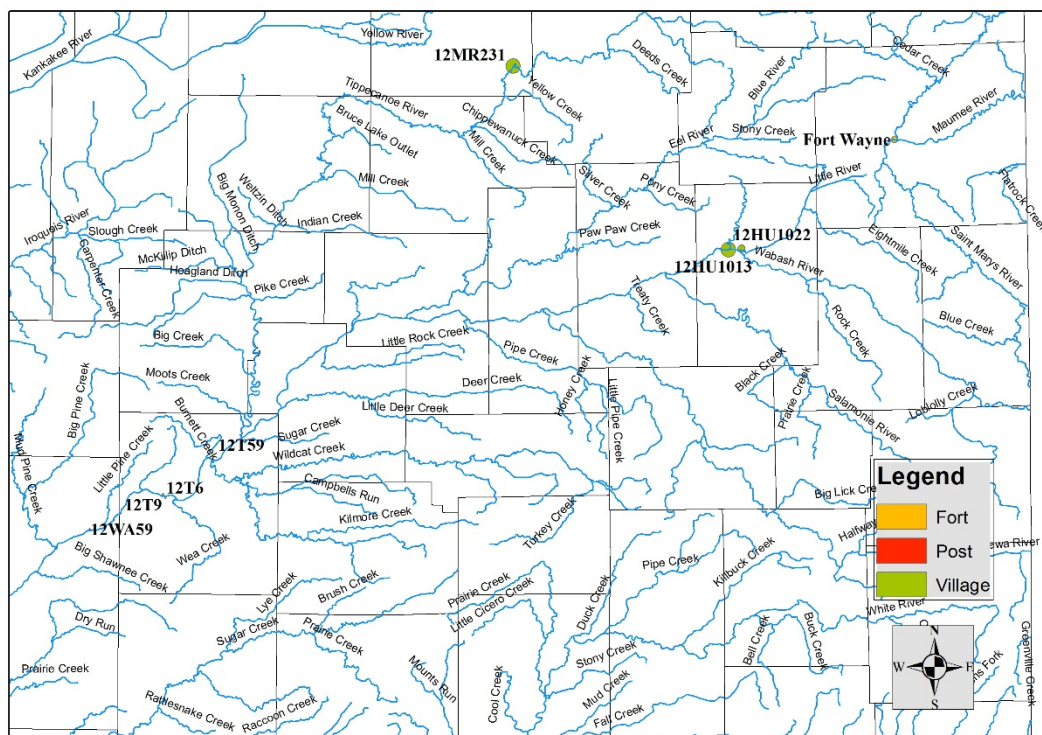
Figure 9: More Miami Villages and Related Trade

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While many independent traders travelled throughout this region (see Anson 1953), four trade organizations of note will be the focus of this section, the Fort Wayne Indian Agency, Fort Ouiatenon, Zachariah Cicott, and William Burnett. These are the focus because of the ease of access groups residing in the region had to these trade organizations and excavations or documentary records that allow for a more in-depth discussion of these sites. Three of these organizations have already been discussed in the previous chapter, so only Fort Ouiatenon will be presented here.

While there were many Native villages located throughout Indiana, only a few have been the subject of archaeological investigation. These include the Ehler site, Chief Richardville site, Kethtippecanunk, and the Wea village near Fort Ouiatenon. These sites, along with Fort Ouiatenon will be presented next.

Fort Ouiatenon

Fort Ouiatenon (12T9) was constructed in response to the Native American presence along this portion of the Wabash River in 1717. A letter from December of 1717 states,

> because the Ouiatanon are too close to the English of Carolina and exposed to their practices, and the latter spare neither solicitations nor presents to detach these savages from our interests and to attract them to their side…[we are] sending a captain, a subaltern, a sergeant, and ten soldiers among them to establish a post there to disrupt these practices and to keep them at peace with the Illinois (Krauskopf 1955:160).

At least one Native American village was already present at the site when the French constructed the fort to protect their trade interests in the region (the Wea Village). This is also mentioned in the letter, with a note in the margin stating, "they are settled on the Wabash River toward the English" (Krauskopf 1955:160). The British took the fort over without bloodshed in 1761. However, after Pontiac's Rebellion in 1763 the British largely gave over the fort to French

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free traders and Native Americans living in the area (Noble 1983:16). The fort remained until General Charles Scott destroyed it in 1791.

The location of the fort had been forgotten when the nearby town of Lafayette was founded in the 1820s (Noble 1983:16). It was not until the 1930s that the land was purchased and set aside as a park. The actual location of the fort was not rediscovered until 1967. Limited excavations were conducted at the site for the first two years (1968 and 1969). Investigations continued during 1971, 1972, and 1973 under Larry Chowning (an amateur) and Claude White (formerly of Purdue University). Most of this work was limited to the plow zone, however, and no final reports were ever written up.

It was not until Michigan State University, under the direction of Charles Cleland, excavated there that any in depth work was conducted. From 1974-1976, graduate student Judith Tordoff directed work at the site, including delineating stockade walls and testing some anomalies from the geophysical work. Vergil Noble directed excavations from 1977 to 1979, including doing some random testing of the site as well as testing some of the features. The fort storehouse was identified as a result of this work. This work formed the basis for several dissertations on the site (Jackson 2005, Noble 1983, Martin 1986, Tordoff 1983), though no final report of all the work was ever completed (Strezewski 2014). This work has been summarized, however, by Vergil Noble in an edited volume, "French Colonial Archaeology: The Illinois Country and the Western Great Lakes" (Noble 1991).

From 1984 to 1990, James R. Jones and Neal Trubowitz conducted additional surveys at the site to identify the historic Native American presence in the region. This work focused in part on the Wea Village (12T6), but also identified several new sites. Of particular note for this dissertation is the surface survey conducted by Jones in 1984 of Fort Ouiatenon, which resulted

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in a quantity of prehistoric materials. As suggested by Noble (1983:123), this material is being

considered a part of the eighteenth century occupation at the site, especially given the presence

of prehistoric material within the fort proper, as identified by Noble (1983:123) and Tordoff

(1983:272) (Strezewski 2014:31-32).   The inventory from this surface collection is included in

the analysis.

More recent work at the fort has been conducted by the University of Southern Indiana

(Strezewski) and IPFW Archaeological Survey (McCullough). This research has focused on

additional magnetometer survey both inside and outside the fort proper. This work has resulted

in the identification of several Native American structures just outside the fort (Strezewski

2014:32). These may be what Henry Hamilton described when passing through in 1778, as a

"miserable stockade surrounding a dozen miserable cabins" (Krauskopf 1955). This work is

ongoing.

For the purposes of this dissertation, and for comparability with other work, the artifact

inventories from the Michigan State University work, as well as the surface survey in 1984 were

used. This work largely identified the extent of the site, as well as the trader's storehouse, and

provides a representative sample of the artifacts available at the fort.

Wea Village

The Wea village (12T6) was likely first settled around 1715. Historical documentation

suggests the village may have been home to between 1000 and 2000 people (Jones 1992).

General Charles Scott and the Kentucky militia destroyed the village in 1791.

The site was surface surveyed in 1984 as part of a larger project to identify eighteenth

century sites around Fort Ouiatenon (Jones 1984). The preponderance of artifacts in seemingly

distinct activity areas prompted more in-depth research in the later 1980s. From 1986 to 1988

Indiana University Purdue University Indianapolis conducted magnetometry, surface survey, and excavation of some of the main areas of high magnetic readings (Trubowitz 1992:248-249). This survey located several eighteenth-century features, along with substantial quantities of artifacts related to the village (Trubowitz 1992). Unfortunately, the results of the 1986-1988 field seasons were not available, having never been published. Efforts were made to relocate the collection, but so far, the repository holding it has not been identified. The only published information on artifact totals is Jones (1992), which unfortunately only includes surface counts. Future research will work to reexamine the Wea Village collection in its entirety.

Kethtippecanunk

A band of Miami occupied Kethtippecanunk (12T59) around 1733. General Charles Scott and the Kentucky militia destroyed the village in 1791 along with the Wea Village and Fort Ouiatenon. The military report provides the best description of the village:

> This town, which contained about 120 houses, 80 of which were shingle roofed, was immediately burnt and levelled with the ground the best houses belonged to the French traders, whose gardens and improvements round the town were truly delightful, and every thing was considered, not a little wonderful; there was a tavern, with cellars, bar, public, and private rooms; and the whole marked a considerable share of order, and no small degree of civilization (Smith 1882:236-237).

The site was abandoned after being burnt in 1791, to become overgrown and forgotten.

The site has been known to collectors since at least the 1960s. Archaeological work on the site did not begin until the mid-1970s, with Clark Dobbs and avocational archaeologist Rick Learn. Learn created a coordinate system for parts of the site, and then collected within that system. Dobbs collected using this grid system the following year (Strezewski et al 2006:37).

The site was included in the research project of 1984 that also surveyed Fort Ouiatenon and the Wea Village, however landowner permission was not obtained to survey

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Kethtippecanunk. Despite this, information on local collections was obtained, along with additional site information (Jones 1984:51-52). Archaeological reconnaissance of the site was finally conducted in 1987 and included surface reconnaissance and magnetometer survey, which demonstrated some areas of higher concentration, as well as a significant occupation with substantial structures (Strezewski et al 2006; Trubowitz 1992:257).

A significant research project was again taken up in 2005, through Indiana University-Purdue University Fort Wayne (IPFW). The initial work focused on remote sensing efforts, including both magnetometry and resistivity. This identified numerous possible features, as well as several linear anomalies. This work guided excavation at the site. Ten excavation units were completed (20.75 meters squared) identifying several features (Strezewski et al 2006). Work was continued at the site the following year, opening another 65 meters squared. Additional magnetometry work was also done, to expand beyond the limits of the past year's survey to make sure the true extent of the site was captured. Numerous features were identified again, including evidence for a variety of structures (Strezewski et al 2007). A small portion of the site was located during survey work in 2009, but this largely only resulted in the collection of some artifacts (Smith 2009). In 2010, the portion of the site closest to State Road 25 was mitigated. This work included the mechanical stripping of the plow zone, trench excavations, and the hand excavation of uncovered features. Twenty-nine features were revealed this way, though they appeared to relate to earlier components of the site (Smith et al 2012).

Ehler Site (12-Hu-1022)

The Ehler site consists of the remains of a Miami village that was occupied in the early nineteenth century. The first documentary records of the site come from 1809, when William Henry Harrison passed through the region and made note of the village. An earlier journal from

1804 notes that the area was uninhabited, which means the village was established sometime between 1804 and 1809. Mann (1996:188) notes that unlike other villages in the area, the village at the forks of the Wabash appears to have been (based on documentary evidence) strictly Miami. The settlement was destroyed in September of 1812. The archaeological evidence corroborates these dates, placing the initial settlement sometime after 1800, and the abandonment of the site just prior to 1820 (Mann 1996:189).

Preliminary survey of the site was done by Ball State University's Archaeological Resource Management Services (ARMS) laboratory. Excavation of nine square meters revealed six features, including one that appeared to be a living surface. A very small quantity of "historic" materials were uncovered during this work, including a hand cut nail, several beads, and a brass pin (Mann 1996). The majority of the artifacts were considered prehistoric. However, the presence of subsurface features led the investigators to recommend that the site be avoided during any future work on the highway or mitigated if avoidance was not possible (Mann 1996).

Archaeological data recovery was conducted at the site in 1994. During this effort, 1320 square meters of overburden were removed, followed by the excavation of 142 square meters, revealing 10 subsurface features. Two distinct habitation areas were revealed by the work, characterized by an occupation midden, hearth areas, a refuse pit, and charred timbers. The timbers are believed to represent the remains of a single Miami log house, one burned by American troops in 1812 (Mann 1996). Rather than attribute the Native American manufactured items as prehistoric in nature, Mann (1996:207) argues "these deposits were not prehistoric as previously supposed, but rather were the remains of an early 19th century historic aboriginal occupation." As such, they will be included in the analysis.

Richardville/LaFontaine house (12-Hu-1013)

The Richardville/LaFontaine house was built sometime prior to 1850. Richardville became chief after Little Turtle's death, probably sometime around 1814. In 1831, Richardville transferred the affairs of the Miami tribal council to the forks of the Wabash (Stillwell 1990:2). It passed from Chief Richardville to his son-in-law LaFontaine upon his death in 1841. LaFontaine maintained the tribal headquarters at the forks until his death in 1847. The property was passed down to descendants until the 1930s (Stillwell 1990). This location at the forks of the Wabash, however, had been the site of a Miami village prior to the construction of the house. While the exact construction date for the house is unknown, the Miami presence here is not. Several accounts from the 1820s indicate a Miami presence at the forks (Schoolcraft 1825; Robertson 1880). Schoolcraft describes it as "airy and pleasant, commanding a fine prospect of the Wabash. Its population is inconsiderable, but from the marks of its former extent and cultivation, it appears to have been much greater at a former period" (Schoolcraft 1825:96-97).

The house was initially excavated by Ball State University in 1989 covering approximately 44 square meters. Excavation units were placed around the perimeter of the structure to learn more about when it was built. While it was initially thought there would be considerable disturbance, it was found that most of the fill had capped the archaeological deposits, and several features were identified (Cochran 1990). While evidence for the long history of occupation at the house was uncovered, several items more indicative of its early 19th century component were also noted, including Brandon chert gunflints, glass beads, and military uniform buttons (Stillwell 1990:58).

Additional excavations were conducted in 1999 covering 24 square meters. These excavations were conducted after the house was moved to the south side of US-24, in its former

location on the northern side (in the same locale as the 1989 excavations). These investigations again revealed the long history of occupation at the property (Zoll et al. 2000).

Data Collected

Data from the Miami/Wea village sites discussed above comes largely from the archaeological research conducted at those sites. Data for Fort Ouiatenon comes from the archaeological work conducted at the site. The data for Zachariah Cicott's post also comes from archaeological research done at the site. This research has uncovered a portion of the foundation of the site, as well as several archaeological features containing trade related materials. The archaeological inventory was used as a sample of what Cicott would have had available for trade.

As with the previous chapter, the data for William Burnett and the trade out of the Fort Wayne Indian Agency come from archival documents, including the William Burnett day book for the years 1800-1802 (Glenn 1981) and the Indian Agency Account Book for the years 1802-1811 (Griswold 1923). Unfortunately, account books for the years the Miami/Wea villages were occupied do not exist or have not yet been located. While those would provide a more thorough comparison, the entries for the earlier years will serve as a proxy of the types of goods available.

Results

The results of the analysis for all the above sites is presented in Table 15. As with the previous chapters, the first column presents the strength of the economic relationship between the two organizations when only considering the trade goods present in both assemblages. The second column takes the entire artifact assemblage in to account. The third and fourth columns, power imbalance and mutual dependence respectively, further quantify the relationship between the two organizations. The results for each site will be discussed below.

Sites being compared	P + S	Total P + S	Power Imbalance	Mutual Dependence
Burnett's Post to Kethtippecanunk	1.889	1.889		
Kethtippecanunk to Burnett's Post	1.889	1.155	0.734	3.044
Cicott's Post to Richardville	1.276	1.276		
Richardville to Cicott's Post	1.276	1.095	0.181	2.371
Cicott's Post to Ehler	1.073	1.073		
Ehler to Cicott's Post	1.073	1.041	0.032	2.114
Fort Wayne to Richardville	0.984	0.984		
Richardville to Fort Wayne	0.984	0.618	0.366	1.602
Fort Wayne to Ehler	1.958	1.958		
Ehler to Fort Wayne	1.958	1.598	0.36	3.556
Wea Village to Fort Ouiatenon	1.976	1.714		
Fort Ouiatenon to Wea Village	1.976	1.958	0.244	3.672
Wea Village to Burnett	1.85	1.627		
Burnett to Wea Village	1.85	1.85	0.223	3.477
Kethtippecanunk to Fort Ouiatenon	1.97	1.147		
Fort Ouiatenon to Kethtippecanunk	1.97	1.953	0.806	3.1
Wea Village to Kethtippecanunk	1.784	1.753		
Kethtippecanunk to the Wea Village	1.139	1.138	0.645	2.922
Ehler to Richardville	1.601	1.576		
Richardville to Ehler	1.585	1.568	0.016	3.186

Table 15: Results of RDT Analysis on Miami Data

Wea Village

As one may expect given the geographic proximity, the residents of the Wea village have a stronger economic relationship with Fort Ouiatenon (1.976) than they do with William Burnett (1.850). In fact, with a value of 1.976, almost all of the trade items present at the Wea Village could have been received from the Fort. The only items present in the Wea Village assemblage that are not present in the Fort Ouiatenon assemblage are shaving implements and padlocks. The Wea Village assemblage shows a maintenance of lithic technologies as well as ceramic technologies. The residents used copper/brass/iron kettles as well. However, the large number of copper/brass scraps, strips, pieces, and tinkling cones present in the village assemblage suggests

that these kettles may have been used for more decorative than functional purposes. The kettle scrap and high number of tinkling cones also demonstrates an active metal working industry at the site, as evidence suggests the village inhabitants were actively taking copper kettle pieces and reworking them to suit their needs. This suggests, rather than necessarily a strict lack of acculturation, active agency in taking new materials and reworking them for their purposes.

There are some other interesting artifacts to note within the assemblage, including three lead baling seals, a high count of other lead artifacts (sprue/waste, shot and balls), and high number of gun parts and flints. The lead baling seals originated from the large bales of cloth shipped in through various trade networks. These are usually found at large forts, such as at Fort Michilimackinac, where many various examples have been recovered (Adams 1989). These were often melted down for use as lead shot, though the presence of bale seals at Native village sites is not unheard of (see Fitting 1974 for a brief discussion of a bale seal found at Norge Village, for example). This lead, and the presence of lead sprue and waste, shot, etc., does indicate, however the active use of firearms by the Wea village inhabitants. The presence of 30 metal points along with modified bone implements within the assemblage, however, also suggests the continued use of the bow and arrow by the Wea Village residents.

The economic relationship with William Burnett, for just the trade items, was a 1.850. This value is a fairly strong relationship, indicating that many of the items the Wea Village residents procured from traders could have been received from Burnett. In particular, Burnett carried a large number of silver items with him for trade. While a few pieces of silver were identified in the Fort Ouiatenon assemblage, the quantity present (Burnett had 7546 pieces of silver identified in his trade inventories) suggests that the Wea may have procured their silver items from him, rather than the fort. Burnett had access to the silver smith in Fort Wayne

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(Burnett 1967), whereas other traders to the site may have been more strongly affiliated with the French trade networks of the Illinois/Mississippi River area.

When the entire artifact assemblage is considered, the values for the relationship between the Wea Village and Fort Ouiatenon and Burnett drop, but not substantially. As may be expected given the geographic proximity, the value for the Wea Village's relationship to the fort is 1.714, which is still fairly high. The value of the relationship with Burnett drops to 1.627. When comparing these numbers to determine the strength of the relationships between these organizations, the degree of power imbalance between the Wea Village and Fort Ouiatenon comes to 0.244, and between the Wea Village and William Burnett 0.223. Both values are statistically significant, and when looking back at the economic values in both cases the trade organization is higher, suggesting the Wea Village had more economic power within the relationship. The mutual dependence values for both, 3.672 for Wea/Fort Ouiatenon and 3.477 for Wea/Burnett are also both high and demonstrate a considerable degree of mutual dependence between the organizations. Given the geographic proximity between the Wea Village and Fort Ouiatenon, this would be expected. In both cases, there is a high degree of mutual interaction between the organizations, with minimal, but statistically significant, power imbalance between them. This suggests that the Wea Village residents were able to, at least somewhat, dictate the terms of their economic relationships.

Kethtippecanunk

Much like the Wea Village, Kethtippecanunk had a strong economic relationship with both Fort Ouiatenon and William Burnett, especially when just considering the trade goods in the assemblage. Again, given the geographic proximity, the relationship with Fort Ouiatenon is strongest, with a value of 1.970. Almost all of the trade goods present in the village could have

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originated at the fort. In fact, the only outlier is a single burning glass recovered from archaeological work that does not appear to be among the trade goods found at the fort. However, with a value of 1.889, the economic relationship with William Burnett is almost as strong. Burnett was not able to offer the diversity of items that Fort Ouiatenon could, but he could offer more of items such as silver.

When the full assemblages are considered, we see the economic dependence value drop in both instances. For the relationship between Kethtippecanunk and Fort Ouiatenon, it drops to 1.147. For the relationship with Burnett, it drops to 1.155. While trade goods are a considerable portion of the artifact assemblage, lithic artifacts and indigenous ceramics are also quite prevalent. These values, and the presence of these specific artifacts, indicates a preference for the maintenance of the stone tool industry. In fact, despite both William Burnett and Fort Ouiatenon offering pocket knives for trade, no knives were located in the artifact assemblage for Kethtippecanunk. Gun parts (n=6), gunflints (n=8), and lead (n=32) are also not prevalent in the assemblage, suggesting that the residents of the village may have relied more on bows and arrows with stone points. Excavations at Fort Ouiatenon did locate numerous metal arrow points, so while none were identified in the Kethtippecanunk assemblage, they may still have been used.

Despite the geographic proximity of Kethtippecanunk to Fort Ouiatenon, the above results suggest that the residents, while they did make use of kettles, ceramics, glass bottles, and a variety of decorative items, still relied largely on indigenous industries for their day to day life.

When looking at the numbers for the degree of power imbalance and mutual dependence between the village of Kethtippecanunk and William Burnett and Fort Ouiatenon, the power imbalance values come to 0.734 and 0.806 respectively. Mutual dependence values come to

3.044 (William Burnett) and 3.1 (Fort Ouiatenon). Both power imbalance values are statistically

significant and show a moderate imbalance of power between the organizations. When referring

back to the economic values, in both cases the trader/fort had the higher value suggesting that the

village of Kethtippecanunk held more economic power over the exchange. They also chose to

maintain ties with the trade organizations, as demonstrated by the high values of mutual

dependence (over 3). This maintenance of ties with both trade organizations may be seen as a

means of reducing uncertainty within their exchange networks, to better be able to maintain their

economic power. This power would have allowed them more freedom to maintain their lithic and

ceramic industries.

In addition to ties with Euro-American trade organizations, the residence of

Kethtippecanunk likely maintained a close relationship with the nearby Wea village. A mutual

dependence value between the two comes to 2.922, with a power imbalance of 0.645. This

significant power imbalance may suggest a degree of subordinance between the Wea village

(which had the higher economic value) to Kethtippecanunk. This trade relationship would have

also helped to reduce dependence in both villages' trade with Euro-American organizations.

Ehler Site (12-Hu-1022)
The Miami living at the Ehler site likely received most of their trade goods from Fort

Wayne, as evidenced by the high value of 1.958 for the economic relationship between the two

for trade goods. The only notable items not present in the Fort Wayne day book, but present

archaeologically at Ehler, are glass beads and tin. The tin may be a unique problem, in that it

may appear in the day book as a "kettle" with no material type identified. Straight pins, tinkling

cones, a ring, worked copper, and a burning glass are also found at Ehler and not the fort, but not

in notable quantities. The tinkling cones and other worked copper items likely originated with

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copper kettles initially that were subsequently reworked/refashioned; these are present in the Fort Wayne day book. Geographically, the strength of this relationship makes sense, as the fort would have been only a short journey from the site, making it relatively easy to stop by to acquire something new.

This is in stark contrast to the value arrived at for the relationship with Cicott's post, which was 1.073. Most of the difference in these values are accounted for by the lack of any food remains (faunal and floral remains indicative of what was eaten at the site) at Cicott's post. Over 3000 food remains were identified at Ehler. It may be that food remains were not a popular trade item at this particular post, or it may be that excavation bias precluded locating specific faunal and floral remains.

Much as with the previously discussed sites, when the entire artifact assemblage is taken into account, the values drop for both relationships, though not substantially. For the relationship between Ehler and Fort Wayne, the value of total economic dependence comes to 1.598, while the value for the relationship between Ehler and Cicott's post comes to 1.041. The residents of Ehler were clearly making use of a variety of trade goods offered by various organizations, but there is also evidence for the continuation of indigenous tool technologies, with over 2000 lithic items identified in the artifact assemblage. The lithic artifacts, along with the paucity of firearm related items (there are no gun parts present in the assemblage, and only a few gunflints and lead) suggest more of a reliance on the bow and arrow for hunting.

As opposed to the preference for indigenous technologies for hunting, based on the paucity of Native ceramics and kettle fragments, it would appear that the preferred vessel type for cooking/eating was of tin. This mix of European and Indigenous preferences is reflected in the use of faunal resources. While some cow and swine remains are present at the site, the

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majority of the assemblage is deer, raccoon, large bird and wild turkey, and riverine resources (turtle, fish, bivalves). Floral remains also show a continuation of gathering and horticultural practices, with plum/cherry seeds, nutshells, and corn present (Bush 1996; Mann 1996). The importance of corn to the Miami diet is evident, it was present in almost all the samples examined (Bush 1996).

The importance of corn in the diet may also be reflective of its use as a trade item. With a high degree of mutual dependence between Ehler and Fort Wayne, 3.556, the Fort would have relied just as much on what the residents of Ehler traded to them as what they traded for. The geographic proximity between the two meant that the residents of Ehler could have provided critical food resources to the residents of the fort, in exchange for other goods. There is some power imbalance visible between the two, with a value of 0.36. This significant value indicates a slight to moderate degree of power imbalance, with residents of Ehler holding the power advantage. This would have allowed them easier access to goods that they wanted, without feeling pressured to acculturate to a more Euro-American lifestyle. The maintenance of their lithic industry is suggestive of this.

The relationship between Ehler residents and Cicott's post may also be a factor of geography. There is very minimal power imbalance between the two, with a value of 0.032. Combined with a low mutual dependence value, 2.114, there was likely little interaction between the two, and certainly not enough interaction for the residents of Ehler to worry about a power differential. They may have maintained ties with Cicott as a means of mitigating economic uncertainty, but they did not rely on his post nor his continued relationship.

Overall, this assemblage reflects the Ehler residents' participation in the fur trade in several ways, though on their own terms. Hunting with a bow and arrow or snare was preferable

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for killing game for the hides, as it left less damage than lead shot. The focus on fur-bearing animals for trade (such as deer, racoon, and beaver), and waiting to kill them until their fur was best for harvesting, meant that the Miami had to shift their diet towards other things, such as the wild turkeys and riverine resources that show up in considerable quantities in the assemblage. Thus, through the presence of these riverine resources we can further extrapolate the use of these fur bearing animals for trade rather than strictly for food. The corn present at the site would have also allowed them another avenue for trade, further reducing economic uncertainty. This would have been further accomplished through the maintenance of their own indigenous technologies. By not relying on any of the traded goods for their survival, they were reducing their dependence overall. This assemblage demonstrates that while the Miami were active participants in the trade, they were doing it in such a way as to mitigate their dependence of Euro-American trade while also increasing trade organizations' dependence on them, granting them additional economic power to dictate their own terms.

Richardville/LaFontaine (12-Hu-1013)

The inhabitants of the Richardville site are notable for the distinct lack of trade goods at the site. When only these were considered, the economic relationship between Richardville and Fort Wayne resulted in a value of only 0.984. Unlike the nearby Ehler site, the residents of Richardville had a stronger economic relationship with Cicott's post, with a value of 1.276. These low values are the direct result of the lack of diversity in the trade good assemblage. By far, the most prevalent artifacts were European ceramics and bottle glass. Objects such as buttons and beads were not as readily available at the fort, so were likely obtained from another source, such as Cicott.

The values for the economic relationships drop when the entire assemblage is considered. The total economic relationship between Richardville and Fort Wayne is 0.618, while the value for the relationship between Richardville and Cicott is 1.095. Much as with the other Miami sites examined, the residents at Richardville were still making their own lithic tools, and over 2800 lithic artifacts were identified at the site. The lack of firearm related equipment (4 gun parts and 1 gunflint total), suggests that at least some of the lithic tools were for hunting. The faunal remains, however, show that the Miami living here relied largely on domesticated animals, including cows and pigs, rather than wild game (Cochran 1990). Multiple "avian" remains were identified as well, so perhaps the residents of Richardville were also hunting considerable quantities of wild turkey for food. The lack of other wild game also suggests that perhaps the individuals living at Richardville were less concerned with participation in the fur trade.

The power imbalance values for the Richardville site compared to Fort Wayne and to Cicott's Post are 0.366 and 0.181, respectively. Much as with the nearby Ehler site, residents of the Richardville site would have been in closer geographic proximity to Fort Wayne than to Cicott, which would have led to more of an opportunity for power imbalance between the two. Unlike Ehler, however, the mutual dependence value for the relationship with Fort Wayne, 1.602, is quite low. While there was significant power imbalance in favor of the residents of the Richardville site, there was very little mutual dependence between the two organizations overall. When compared to Cicott's post, the mutual dependence is greater with a value of 2.371, suggesting a moderate degree of mutual dependence as well as a slight statistically significant degree of power imbalance. It would appear that the residents of the Richardville site did not maintain the same type of relationship with Fort Wayne that the residents of Ehler did. This may be a factor of the history of the site and its' occupants.

The Richardville site was the home to the village chief for several years; it may be that the difference in artifact assemblage is a direct result of making choices to appear more acculturated by incorporating more European ceramics and domesticated animals into their lives. Certainly, Chief Richardville was able to purchase his property and remain there, while other groups were forcibly removed (Stillwell 1990). The artifacts present may in part represent his strategy to enable that. Choosing to maintain a minimal relationship with Fort Wayne may also have been part of that strategy; with a smaller degree of interaction, there would have been fewer opportunities for the residents of the fort to attempt to gain more economic, and therefore political, power over Chief Richardville. His maintenance of stronger ties to other traders, such as Zachariah Cicott, would have allowed himself and the residents of the village alternative avenues for trade, thus reducing uncertainty as well as possible dependence. The low values overall of mutual dependence between Richardville and these two traders may also be indicative of relationships with additional trade organizations, which would have further reduced uncertainty and dependence.

In fact, this is visible in the relationship between the Ehler site and the Richardville site. When the economic relationship between these two sites is examined, there is very little power imbalance (0.016) but a considerable degree of mutual dependence (3.186). The residents of the Richardville site maintained a strong connection to the Ehler site, which may help explain how they were able to limit their relationships with Euro-American trade organizations.

Interpretation

The Miami sites presented here appear to represent a variety of behaviors, and ones that need reexamined in new ways. James R Jones III has interpreted the differing presence of trade goods in the Wea Village and Kethtippecanunk to different degrees of acculturation. He noted

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that the Wea Village appears to be the least acculturated, while Kethtippecanunk exhibits the largest degree of acculturation (Jones 1992:105). While there is a difference in the strength of the relationship between the Wea village, Kethtippecanunk, and Fort Ouiatenon, this is not necessarily one of acculturation. These results indicate the residents of the Wea village had a stronger economic relationship with Fort Ouiatenon than the people living in the Kethtippecanunk did. This, in part, may be because Kethtippecanunk is interpreted as a mixed French/Native American village. The economic relationship between these individuals and the Fort may actually be because of the French inhabitants of the village, rather than the Native American ones.

For some, this economic relationship meant continued alliance with the British. Both Mann (1999) and Wagner (2010) have argued that the high occurrence of British gunflints at Native sites indicates continued political alliance or renewed political alliance with the British. This alliance is not so straightforward. As Anson describes, (1953:15-16), "[e]ach post had certain villages to contact and monopolize, most of them reached by separate small outfits sent to live with the Indians through the winter. This does not imply, however, that these traders were the only ones present or trading with those groups." The main traders for each of the above villages was not necessarily allied with the British themselves. Between that fact, and the presence of many additional traders throughout the region, the increased presence of British gunflints may represent simply an increase in the number of British supplied firearms and replacement parts, making these easier to get ahold of.

These differences in relationships may also be a result of participation in different activities. There is evidence from Ehler and Kethtippecanunk for active participation in the fur trade, while the Richardville site shows evidence for attempts to resist removal but also maintain

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connections to other nearby Miami sites. The Wea Village residents seemed to incorporate a little bit of everything into their lives, making it more difficult to discern their motives for doing so. These differences may prove illuminating when taken within the larger political context, which will be addressed in the following chapter.

**Chapter 8: A Regional Perspective on RDT and Trade in the Southern Great Lakes:
Hypothesis Testing, Discussion, and Analysis of RDT in Archaeology**

Given the multitude of trade networks and the political instability of late eighteenth

century North America, this chapter takes a larger, regional approach to examining the trade that

occurred in the southern Great Lakes by addressing the initial research questions for this project,

as mentioned in Chapter 1. Resource dependency theory provides a unique framework for

examining these economic relationships and the political alliances that may have been formed as

a result, for both localized power dynamics (as discussed in the previous chapters) and larger

regional interactions. This multi-scalar approach can help elucidate meaning from interactions

that may be lost in a strictly regional interpretation. The chapter starts by providing a brief

regional overview, linking together the Miami, Ottawa, and Potawatomi while also comparing

the differences between each culture. Then, the initial hypotheses posed at the beginning will be

addressed to evaluate the overall statement that the political relationships formed during this time

were the result of the economic relationships, particularly for this specific region during this

time. The chapter will finish with an evaluation of the utility of RDT for addressing questions

such as these within archaeology.

Economic Relationships, Political Relationships

This research project revolved around several hypotheses focusing on the link between

economic trade relationships and political alliances between Native American groups and

Europeans from approximately 1760 to 1830. Drawing from resource dependency theory, this

research was based on the premise that the political alliances that were made during this time

could be better explained from the perspective of the economic relationships that were

propagated. Government documents, such as a Senate report from 1820, allude to this type of

relationship with statements that having political power over the trade "gives the Government such an entire control over the trade carried on by private traders as to make it *subservient to the views of the Government*" (Leake 1820: 206, emphasis added). William Eccles echoes this sentiment from the view of France, where from 1700 on, "the fur trade was used mainly as a political instrument to further the imperial aims of France" (Eccles 1983:342). With the establishment of Detroit, a French barrier to English incursion into the interior, the "fur trade was definitely subordinated to a political end" (Eccles 1983:345). However, the use of these economic relationships for political purposes was not limited to the French, British, or Americans. "The policy of the Indian nations was always to play the French off against the English, using the fur trade as an instrument of their own foreign policy" (Eccles 1983:362). It would seem that, especially during the late eighteenth century and into the nineteenth century, the fur trade was largely a political instrument for dictating power.

Each group used this political weapon for their own agenda. Native groups were often fickle about their allegiances; identifying who they were allied with at any given time is difficult. The Ottawa, largely located throughout Michigan, were "faithful to the French interests" in 1754, according to George Croghan (Thwaites 1904:76). In 1757, the Ouiatenons and Piankashaws (both factions of the Miami) living along the Wabash River in Indiana requested to be friends with the British (Thwaites 1904: 91). These decisions regarding alliances did not span entire groups, as in November of 1760, Croghan notes that "we were met by about thirty Ottawas who had an English Flag" (Thwaites 1904:104). He also observed a Miami village near Kekionga that, when he approached, immediately hoisted an English Flag (Thwaites 1904:150). These examples are likely indicative of the fluid nature of these alliances. As such, it can be complicated inferring actual political power of any given group. However, given the link

between trade and political power as noted above, it may be possible to talk more about the political situation by examining the economic one.

RDT was chosen as an explanatory framework because of its focus on material transactions and how political power could be drawn from them (as discussed in chapter 3). This is particularly useful for this time as from the mid eighteenth century to the early nineteenth century, the political situation in eastern North America was tumultuous at best. In addition to the complex political situation, this period was also dominated by massive exchange networks (refer to chapter 2). Given the prevalence and importance of exchange, it was hypothesized that the economic transactions taking place may have influenced the political alliances between groups. Both key factors influenced the decision to use RDT as a framework for examining whether the economic choices of Native American groups influenced or were reflective of their political alliances during this complicated time period.

Political power throughout eastern North America, and its influence on Native peoples
        The mid-eighteenth century saw the transition in colonial political control from the French to the British as a result of the Seven Years' War, which ended in 1763. Though how much political control the French actually had over the Native inhabitants may be debated; Witgen cites their claim as a "political fabrication" (Witgen 2012a:116). This period was also dominated by the American Revolution (1776-1783), which introduced a third colonial power vying for political control of eastern North America. Again, however, Witgen notes that "America's claim derived from a fantasy of the French empire" (Witgen 2012c:295). In many places, the Americans had very little political power. The colonial political contest finally ended in this region with the results of the War of 1812, which removed the British from America by 1821 and left Native Americans and Americans. As territorial Governor Cass found in

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Michigan, it was a world populated by Native peoples intent on negotiating their place in the world (Witgen 2012b:530). As such, this entire period from 1760-1830 was politically dominated by the contest between the French, British, Americans, and Native Americans. Native American groups maintained significant political power as well; however, how they wielded this power changed based on the colonial powers attempting to control them.

Trade Policies of the United States of America

   A report to the Senate in 1821 nicely summarizes the United States' participation in the Native American trade during this period. From 1775-1786, the American government sought to keep the peace, and the trade policy was reflective of that. Three departments were formed to regulate trade. They attempted to enforce a license system, whereby only traders that had been granted licenses could go out and reside among the Native American groups. Individuals without a trade license could only trade at posts or other governmental approved locations.

   In 1786, the previous three trade departments were condensed into two, and a superintendent appointed to each. In addition to this, an Ordinance was passed by Congress stating that only United States citizens would be allowed to participate in the trade, assuming they had a license to do so. The government quickly found that this made it harder to control the actions of their traders, and thus the Native American groups they were trading with.

> It would appear that, notwithstanding all this precaution, the systems were not
> suited to the humane designs of the Government. The plan of holding intercourse
> with the Indian tribes by the agency of private traders, notwithstanding the
> regulations with which it was attempted to control them, was unsuited to the
> promotion of those relations which it was, and is yet, so desirable to sustain with
> the aborigines of our country (Leake 1820:205).

   As such, in 1796 a new Act was passed that attempted to better organize the trade. This act also provided for "supplying the Indians with all necessary and useful articles at such rates as

shall preserve the capital from diminution" (Leake 1820:205). This act also provided for the creation of a factory system, that lasted until 1821/1822 (Horsman 1988:34-35).

Despite these further attempts to remain competitive, Native American groups were still not availing themselves entirely of the trade provided by the United States. This led to the appointment of a superintendent of trade in 1806, with an increased budget to better entice Native Americans in. By 1811, however relationships with American traders had still not improved, noting that "the great embarrassment under which this trade has labored, occasioned by the opposing influence of a great many unprincipled private traders" (Leake 1820:205) had been detrimental to their attempts. The trade was again modified with little additional success, until the United States abolished their trade policy in March of 1821 (Leake 1820:205).

Trade Policies of France

France also played a critical role in the politics of the southern Great Lakes. Leading up to the Seven Years' War, France still claimed many of the territories in the region. However, their defeat to the British led to the Treaty of Paris (1763), which expelled them from lands east of the Mississippi River. The lands they had once held west of the Mississippi were further ceded to the Spanish during this time, effectively removing them from eastern North America (Hornbeck Tanner 1987:55). However, their previous policy of maintaining relationships with a loose coalition of allied tribes allowed them continued access to the interior through trade (Wade 1988:26).

In a further effort to expel the British from North America, the French largely sided with Americans during the Revolutionary War. In 1801, Spain secretly ceded the Louisiana territory back to France, again allowing them access to the North American interior until Napoleon sold the land to the United States in 1803. France was having its own difficulties, as political policies

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changed from the time of Louis XVI through the French Revolution to Napoleon Bonaparte and

the Napoleonic Era which lasted from 1799 to 1815. The end of the Napoleonic era also

signaled the end of France's first colonial empire, and an end to its immediate influences on

trade in the United States.

French trade policy in general was one of maintaining good relationships with the Native

Americans, while also trying to outmaneuver the British (Eccles 1983:342). British policy was

not much different, albeit focused more on resource extraction than on friendly relationships.

When George III made the Proclamation of 1763, a policy that forbade settlers from venturing

too far west to allow Native Americans their space, it was less about good relations with Native

Americans than it was about trade. With the signing of the Treaty of Paris (1763) England took

colonial political control over much of eastern North America.

British Trade Policies in America

Leading up to 1763, British Native American policies were becoming less localized,

increasingly concerned over French threats, and brought about measures to ensure a greater

degree of colonial unity (Jacobs 1988:9). Treaties up to this point were largely focused on

neutralizing the French influence among the Native Americans while also increasing their trade.

Most of British policy in this regard worked to establish sovereignty over the land to protect

these trade interests (Jacobs 1988:10). Attempts to regulate trade through a factory system led to

Pontiac's rebellion in 1763, despite George III's Proclamation. Even with greater concern for

Native Americans, and the creation of policies allowing them rights to their land and hunting,

British trade policies were difficult to enforce after 1763, leading to land grabs by colonial

settlers. Even with the outbreak of the Revolutionary War, British policy toward Native

Americans remained the same (Jacobs 1988:11). When England negotiated the treaty ending the

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Revolution in 1783, they ceded the lands to the United States without informing their Native American allies. This officially ended British colonial political control in the region, though they remained in many of the frontier forts until being forced out after the War of 1812 (Jacobs 1988:12).

The time from approximately 1760-1830 was dominated by a contest between the French, British, and Americans. Each group had their own trade policies as well, that sometimes conflicted with the policies of others. Native American groups during this time had to negotiate this dynamic and became quite adept at doing so. In many cases, rather than making choices as a cohesive cultural group, they made them as individual villages/actors. This next section will briefly highlight this.

Native American Political Allegiance

The Native American groups in the southern Great Lakes region, as has been discussed in the previous chapters, went through several migrations from the 1600s on. By the 1760s, however, most of these groups had found homes where they remained until American policy forced their removal or relocation. The Ottawa were now located across the western side of the lower peninsula of Michigan, the Potawatomi were stretched across southern Michigan, northern Indiana, northeastern Illinois, and southeastern Wisconsin. The Miami were located throughout most of what is now Indiana (Hornbeck Tanner 1987:58-59). Each of these groups initially created trade ties with the French.

The Miami remained allied with the French as long as the Iroquois were a threat, a long-time ally of the British (Callendar 1978:686). This continued allegiance to French interests led many Miami to participate in Pontiac's Rebellion, against the British. However, as the American presence grew, especially as more and more settlers pressed into the region, the Miami switched

sides to fight with the British against the Americans during the Revolutionary War. They remained committed to the British in the 10 years following the resolution of the War, continuing to harass American troops in favor of establishing British rule again. This culminated in a series of American military maneuvers throughout western Ohio and Indiana in the 1790s, where American troops burnt villages and crops (such as around the Wea Village and Kethtippecanunk in central Indiana). The violence escalated until the Battle of Fallen Timbers in 1794, where the Americans claimed a victory and penned the Treaty of Greenville (1795). General Miami policy after the defeat turned to acceptance of American rule and they remained neutral during the War of 1812 (Callendar 1978: 687). The Miami were almost completely removed from Indiana in the 1840s (Callendar 1978:687).

Much like the Miami, the Potawatomi remained affiliated with the French at least initially. Their trade relationships with the Ottawa created for them a position as middlemen traders between Montreal and the lower end of the exchange network (Clifton 1978:731). They remained loyal to this network, if not the French specifically. When much of Canada was ceded to the British in 1763, the allegiance remained to the network, and only partially with the British. This, and the geographical extent of Potawatomi villages, led to mixed allegiance going into the Revolutionary War. Some chose to ally with the British, and some did not. Potawatomi groups closer to the Mississippi attempted to create trade relationships with the Spanish. However, a letter from Lieutenant Colonel Harmar to General Hamtramck in 1789 suggests that the St. Joseph Potawatomi and the Miami residing around Ouiatenon were at war, so this may not have been an easy endeavor (Thornbrough 1957:153). The succession of this region back to the French in 1801, and the subsequent Louisiana Purchase in 1803 ended this effort. At this point,

many chose to side with the British, at least through the War of 1812. They continued to be allied with the British until 1839 (Clifton 1978:737).

The Ottawa had a similar experience as the Potawatomi. As their closest ties were to the French traders in Montreal, when the region was ceded to the British, their favor turned towards the British instead. Despite this (perhaps solely economic) allegiance, many of the Ottawa stayed out of the Revolutionary War, instead maintaining their ties to Canada. Their loyalties continued to be divided between British and American interests throughout the War of 1812. In fact, up to the 1830s many Ottawa groups still regularly traveled to Canada to receive British annuities (Feest and Feest 1978:777).

For both the Ottawa and the Potawatomi, the choice of political allegiance was largely dictated by individual groups or villages, rather than by the culture as a whole. It would also appear that their economic decisions played a part in the political allegiance. On the other hand, the Miami appear to have been more cohesive in their decision-making processes, perhaps choosing to present a cohesive front to allow for greater power in the interactions. These differing tactics allowed each of these groups different opportunities and avenues for pursuing greater power and legitimacy, especially as each had access to a different variety of trade networks and relationships.

Massive exchange networks spanned all eastern North America during this time, as was initially presented in chapter 2. When European groups first arrived on the American continent, one of their main goals was resource extraction. They utilized the various Native American and First Peoples groups to accomplish this for them (Wolf 2010[1982]:158-161). In many cases, French, British, Dutch, and Spanish groups were incorporated into Native exchange networks (DuVal 2006, Bradley 1987, Brown 1980, etc.). Furs, food stuffs, and other resources were

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desired by European groups; Native groups collected and exchanged these items for a variety of trade goods, including firearms, cloth, tools, and items of personal adornment. Because Europeans were incorporated into existing Native trade networks initially, the plethora of networks that existed prehistorically were maintained throughout the seventeenth and eighteenth centuries, though in slightly different forms.

While Europeans may have believed that they had control over these networks, the reality of the situation may have been quite different. In fact, the governor of the Indiana territory often complained about the prevalence of these alternative networks in their attempts to control the local groups:

> because the Ouiatanon are too close to the English of Carolina and exposed to their practices, and the latter spare neither solicitations nor presents to detach these savages from our interests and to attract them to their side…sending a captain, a subaltern, a sergeant, and ten soldiers among them to establish a post there to disrupt these practices and to keep them at peace with the Illinois (Krauskopf 1955:160).

This account highlights that the Miami maintained networks with the lower Ohio River Valley trade and into the Charleston/South Carolina region. This was more commonplace that not, as Mann also notes that the trader Zachariah Cicott traded down the Mississippi River, relying on different trade networks than most living in northern Indiana who traded with Detroit or Michilimackinac. Trader William Burnett also made use of several different trade networks, using Detroit as his main supply location, but eventually shifting to Montreal. The Fort Wayne day books note that the goods received there originated in many areas, including Albany, New York and Pennsylvania.

With this multitude of trade networks and the political instability throughout the region, resource dependence theory has provided a unique framework for more thoroughly examining these economic and political relationships. By using the localized interactions mentioned in the

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previous chapters, as well as a larger regional perspective, additional insight into the factors that influenced Native groups' decision-making processes can be gathered. This following section will more closely examine the adequacy of resource dependency theory for addressing the research questions posed for this project.

Using RDT to test the Research Hypotheses

Using the RDT framework can provide a better means of examining how trade provided Native American groups with a source of power for dictating the terms of their political relationship with European groups. This introduces the first research hypothesis, that the availability of trade goods from specific sources created either mutual dependence between Native American groups and Euro-American traders or a situation of power imbalance. This hypothesis states that Native American groups were not dependent upon Euro-American trade goods, but instead used them to create a situation of mutual dependence with the traders, which in turn allowed them greater power in their political alliances.

RDT provides a means for testing this hypothesis with its formulae for examining power imbalance and mutual dependence. If Native American groups were dependent on Euro-American trade items or Euro-American traders were dependent on Native American groups, this would result in a high power imbalance value, and a low mutual dependence value. In addition to this, there would be a lower likelihood of tactics designed to restructure dependencies and absorb constraint in the historic record.

However, if both traders and Native Americans were mutually dependent on one another, there would be low power imbalance values and high mutual dependence values. There would also be increased evidence of tactics by these groups to help keep the power dynamic balanced (actions to reduce their dependency on a single source, such as through access to alternative trade

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routes/trade good sources such as independent traders, or attempts by the trader to better entice Native groups to trade) or to absorb constraint (constraint in the system is anything that limits their power, a mechanism to reduce this is by incorporating traders into Native kinship networks, for example). This hypothesis will be addressed by first examining the power imbalance and mutual dependence values. It will then be addressed by looking for examples where Native groups or traders may have worked to reduce dependencies, restructure constraint, or other mechanisms to allow them more freedom in interactions. The hypothesis will be determined true if there is low power imbalance value and as well as examples of mechanisms for reducing dependence. The hypothesis will be determined false if the power imbalances are very high, and there are few to no instances of groups being able to restructure/reduce dependencies.

Power Imbalance and Mutual Dependence

The values for power imbalance and mutual dependence were formulated for all the relationships presented in the previous three chapters and can be seen in Table 16 below. As noted in chapter 4, power imbalance values will range anywhere from 0 to 2, with 2 indicating a very high degree of power imbalance in one direction. Mutual dependence values will range from 0 to 4, with a value of 4 indicating a very high degree of mutual dependence.

The power imbalance values for the relationships presented on in the previous chapters range from 0.027 to 0.896. These are all relatively low values and demonstrate that there was very little power imbalance in the trade relationships present at the time each of the sites used in this study were occupied, approximately 1760-1830.

Site Relationship	Power Imbalance	Mutual Dependence
Rix Robinson Post <-> Village of Ada	0.331	3.515
De Marsac Post <-> Village of Ada	0.263	3.509
De Marsac Post <-> Rix Robinson Post	0.087	3.865
Burnett's Post <-> Pokagon's Village	0.027	3.879
Fort Wayne <-> Pokagon's Village	0.029	3.923
Burnett's Post <-> Windrose Village	0.136	3.832
Burnett's Post <-> Benack's Village	0.529	0.655
Cicott's Post <-> Benack's Village	0.692	2.316
Fort Wayne <-> Benack's Village	0.896	1.11
Burnett's Post <-> Kethtippecanunk	0.734	3.044
Fort Ouiatenon <-> Kethtippecanunk	0.806	3.1
Cicott's Post <-> Richardville	0.181	2.371
Fort Wayne <-> Richardville	0.366	1.602
Fort Wayne <-> Ehler	0.36	3.556
Cicott's Post <-> Ehler	0.032	2.114
Burnett <-> Wea Village	0.223	3.477
Fort Ouiatenon <-> Wea Village	0.244	3.672

Table 16: Power Imbalance and Mutual Dependence Values

The mutual dependence values for the relationships presented on range from 0.655 to 3.923, which demonstrate a wide range of very little mutual dependence (i.e., both groups relying on one another) to a very high degree of mutual dependence.

These values immediately dismiss the notion of total dependency of one group upon another, which would be indicated by a power imbalance value of close to 2. As none of the values exceed 1, this suggests that the first part of this hypothesis may be true. Examining the tables in Appendix B further demonstrates that Native American groups, while not economically dependent on Euro-American traders, were also not dependent on any one type of good. The trade goods present at all the Native village sites were easily accessible from a variety of sources.

In fact, there is significant historical, ethnohistorical, and archaeological evidence to support the idea of mutual dependence and low power imbalance. Richard White's (1991) analysis of the historical events from 1650-1815 demonstrates this, which he refers to as the "middle ground" where no side could achieve the political power necessary to completely take over the relationship. His work demonstrates that while trade relationships between various Native groups and Euro-American traders were highly varied, they are more indicative of mutual dependency as it is defined within RDT.

Mutual dependence is not the same as one organization being dependent on another. Returning to the definition within RDT for dependence, "a *resource that is not important to the organization cannot create a situation of dependence*, regardless of how concentrated control over the resource is. Also, regardless of how important the resource is, unless it is controlled by a relatively few organizations, the focal organization will not be particularly dependent on any of them" (Pfeffer and Salancik 2003:51). Given this definition, there are two pieces to dependence that must be true, 1) it is a critical resource, and 2) that resource is only available from a limited number of sources. A comparison of the artifact assemblages for all the sites in this study demonstrates that there were no trade goods that were only available from a limited number of sources. As such, there could not be a situation of dependence for Native American groups. However, in many cases, it may be that the maintenance of the trade relationship was the critical aspect. Therefore, in order to understand whether or not dependence may have been present requires looking at both sides of the interaction, or mutual dependence.

This is worth a closer examination, as groups with higher mutual dependency should also demonstrate tactics used for reducing dependency to maintain this balance. This leads to the second piece of this hypothesis; for the second portion of this hypothesis to be true, there need to

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be examples of attempts to restructure dependencies in both Native groups and among Euro-American traders and governments.

Maintaining Balanced Relationships through Tactics to Reduce Dependency
Native American villages and Euro-American traders maintained mutually beneficial relationships between one another, some more than others. The mutual relationships between these groups is visible in the historical record as well and is particularly visible in the attempts to reduce this dependency. There are several examples of attempts to restructure their dependence, as well as tactics to reduce dependency, such as alternative trade routes, prevalence of and exchange with traders not associated with the British Empire, coalitions between groups, and socializing members of the opposite group (i.e., creating kinship ties with Euro-American traders).

The Ottawa living along the Grand River are perhaps one of the best examples of this, both historically and archaeologically. Unlike many Native American groups during the late 1820s and into the early 1840s, the Ottawa were able to remain in their traditional homeland in what is now Michigan (McClurken 1986:2). They were able to do so because they took a series of political actions that were designed to thwart removal. According to McClurken (1986:2), the Ottawa had two goals in the face of increasing American hegemony: 1) maintain access to natural resources and control the production from them, and 2) to find a way to incorporate their existing culture into the American market economy. RDT postulates this very scenario as a means of power and control, as well as stating that given environmental uncertainty, such as the increasing American hegemony, the Ottawa response would be to find ways to balance or thwart this power. As McClurken (1986) demonstrates, they succeeded quite well at this. By buying up land into private Ottawa ownership, and by creating their own market economy for supplying

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incoming American settlers, the Ottawa were able to generate strong economic relationships and

more political sway for each village. In fact, because of the decentralized nature of the Ottawa,

where individual villages dictated their own agendas, McClurken argues that this made it even

harder for the American government to retain power over them (McClurken 1986:3). Their

tactics to reduce dependency and to restructure the environment for their benefit worked and

allowed them to resist American attempts to relocate them.

There are other means in which groups may try and manage their dependencies. RDT

identifies several, including: groups actively attempting to reduce their dependencies, striving for

legitimacy, balancing demands and complying with control attempts, and creating and

maintaining networks of power. It is through these criteria that the power derived from the

economic exchange can become visible. To demonstrate this connection then requires examining

each of these independently. The following subsections will introduce the aspect of RDT being

examined, and what it means within that theoretical framework. Then, specific regional

examples for the groups discussed in the previous chapters will be applied.

Reducing Dependence
"The most direct method for controlling dependence is to control the source of that

dependence" (Pfeffer and Salancik 2003:143). Much as in the example provided above, the

Ottawa reduced their dependence by maintaining direct control over the natural resources that

they, and the Euro-American traders living in the area (and eventually the incoming American

settlers), needed to survive. They controlled a source of dependence. However, this type of direct

control is not always possible. Pfeffer and Salancik (2003:114) outline three different strategies

that groups may use to restructure the conditions of their interdependence: 1) vertical integration

(what the Ottawa did in the above example) which is extending organizational control over

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exchanges vital to its operation; 2) horizontal expansion (a method for attaining dominance to increase the organization's power in exchange relationships and to reduce uncertainty generated from competition, such as buying the competition); and 3) diversification.

Vertical integration has already been demonstrated. With regard to 2) horizontal expansion, in business, this is done through acquisition or merger of companies upon which one may be dependent for goods or services. Mergers are "a mechanism used by organizations to restructure their environmental interdependence in order to stabilize critical exchanges" (Pfeffer and Salancik 2003:115). These mergers do not necessarily have to be a takeover or acquisition of another group, they can be an interorganizational arrangement, such as an alliance (Drees and Heugens 2013:1666). In fact, alliances help control dependence by creating linkages between groups that can coordinate the interests of those various parties. These linkages allow for a way to manage mutual interdependence between groups (Pfeffer and Salancik 2003:143). For the Ottawa, this linkage already existed in the form of their kin and cultural connections to the other villages along the Grand River, and throughout Michigan. While each individual village acted independently based upon its residents' own needs, the larger network of Ottawa allowed the group additional power as needed. The more formalized presentation of the Ottawa as a larger group was generally only used in treaty negotiations, or other political meetings.

RDT provides several less formal mechanisms, however, for creating linkages that can be employed to coordinate the interests of the various parties (Pfeffer and Salancik 2003:143). Linkages offer several benefits, including 1) providing information about activities of that organization that may impinge on or affect the focal organization, 2) providing a channel for communicating information to another organization on which the focal organization depends, 3) the linkage and the exposure it provides is an important step in obtaining commitments of

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support from important elements of the environment, and 4) adding a certain value for legitimizing the focal organization; in short, "linkages help stabilize the organization's exchanges with its environment and reduce uncertainty" (Pfeffer and Salancik 2003:145). The creation of these linkages represents an attempt to stabilize the transactions of the organizations (Pfeffer and Salancik 2003:144).

There is evidence for two types of linkages in this research, one in the presence of kin networks and the other in the presence of Native alliances. Kin networks create linkages between both rival and friendly organizations that allow for a reduction in uncertainty by creating channels of communication and commitments of support. Native alliances created linkages between the wide variety of Native organizations present throughout the region, allowing for greater communication, support, and in some cases, legitimacy.

The prevalence of European men marrying in to Native kin networks through marriage to Native American women has been well documented. As Sleeper-Smith (2001:44) states, "without kin and allies, one could neither govern nor trade." Kin networks were critical to the successful implementation of trade. The cases of Marie Madeleine Reaume, who married French trader Louis Chevalier, or Kakima, who was married to William Burnett, or Anastasie, who married trader J. B. Cadotte demonstrate the utility of these networks for both sites (Sleeper-Smith 2001; Van Kirk 1983). "Burnett's success in this increasingly competitive market economy depended on his wife's kin network and her own skills as a trader" (Sleeper-Smith 2001:91). These kin networks allowed access to food, quality furs and other merchandise, and an added measure of security for the traders. "Native women allowed…Burnett to winter among the Potawatomi.and to be absent from their trading posts for prolonged periods of time" (Sleeper-Smith 2001:93). Native families, on the other hand, had access to trade goods and

political alliances. Even throughout the Hudson's Bay territory, where British policy formally denounced Native wives, Native kin networks created through the metis children produced from these unions still heavily influenced the practice of trade (Van Kirk 1983). In fact, these kin networks were so strong that they often overrode any political allegiance. For example, Kakima often exchanged furs for trade goods at all her kin's villages, regardless of their political allegiance (Sleeper-Smith 2001:90). While trade was a vehicle for gaining access to political power, social factors could continue to shape it in a manner more desirable to one side or the other.

Daniel de Marsac, who traded with the Grand River Ottawa, further demonstrates the power of these kin networks. He originally married into the Ottawa residing at Segwun, a village not far down the river from the Ada site presented on in chapter 5. This relationship provided him access to the village for trade. However, when he spurned his Ottawa wife in favor of a Euro-American wife, he lost access to trade with the residents at Segwun and was forced to look elsewhere for trade opportunities. The linkages created by these kin networks were important and could both provide access and remove it (Flanders 1973:49).

Another way linkages were created between groups was through the pan-Indian alliances that appeared during this time period. These are often represented as places where these alliances could manifest, such as the Glaize in Ohio, which became the headquarters for the Native American confederacy protesting the advancement of Americans (Hornbeck Tanner 2009:561), or represented as people, such as the pan-Indian alliance that was created around the Shawnee prophet, Tenskwatawa (White 1991: 502-510). The village that formed around the prophet and his brother, Tecumseh, at Prophetstown in central Indiana (not far from Fort Ouiatenon),

included Shawnee, Delaware, Miami, Potawatomi, and many other cultural affiliations (White 1991:510).

Another good example of the power of Native alliances during this period comes from Pontiac's Rebellion. After the resolution of the Seven Years' War, France ceded their lands in North America to the British with the Treaty of Paris (1763). French trade policy no longer dominated the region, and the British instead tried to enforce their own policy. This new policy was based on the factory system they had been using in northern Canada along Hudson's Bay, and no longer allowed traders to reside in Native American villages, but instead tried to force Native Americans to come to British factories to trade. British policy, and the expulsion of the French from the region, meant that Native American traders could no longer work the economic networks to their benefit as they had previously. Simply put, they could no longer ensure trade competition which allowed them to maximize the benefit from the exchange. This led to a massive alliance across eastern North America between Native American groups, to reduce the uncertainties surrounding the trade and restructure the power and economic relationships to be more in their favor. This came in the form of Pontiac's Rebellion. Spurred by British attempts to subordinate them, Native groups across eastern North America covertly banded together in a large-scale uprising. In the spring of 1763, all but three of the British forts in the region were captured by Native American forces. This would have been impossible without a large-scale alliance; it also worked to restructure the trade system back to one of diplomacy (Taylor 2010).

The third way in which dependencies may be restructured is through diversification. Pfeffer and Salancik (2003:109) note two specific ways of diminishing dependence in this manner: the development of substitutable exchanges and diversification of sources. The idea of substitutable exchanges is essentially redefining the exchange so that it is no longer critical to the

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organization's survival. This could include finding alternative sources, or even alternative goods, to replace those necessary for survival. Diversification of sources allowed easier access to these alternative goods. This diversification was possible due to the prevalence of numerous trade networks throughout eastern North America, as was discussed in chapter 2 (Hinderaker 1997). Networks spanning from Louisiana to Chicago (DuVal 1999), and from Illinois country to Albany allowed Native groups access to a large variety of goods, from both licensed traders as well as more illicit sources. Diversification of sources was only a problem when official policy (such as with the Treaty of Paris in 1763) cut off some of these routes. However, for each instance of official government policy trying to control trade goods and their dissemination, there is a contrary action by Native American groups to counteract it. By the late 1700s, these attempts to restructure policy in their favor had worked so well that it had shifted the power back into Native hands. The fact that Euro-American traders were forced to live in or near Native villages to successfully conduct trade is a sign that *the Native American groups held significant power over the exchange*. They could determine the location of the exchange; they could determine what was exchanged.

As Anderson (2009:392) has demonstrated in his analysis of the Montreal Merchant Records, Native Americans had access to a wide variety of goods. This is further demonstrated in the Fort Wayne Day books (Griswold 1927) and in the Hudson's Bay Company archives records, where account books are available for many of the British factories. Even after one has separated out the supplies from the trade items, a wide variety of cooking supplies, fabrics, hunting supplies, and items of adornment are present. In fact, for a one-month time span, 16 types of fabric are present as trade items in the Fort Wayne day book (Griswold 1927:415-420). Using fabric as the example demonstrates the variety of items available, and that Native traders

would have had the opportunity to be picky consumers. This variety also allowed for easier

diversification in resource procurement by Native peoples. Between the variety of goods

available, and the presence of numerous trade networks, Native groups had access to a variety of

economic avenues for exchange, as well as many different choices in what they consumed. This

ability to diversify, both in network opportunities and in goods, allowed Native groups to reduce

dependency on any one network/good, and thus provide more options for dictating power in the

relationships.

Reducing dependence in economic interactions allows one side or the other more power

in the relationship; power to dictate the terms of the exchange, including price, quantity, or

location. As the above examples help demonstrate, Native American groups were very good at

finding ways of reducing any dependencies Euro-American traders (or government entities) tried

to impose on them. Part of the reason they were able to maintain such power was because they

maintained their legitimacy as a group, despite governmental attempts to take it away.

Legitimacy of Organizations

"Because organizations are only components of a larger social system and depend upon

that system's support for their continued existence, organizational goals and activities must be

legitimate or of worth to that larger social system" (Pfeffer and Salancik 2003: 193 [emphasis

added]). One of the strategies the American government used to take power away from Native

American groups was to try and devalue or remove Native American legitimacy. This can be

seen in the governmental attempts to acculturate Native groups.

An important part of the management of the organization's environment is managing

their social legitimacy. Pfeffer and Salancik (2003:196) state that "while legitimacy is ultimately

conferred from outside the organization, the organization itself may take a number of steps to

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associate itself with valued social norms. For one thing, the organization may alter or design its actions so that they fit a concept of established legitimacy. That is, the organization may conform to social values…what typically occurs is that the organization attempts to have its operations redefined as legitimate by associating them with other generally accepted legitimate objectives, institutions, or individuals." When the Ottawa along the Grand River worked to create a new market economy and to buy up tribally occupied land to keep it in their hands, they were working to maintain their legitimacy in the face of a changing economic system.

When the American government was attempting to redefine or even eliminate the legitimacy of Native American groups, these groups actively worked to maintain legitimacy through a variety of means. Drees and Heugers (2013:1687) state that resource dependencies lead to the formation of interorganizational arrangements, which help to strengthen the focal organization's autonomy and legitimacy. Thus, Native alliances helped them to maintain their legitimacy in the face of the encroaching government.

Attempts at maintaining legitimacy are seen in several of the sites examined here. Pokagon's village, for example, reformulated its appearance to physically appear acculturated (or, what the United States government would call legitimate), but still maintained their beliefs. The Ottawa maintained their legitimacy by working the system to their advantage by purchasing land and being the 'good settlers'. The Miami, especially under Little Turtle, fought hard to maintain their legitimacy through treaty negotiations. The presence of these groups as modern-day tribes can speak to their levels of success in this process.

By reconfiguring their outward identities and strategies to appear compliant with the new American government, Native groups were able to maintain their legitimacy as organizations

within the economic system. They were also able to do this, however, by balancing demands being placed upon them into something that would benefit them.

Balancing Demands

As organizations strive to maintain power within the economic exchange by enforcing their will on its outcomes, many conflicting demands may arise. White provides an example of the stress these conflicting demands could cause in his discussion of the alliance between the British government and Native peoples: "the alliance had its uncomfortable demands. The ritual subordination to Onontio [British government] did not always come easily in a society that knew little of subordination. Onontio's children always remained prickly about their status; they accepted his as a father not as a master" (1991:193). This was a situation where Native groups and Euro-American traders had to work cautiously to balance the demands placed upon them from both sides.

Organizations may solve these problems of conflicting demands by attempting to balance the demands using different strategies. Several strategies may be used for balancing demands, but one is "to play one group off against another explicitly" (Pfeffer and Salancik 2003:96). This particular tactic has been noted previously, when the governor of Indiana lamented about the difficulties maintaining alliances with the Miami and Wea around Fort Ouiatenon:

> because the Ouiatanon are too close to the English of Carolina and exposed to their practices, and the latter spare neither solicitations nor presents to detach these savages from our interests and to attract them to their side…sending a captain, a subaltern, a sergeant, and ten soldiers among them to establish a post there to disrupt these practices and to keep them at peace with the Illinois (Krauskopf 1955:160).

As General Hamtramck noted in 1788, "if the Indians can not get their necessary supplys at this place they will go to the British merchants at the Meamie" (Thornbrough 1957:77). It was well known among the British, Americans, and French that Native American groups would shop around for the best goods and deals available.

The British system did not make it easy for the Native Americans to get what they needed from it, and they would readily turn towards the French if it was easier. George Croghan noted in 1765 that several Native American groups located along the Wabash River, and in Illinois, Chicago, Green Bay, Saginaw, and St. Joseph had applied to the British for traders to come to their villages. Croghan recognized the immediate issue, that if "it is not in the power of any Officer to permit Traders to go from Detroit or Michilimackinac, either English or French, I am of the opinion that Ind will be supplyed this year chiefly from the Ilinois, which is all French property & if Trading Posts are not established at proper Places in that Country soon the French will carry the best part of the Trade over the Mississippi" (Thwaites 1904:172).

It was not only the Native groups that flaunted the system; British and French traders both would often subvert the system to their own ends. White (1991:319) notes that George Croghan believed that British traders were providing the trade goods to the French traders that allowed them to continue trading, despite British regulations. British traders would often sell the furs they did acquire to trade through the French, as they could get a better deal for them. By "1767 both British and French traders openly flaunted the restrictions" (White 1991:319) and played the economic market in a way that best profited them.

In another instance of traders attempting to subvert the system, in a letter to General Hamtramck in 1789, John Edgar noted that "it is well known that the minds of the Indians are

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continually poisoned by the traders on the other side, who set off America in the most despicable light possible which as not a small influence with the Indians" (Thornbrough 1957:199). In some cases, balancing the demands of the relationship means complying with attempts by one party or the other to control the relationship. Within RDT, complying with control attempts is only done when it will not impede the organization's goals and will aid in its survival.

Complying with Control Attempts

Within RDT, complying with control attempts is a means of dealing with a situation, and in some cases giving up some power, within reason. Pfeffer and Salancik (2003:44) list ten conditions, under which organizations will comply with control attempts: 1) the main organization is aware of the demands; 2) the main organization obtains some resources from the social actor making the demands; 3) those resources are critical to the operation of the main organization; 4) the social actor controls allocation, access, or use of the resources and there are no alternative sources for the resource available; 5) the main organization has no control over resources critical to the social actor's operation and survival; 6) the actions or outputs of the main organization are visible and can be assessed by the social actor to judge whether the actions comply with the demands; 7) the main organization's satisfaction of the social actor's requests are not in conflict with the satisfaction of other demands from other aspects of the environment; 8) the main organization does not control the social actor's demands; 9) the main organization is capable of developing actions or outcomes that will satisfy these demands; 10) the organization desires to survive.

The more of the conditions that are met, the more and more likely it is that there will be external control over the main organization. Social actors can play a role and affect the conditions to exert control over other organizations. For example, Native American traders

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could choose to take sides and maintain alliances with their choices, preferring to "go without numerous articles rather than purchase of the 'Opposition'" (Johnston 1909:188).

In some cases, if an organization meets multiple of the conditions, it may be an indication of a high resource dependence quotient and therefore an unequal power relationship. While none of the Native American sites used here appear to meet this condition, there is historical evidence of governmental attempts to control the resources by making rules and regulations regarding the "possession, allocation, and use of the resources" and attempting to enforce those regulations (Pfeffer and Salancik 2003:48). For example, in 1814, the United States government released a Broadside entitled "Regulations for the Indian Department" (Mettez 1814).

This document detailed how trade at the American factories should occur. This broadside makes a clear delineation between goods owed due to annuities, presents, and trade to better control the allocation of these resources. Presents could only be granted by the governor, or, in his absence, an appointee. Only the Indian Agents could distribute these goods, and only to the person listed on the warrant for the presents. Presents were obtained from government approved stores, and the cost was reimbursed to the Indian Agent. Annuities were distributed as well by the Agents. In fact, the Agents were expected to provide several different services: procure information from Native Americans, to issue provisions to all who visit, ensure that every expedition is appropriately furnished, keep an eye out for those who may be giving false information to the Native Americans.

The broadside also includes guidelines for the duty of interpreters. They needed to always be ready to interpret, they needed to "endeavour to procure all the information in their power from any Indians who may arrive, & will report it to one of the Agents. They will ufe their exertions to prevent & to detect any felling of whifkey to Indians," they needed to provide

reports after every trip, and apparently also acted as spies, "the fecret infractions which interpreters receive, they will accurately obferve & will not communicate to others." Finally, the broadside details that the armorer employed by the governor should also repair the Native Americans' guns for them, to be paid from a separate account (Mettez 1814).

This brief example demonstrates how just one governmental entity within this study region attempted to regulate the resources, and thus gain more power over the economic transactions. In many cases, Native groups were able to work around or thwart these regulations.

RDT and Networks of Power

Given this theoretical framework, the southern Great Lakes during the period from 1760-1830 can perhaps best be described as overlain with complicated and overlapping networks of power. The trade networks that permeated eastern North America were an adaptive strategy that leveraged Native groups political power (Johnson 1995). Indeed, these groups already saw themselves with power. In a letter to General Hamtramck, John Edgar noted in 1789 that it was "in vain to expect an obedience to any regulation however salutary, in a place where every one thinks himself master & where there is not the least degree of subordination" (Thornbrough 1957:198). RDT, with its focus on transactional interdependence can allow for a new look at these trade networks and notions of dependency and power.

When it was needed, Native groups could work within these larger power systems. "When dependence is not capable of being managed by negotiating stable structures of interorganizational action, organizations use yet one other class of strategies. Faced with otherwise unmanageable interdependence, organizations seek to use the *greater power of the larger social system and its government* to eliminate the difficulties or provide for their needs.

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The organization, through political mechanisms, attempts to create for itself an environment that is better for its interests" (Pfeffer and Salancik 2003:189, emphasis added).

The political relationships that develop among major suppliers/customers as a result of the economic interactions enable them to achieve greater economic ends, reduce dependencies, and reduce uncertainties. Groups can then use these political relationships to alter the conditions of their environment to be more in their favor (Pfeffer and Salancik 2003:190). Organizations are constrained by economic, social, political, and legal environments, so they will work to eliminate or frame these constraints to their benefit. "Political outcomes reflect, in part, actions taken by organizations in their interests of survival, growth, and enhancement" (Pfeffer and Salancik 2003:190).

If groups cannot reduce interdependence through manipulating factors within the transactional relationship, they may work to disrupt forces in this environment that may disrupt the larger power schemes within which the economic relationship resides. James Scott has noted similar behaviors ethnographically, which he calls everyday forms of resistance. These "ordinary weapons" (Scott 1985:29) include foot dragging regarding decision making, desertion, false compliance, feigned ignorance, slander, arson, or even sabotage. These weapons make use of implicit understandings and informal networks.

As an example, in 1796, just after the Treaty of Greenville, Winthrop Sargent, an American that had just been appointed as Secretary of the Northwest Territory, gave a speech to the Ottawas and Chippewas in Michigan. He made it clear to the Ottawa that the British are no longer in possession of their forts, that they are American territory now (Sargent 1796). The United States went so far as to try and reward Native Americans for turning in those who would poison them against the United States,

He has further authorized you to pay to any of his good and faithful Indians for every such Emissary and his talk and papers which they may seize and bring to any posts one rifle, two pounds of powder, a proportion of lead. Fifty dollars beside a Medal which the President will send to the Indian performing such service to be kept by him as a Testimony of his fidelity to the United States (Burbeck 1797).

There are many historical examples of Native American groups performing these forms of resistance as well. In fact, Pontiac's Rebellion is a major historical example of this. As noted above, the Native alliance that was created had the goal of altering the external environment in which trade was conducted. This example especially helps demonstrate how groups manipulated the external environments for their benefits, which was necessary because of the more balanced power relationships between groups. However, this was an active process that was constantly being redefined as groups reacted to one another and worked together in a situation of mutual dependence.

If we return to the original hypothesis, that Native American groups were not dependent upon Euro-American trade goods but instead used them to create a situation of mutual dependence, which allowed them greater power in political alliances, the multiple lines of evidence provided above should demonstrate that this was in fact the case in this region during this period. The formulae for RDT demonstrate that overall, there was not a strong degree of power imbalance between Native organizations and Euro-American traders, but rather a high degree of mutual dependence. It should also be noted, however, that this degree of mutual dependence varied by site. Each group had their own relationships of varying strengths. By examining some of the facets of RDT, and how the historical record supports them, additional evidence is provided to support not only this hypothesis, but the premise that RDT can be a useful theoretical framework for examining trade interactions during this period.

Relationships between Native groups

Additionally, RDT allows testing of the relationships between various Native groups as well. In these instances, direct trade with Euro-American traders may not have always been an option. European goods would have been introduced into the various groups through down-the-line trade. Thus, if Native groups were trading with one another, trade relationships between various groups should demonstrate active down-the-line trade; this may be further indicated by a degree of mutual dependence between villages.

Given the sample used for this research, only a few of the sites could be used to test relationships between Native villages. Given the nature of the assemblages, it was difficult to determine what may have been a trade item or not. Archaeologists tend to see items such as finished lithics and ceramics as only used by the group that created them (though raw material would have been freely traded), so these were considered not trade items. The results of this analysis are shown in Table 17 below.

Sites being compared	P + S	Total P + S	Power Imbalance	Mutual Dependence
Wea Village to Kethtippecanunk	1.783	1.753		
Kethtippecanunk to Wea Village	1.139	1.138	0.645	2.922
Richardville to Ehler	1.585	1.568		
Ehler to Richardville	1.601	1.576	0.016	3.186
Pokagon's Village to Benack's Village	1.938	1.911		
Benack's Village to Pokagon's Village	1.938	1.063	0.848	2.974

Table 17: Trade Relationships Between Native Villages

This table (Table 17) presents relationships between three pairs of Native American village sites: Wea Village and Kethtippecanunk, Richardville and Ehler, and Pokagon's Village and Benack's Village. Of these, the lowest degree of power imbalance and highest degree of mutual dependence was found to be between the Richardville site and Ehler site. These two villages were close to one another geographically which may be represented here by having a good economic relationship. This is surprising given the inventories, where only 13 categories were present for both. However, a large portion of the artifact assemblages are represented here,

in particular by faunal and food remains. Given the discussion in chapter 7, the Miami living at these villages may have spent a good portion of their time active in the procurement of game for trade. These high numbers may represent the two groups actively trading some of this game in exchange for some of the items that the residents at Richardville may have had an easier time procuring, given the status of Richardville himself.

The relationship between the Wea Village and Kethtippecanunk shows a little power imbalance, but a fairly high degree of mutual dependence. The power imbalance value may reflect differential choices in what the residents of each village materially wanted. Again, given the geographic proximity between the villages, a relationship of some sort between the two is not unlikely. While difficult to perceive from this particular analysis, it is possible that some of the items present at the sites, rather than originating from Fort Ouiatenon or another trader, were procured from an outside source by one village or the other and traded between the two groups.

Of the three pairs examined, Pokagon's Village and Benack's Village had the highest value for power imbalance, but a value for mutual dependence in between the values for the other pairs. Overall, there were very few artifact categories in common to both sites; however, the small assemblage size for Benack's village may be altering the results. The power imbalance value suggests that there is a difference in what each village had to offer, but the mutual dependence value suggests that they still maintained good relationships of sorts.

Unfortunately, it is difficult to say that these results suggest the presence of down-the-line trade between these Native villages. They do suggest there may be a relationship, but this particular type of analysis, on its own, does not lend itself well to this particular hypothesis. It may be likely that down-the-line trade occurred, but it will have to be detected using a different method.

Differences by cultural affiliation and in political alliances visible in the physical objects

The final hypothesis stated that the power relations and the economic resources Native American groups were reliant on varied by village, were historically contingent, and that this is observable in the types of goods they decided to trade. As such, there should be visible differences in the relationships between specific Native villages and specific traders, as each group would have had a different role in the power relations, and the choices they made regarding trade and exchange.

The data presented in the prior chapters were tested for significance against cultural affiliation using program UCINET, software specifically developed for social network analysis (Borgatti et al 2002). This particular program was created by individuals cognizant of the fact that many of the assumptions (such as random, independent observations) of normal statistics are violated by social network data.   A node-level regression test was performed on the data to determine if there was a significant relationship between the economic values and cultural affiliation. This test performs a standard multiple regression of the dependent vector (the economic value or coefficient) on an independent vector (cultural affiliation), then uses random permutations done hundreds of times of the dependent vector and recomputes the regression to estimate the standard error, all while retaining the relationship between the actors in the matrix (Borgatti, Everett, and Freeman 2002). Basically, it will preserve the relationships between two organizations and the directionality of the economic value but remove cultural affiliation as a variable. By creating several permutations of the data, it can be determined if there is a correlation between cultural affiliation and the dependence coefficients.

To test whether cultural affiliation was a factor in these relationships, the economic value was made into square matrix in Microsoft Excel. A cultural affiliation matrix was also created in Excel in a format that would work with how UCINET performs the regression; each cultural

affiliation coded in binary form for presence/absence. As only two categories can be coded this way, all other values will fall under the intercept category in the final results. These square matrices captured information about the relationships between different actors in the network (see Appendix C for the final matrices). These matrices were then imported into UCINET, which allows for running various statistical tests on social network data (Borgatti, Everett, and Freeman 2002). The dependent variable matrix (economic coefficient) was tested against cultural affiliation using the node-level regression test in UCINET. This test determined that cultural affiliation was *not* a significant variable in these interactions. Cultural affiliation only accounted for approximately 9% of the variance within the dataset suggesting cultural affiliation does not provide a good model for explaining differences in economic coefficients from a regional perspective (see Appendix D for the printed results of the test). Within that 9% variance, however, the Ottawa tended to have significantly higher values (statistically significant), and the Potawatomi and Miami lower values, though only the Potawatomi coefficients were statistically significant.

Overall, cultural affiliation does not appear to be a critical factor in economic decision making, though it may have influenced some decisions. This may be the result of the high degree of autonomy each of the Native villages displayed during this period. Rather than abiding by a larger cultural norm, these groups instead made economic decisions that were the best choice for their village and their survival. This may also be a factor of small sample sizes. While overall there were 40 interactions that were tested, of these, only 6 were Ottawa (two trade organizations and one Native village) which would not provide a diverse sample to test.

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Limitations of RDT

   While RDT provides a useful framework for examining power differences across organizations, it has limitations in that its assumption about organizational behavior and structures is shaped primarily by materialistic forces (Johnson 1995). These material transactions form the basis for this particular theoretical perspective. However, as Drees and Heugens (2013:1666) have pointed out, this focus on the materiality of the transactions does not limit it to only examining economic performance as the motive for the transaction. RDT can also explain organizational actions that have societal acceptance rather than economic performance as an ulterior motive.

   While the material focus of RDT does make it a useful framework for examining the materiality of the trade that occurred across eastern North America, there are some downsides to consider. As it is only examining the materiality of trade, this particular framework ignores some other factors. While it does take into account political actions and kinship networks, as well as the influence of individual social actors, it cannot take into account all of the intricacies of interactions between groups, especially those that may be religious, ritual, or cultural in nature.

   As noted above, RDT provided more challenges when examining the relationship between various Native American groups. These relationships were not necessarily strictly economic and relying strictly on archaeological data made it difficult to determine the exact nature of the relationship using RDT.

   However, as has been demonstrated, RDT does allow for rethinking the nature of the economic transactions that occurred between Euro-American traders and Native Americans. In particular, it provides a numerical determination for what Richard White referred to as the 'Middle Ground.' This middle ground, as White describes it, is a situation of mutual accommodation where neither side has the power to completely dictate the terms of the

relationship. In this situation of mutual dependence and low power imbalance, both groups actively work to alter the situation to their benefit, just as described for RDT. Given its more analytical nature, RDT may also prove useful for examining Native/European interactions in other contexts where the power dynamic may have been more imbalanced, such as Kathleen DuVal's concept of 'native ground' in Louisiana. As such, RDT could allow for a more empirical documentation of economic/trade situations as well as a better means of identifying the political dynamics within them.

From a broader perspective, RDT has allowed for a rethinking of economic relationships between Euro-American groups and Native Americans. By focusing on a larger scale, the applicability of RDT to this scenario is clearly visible. Using this framework, it has been determined that Native American groups maintained varying degrees of mutual dependence on various suppliers, but often with very little power imbalance. This research also suggests that cultural affiliation is not a critical factor in these relationships. While relationships between Native American groups were also examined, this was much more difficult to ascertain using RDT. Overall, RDT can provide an analytical perspective to White's historical account of the middle ground. It may also prove useful in examinations of other types of power dynamics, such as Kathleen DuVal's concept of the 'native ground.' RDT has provided a useful framework for this research, but more work needs to be done to test it in alternate situations.

Chapter 9: Conclusion

In the southern Great Lakes region, the trade and exchange that developed between Native Americans and Euro-Americans quickly evolved into a middle ground of political and economic negotiation. This has been noted and reaffirmed previously by historians starting with Richard White in 1991, even up to present with Susan Sleeper-Smith's (2018) work on the Ohio River Valley trade. The mechanism for *why* this occurred this way, in this region, as opposed to some other form (such as Kathleen DuVal's native ground concept) has eluded clear articulation. The negotiation of power through economic means has been noted, but with little theoretical discussion as to *why*. This dissertation research brings this into focus, by demonstrating the utility of resource dependency theory for articulating the mechanisms behind these power dynamics. This framework, and the methods it provides, has demonstrated how this power struggle took place, with the utility of being able to identify other types of power dynamics as the result of economic exchange.

The research questions posed here revolved around the nature of the political alliances created and maintained by the Ottawa, Potawatomi, and Miami of the southern Great Lakes region from approximately 1760-1830. It was presumed that the basis for these political alliances was economic in nature; the choices that these groups were making economically were echoed in their political alignments. Using this as the baseline, the notion of 'dependence' on Euro-American trade goods could be tested by examining the artifactual remains present in both Native American and European assemblages. RDT provided a unique set of methods for examining this, including a formulation for mutual dependence, which could provide a numerical value for the degree of mutual dependence between two organizations. Related to this, RDT provides a measure for power imbalance, to determine if the relationship between two entities

was more balanced (such as the case with White's middle ground) or imbalanced, which would suggest a high degree of dependence on that source of economic goods. The hypothesis, if Richard White's observations based on the historical narratives was accurate, was that all of these Native groups would exhibit more mutual dependence with very low power imbalance, indicative of the power struggle that was occurring during this time. If Native groups were dependent on a given Euro-American source for their survival, there would instead be a high degree of power imbalance and a lower value for mutual dependence. Further hypotheses focused on the relationships between Native groups, as well as the independent nature of Native villages during this time period.

As has been demonstrated in the preceding chapters, the Native villages examined for this time displayed varying degrees of mutual dependence with various traders throughout the region, but overall, very low power imbalance. This would seem to support White's premise of the region as a middle ground, where the economic relationships that were formed and maintained allowed Native groups considerable political power to dictate the terms of their relationships with Europeans. The relationships between some of the Native villages were also tested, also demonstrating some degree of mutual dependence, and low power imbalance. This data would suggest a degree of mutually beneficial reciprocity within this region during this time. A further analysis of these relationships from the perspective of RDT demonstrated that many of the hallmarks expected of an organization in an economic-political power struggle with others were present, including organizations seeking ways to change how they may be reliant on the sources of trade goods, outsourcing, managing their legitimacy as an organization, and creating, maintaining, and altering the networks of power.

The final hypothesis focused on the unique place of the village as an autonomous unit during this time, by suggesting that there would be visible differences, by cultural affiliation, in the types of economic and political alliances that were formed. Somewhat surprisingly, cultural affiliation was *not* found to be a critical factor in economic decisions. The individual village, and the actors within it, seems to be the crucial variable. The dependence and power imbalance values for each individual village were unique; while some were similar to others, this uniqueness appears to be related to the individual strategies each village took to negotiate the economic relationships to their benefit. Pokagon's village, for example, took an approach of appearing to be acculturated materially. The Ehler site, a Miami village, appears to have focused more on resource acquisition and extraction to maintain their economic position. The residents at Ada, an Ottawa village, had yet another strategy. They participated in the settler economy and the trade, but did so by acquiring and managing the resources themselves, so that incoming settlers were forced to trade with them to survive. The autonomous nature of the Native American villages, and the results obtained here, demonstrate that they were making their own decisions regarding strategies for negotiating the complex economic and political relationships present during this time.

From a larger perspective, this should demonstrate how fluid and complicated these relationships actually were, as well as how little we actually know about the specific relationships that were cultivated between Native Americans and the trade agents that visited them. This research has hopefully exemplified that, even though only very specific items were ever requested from traders (generally cloth and clothing related items, metal knives, or gun parts), these economic choices had a much broader impact. Even the decision to trade for items that could literally be obtained from any trader present had resounding political implications. The

strategies Native American groups used, whether it was repeated claims of starvation even though food stuffs are not generally found in trade inventories (B. White 2009), the acceptance of free food and services from trade posts and factories (British policy was to have an armorer/blacksmith for gun and knife repair for Native Americans, as well as free rations for during their visit) in an effort to appear conciliatory towards the political powers, or some other means, the result was a complex negotiation of power dynamics. RDT allows for a more thorough examination of this, as well as providing the *why*: these economic negotiations were, in fact, proxies for the political negotiations. Native American groups, as the agents for procuring resources for the French, British, and later Americans, used this economic platform as their means of dictating their political power when other avenues were not open to them.

The economic situation that the colonial powers set up in North America, one of resource extraction and acquisition from the interior through Native agents, relied heavily on the existing exchange networks between Native groups. As the European demand for resources shifted, so too did the exchange networks, resulting in not only the maintenance of prehistoric networks, but the creation and proliferation of new networks that spanned all eastern North America. By the mid to late eighteenth century, trade networks and access to various trade goods was so prolific that Native American groups could not be reliant on any one network or source. While they clearly had multiple sources for goods, including the good will donations from missionaries and religious groups, annuity payments from the various treaties, and actual trade and exchange, they made economic choices to create relationships with specific entities, in specific manners, to allow for manipulation of the political situation in their favor.

What we can glean from the evidence is just how little we do know about what was taking place in any given village during this period, or with any given trader. Apart from those

histories that focus on the lives of specific traders, following them throughout their careers (for example, Keating 2012), little is known about the actual dynamics of trade during this period between individual entities. While the body of literature on the topic is growing, there is a tendency to focus on regional trade. This research has indicated that even focusing on regional trade could leave out critical details regarding the economic choices of specific, autonomous villages, and their unique strategies for dictating the terms of their economic relationships to provide them political power to achieve their ends.

This research has demonstrated that with the plethora of traders with which the Native Americans could trade, Native allegiance in many situations was as fluid as the situation called for to get what they needed. Native Americans actively played on the European notion that they were uncivilized savages that needed help. This tool, from an RDT standpoint, was a critical means of changing the external environment of the trade to shift the power back into their favor. This approach was a double-edged sword. While it worked well enough when various European powers were fighting over North America and the political contest was easier to disrupt, when it came down to strictly U.S. policy, the policies were developed around this same notion: that Native Americans were uncivilized savages (removing their legitimacy), and thus the United States was justified in removing them to make way for 'civilization' (or legitimate organizations). As soon as the political power struggle for eastern North America ended with the acquisition of the Louisiana territory in 1803 by the United States, and then the complete withdrawal of British troops after the War of 1812, Native American groups were left with fewer and fewer options. They were no longer a necessary piece of the economic system, which meant that they no longer had this system as a means of swaying the political situation into their favor. An actual end date can be debated, and certainly was different for each group and region, but the

end of the political contest signaled the end of fur trade as the mechanism for Native American groups to dictate their political future, and the start of a new era of Native American/American political negotiation.

APPENDICES

Accessories/Personal	Beads-European	Beads - Shell/fossil	Cloth	Fishing	Food	Furnishings for house and furniture
Buckle	Glass	Shell beads	Shawls	Fish hooks	Faunal remains	Tacks
Coins	Clay	Fossil beads	Pants	Iron harpoon	Floral remains	Hooks
Jewelry (excluding silver)			Shirts	cod line	Nuts	Hinges
Shoes and shoe parts			Cloth of various types	fishing line	Shells	metal staple
Cords			Hat		Salt	metal strip
Brass brooch			Coat		Sugar	wire hook
Rivet			Blankets		Tea	
Rivet and burr					Flour	
Pins (not straight pins)						
Ribbons						
Hair ribbons						
Thread						
Handkerchief						

Gun parts	Kettle	Lead	Silver	Tools & Equipment	Transportation	Utensils & Kitchenware
part to hold gunflint	Copper and Iron	lead shot	silver hoop/hook	Metal spikes	Horse shoes	Forks
mainsprings	Bail ears	musket balls	earrings	Awls	Sleigh bells	Spoons
gun cocks	mend patches body and rim sections	lead scrap	arm bands	File	wagon parts	Food knives (excluding pocket knives)
frizzen		bullets	hair bands	shovel	bridle/saddle parts	pewter dishes
lock plate bolt	shavings cut/torn pieces	lead chunk	wrist bands	pick	horse bit	coffee pots
patch box cover		lead slug	rings	bucket	stirrup tread harness	fork tine
trigger	scrap	lead balls	brooches	chisel	buckle	fork handle
sear spring		Bullet mold		bellows	saddle tacks	knife with bone handle
butt plate				anvil	Spurs	tea spoons
breech plug				vise	Surcingle	Basin
pan				tongs		soup spoons
wedge key				hammer		
musket stock tack				auger		

Artifact/Artifact types	Rix Robinson Post	De Marsac Post
Ceramics (Native made)	7	387
Lithics	43	56
Ax	1	0
French gunflint	0	3
Gun parts	0	2
Hawk bell	0	1
Jaw Harp	0	1
Kettle pieces	0	9
Marbles	1	0
Silver	0	1
Thimble	1	0
Tinkling cones	4	0
Utensils	0	5
Accessories	2	4
Bottle glass	881	435
British gunflint	1	1
Buttons	5	17
Clay pipes	37	154
Euro_ceramics	1657	95
Faunal remains/Food	393	2969
Furnishings	6	4
Glass beads	1	5
Lead	1	5
Pocket Knife	1	4
Ring	1	1
Tools	3	3
Unidentified metal	59	76
TOTALS	3105	4238
Total Trade	3055	3795
Could Have Traded	3048	3773

Table 18: Rix Robinson Compared to De Marsac

Key	
Trade Item	
Shared trade item	

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Artifact/Artifact types	Ada Village	De Marsac Post
Ceramics (Native made)	868	387
Gaming piece (bone)	3	0
Lithics	1464	56
Shell beads	8	0
Ax	8	0
Combs	1	0
Fishing	4	0
French gunflint	0	3
Gun parts	0	2
Jaw Harp	0	1
Marbles	2	0
Mirror glass	1	0
Religious medal	1	0
Strike-a-lite	10	0
Thimble	6	0
Transportation	1	0
Accessories	23	4
Bottle glass	254	435
British gunflint	55	1
Buttons	29	17
Clay pipes	286	154
Euro_ceramics	253	95
Faunal remains/Food	271	2969
Furnishings	2	4
Glass beads	2182	5
Hawk bell	1	1
Kettle pieces	46	9
Lead	10	5
Pocket Knife	26	4
Ring	3	1
Silver	147	1
Tools	14	3
Unidentified metal	318	76
Utensils	35	5
TOTALS	6332	4238
Total Trade	3989	3795
Could Have Traded	3955	3789

Table 19: Ada Village Compared to De Marsac Post

Artifact/Artifact types	Ada Village	Rix Robinson Post
Ceramics (Native made)	868	7
Copper hair pipe	4	0
Gaming piece (bone)	3	0
Shell beads	8	0
Lithics	1465	43
Combs	1	0
Fishing	4	0
Hawk bell	1	0
Kettle pieces	46	0
Mirror glass	1	0
Peace medal	1	0
Silver	131	0
Strike-a-lite	10	0
Tinkling cones	0	4
Transportation	1	0
Utensils	35	0
Accessories	43	2
Ax	8	1
Bottle glass	254	881
British gunflint	55	1
Buttons	29	5
Clay pipes	286	37
Euro_ceramics	253	1657
Faunal remains/Food	271	393
Furnishings	2	6
Glass beads	2182	1
Lead	10	1
Marbles	2	1
Pocket Knife	26	1
Ring	3	1
Thimble	6	1
Tools	14	3
Unidentified metal	318	59
TOTALS	6341	3105
Total Trade	3993	3055
Could Have Traded	3762	3051

Table 20: Ada Village Compared to Robinson Post

Artifact/Artifact types	William Burnett	20BE13
Ceramics - Native	0	5
Lithics	0	183
Native made gunflint	0	1
Other modified bone	0	1
Shell beads	0	1
Stone pipes	0	2
Ax	5	0
Beads - Glass	0	14
Clay pipe	0	151
Cloth	420	0
Combs	44	0
Fishing	5	0
French gunflint	0	5
Gun parts	17	0
Needles	124	0
Pocket Knife	323	0
Religious medal	0	1
Ring	24	0
Scissors	15	0
Soap	24	0
Thimble	192	0
Tobacco	21	0
Transportation	36	0
Unidentified metal	0	107
Utensils	144	0
Vermillion	2	0
Accessories	336	1
Bottle glass	66	349
British gunflint	1400	3
Buttons	432	4
Euro_ceramics	6	2949
Faunal remains/Food	46	2797
Furnishings	100	4
Kettle pieces	48	15
Lead	387538	5
Looking glass	16	3
Silver	7546	5
Tools	202	2
Writing	9	41
TOTALS	399141	6649
Total Trade	399141	6456
Could Have Traded	397745	6178

Table 21: William Burnett Compared to Pokagon's Village

Artifact/Artifact types	Fort Wayne	20BE13
Beads - Shell	0	1
Ceramics - Native	0	5
Lithics	0	183
Modified bone	0	1
Native materials gunflint	0	1
Stone pipe	0	2
Ax	250	0
Beads - Glass	0	14
Buttons	0	4
Cloth	11591	0
French gunflint	0	5
Hawk bell	372	0
Jaw harp	576	0
Looking glass	0	3
Needles	24	0
Padlocks	60	0
Playing cards	48	0
Pocket Knife	135	0
Religious medal	0	1
Scissors	36	0
Soap	375	0
Tobacco	3	0
Transportation	768	0
Traps	6	0
Trunks	24	0
Utensils	560	0
Writing	0	41
Accessories	515	1
Bottle glass	554	349
British gunflint	6000	3
Clay pipe	432	151
Euro_ceramics	1086	2949
Faunal remains/Food	23	2797
Furnishings	33	4
Gun parts	257	0
Kettle pieces	4014	15
Lead	1077281	5
Silver	1674	5
Tools	1000	2
Unidentified metal	8	107
TOTALS	1107705	6649
Total Trade	1107705	6456
Could Have Traded	1092877	6388

Table 22: Fort Wayne Compared to Pokagon's Village

Artifact/Artifact types	12MR231	12WA59
Ceramics - Native	56	0
Lithics	700	0
Accessories	0	43
Beads - glass	0	250
British gunflint	0	3
Buttons	0	64
Clay pipe	0	80
Combs	0	3
Eye glasses	0	2
Faunal remains/Food	20	0
French gunflint	0	1
Kettle pieces	0	42
Lead	0	1718
Looking glass	0	11
Percussion caps	0	10
Ring	0	2
Silver	0	28
Straight pins	0	76
Tinkling Cone	0	5
Transportation	0	13
Utensils	0	15
Writing	0	11
Bottle glass	7	1171
Euro_ceramics	20	4933
Furnishings	1	7
Gun parts	2	3
Tools	2	11
Unidentified metal	36	338
TOTALS	844	8840
Total Trade	88	8840
Could Have Traded	68	6463

Table 23: Benack's Village Compared to Cicott's Post

Artifact/Artifact types	Fort Wayne	12HU1022
Ceramics - Native	0	4
Lithics	0	2019
Ax	250	0
Beads - Glass	0	22
Burning glass	0	5
Cloth	11591	0
Copper shapes	0	3
French gunflint	0	5
Gun parts	257	0
Needles	24	0
Padlocks	60	0
Playing cards	48	0
Pocket Knife	135	0
Ring	0	1
Scissors	36	0
Soap	375	0
Straight pins	0	2
Tin	0	57
Tinkling Cones	0	10
Tobacco	3	0
Traps	6	0
Trunks	24	0
Accessories	515	2
Bottle glass	554	50
British gunflint	6000	31
Clay pipe	432	12
Euro_ceramics	1086	15
Faunal remains/Food	23	3067
Furnishings	33	1
Hawk bell	372	1
Jaw harp	576	2
Kettle pieces	4014	1
Lead	1077281	33
Silver	1674	17
Tools	1000	3
Transportation	768	1
Unidentified metal	8	81
Utensils	560	3
TOTALS	1107705	5448
Total Trade	1107705	3425
Could Have Traded	1094896	3320

Table 24: Fort Wayne Compared to Ehler

Artifact/Artifact types	Fort Wayne	12MR231
Ceramics - Native	0	56
Lithics	0	700
Accessories	515	0
Ax	250	0
British gunflint	6000	0
Buttons	0	0
Clay pipe	432	0
Cloth	11591	0
Combs	0	0
Fishing	0	0
Hawk bell	372	0
Jaw harp	576	0
Kettle pieces	4014	0
Lead	1077281	0
Looking glass	0	0
Needles	24	0
Needles	0	0
Padlocks	60	0
Playing cards	48	0
Pocket Knife	135	0
Ring	0	0
Scissors	36	0
Silver	1674	0
Soap	375	0
Soap	0	0
Thimble	0	0
Tobacco	3	0
Transportation	768	0
Traps	6	0
Trunks	24	0
Utensils	560	0
Vermillion	0	0
Writing	0	0
Bottle glass	554	7
Euro_ceramics	1086	20
Faunal remains/Food	23	20
Furnishings	33	1
Gun parts	257	2
Tools	1000	2
Unidentified metal	8	36
TOTALS	1107705	844
Total Trade	1107705	88
Could Have Traded	2961	88

Table 25: Fort Wayne Compared to Benack's Village

Artifact/Artifact types	William Burnett	12MR231
Ceramics - Native	0	56
Copper Hair Tubes	0	0
Lithics	0	700
Native made gunflint	0	0
Other modified bone	0	0
Shell beads	0	0
Stone pipes	0	0
Accessories	336	0
Ax	5	0
British gunflint	1400	0
Buttons	432	0
Cloth	420	0
Combs	44	0
Fishing	5	0
Kettle pieces	48	0
Lead	387538	0
Pocket Knife	323	0
Ring	24	0
Scissors	15	0
Silver	7546	0
Thimble	192	0
Looking glass	16	0
Needles	124	0
Soap	24	0
Tobacco	21	0
Transportation	36	0
Unidentified metal	0	36
Utensils	144	0
Vermillion	2	0
Writing	9	0
Bottle glass	66	7
Euro_ceramics	6	20
Faunal remains/Food	46	20
Furnishings	100	1
Gun parts	17	2
Tools	202	2
TOTALS	399141	844
Total Trade	399141	88
Could Have Traded	437	52

Table 26: William Burnett Compared to Benack's Village

Artifact/Artifact types	William Burnett	Windrose Site
Copper Hair Tubes	0	1
Lithics	0	1347
Native made gunflint	0	1
Other modified bone	0	11
Shell beads	0	6
Stone pipes	0	19
Clay pipes	0	53
Cloth	420	0
Combs	44	0
French gunflint	0	3
Furnishings	100	0
Glass beads	0	30
Hawk bell	0	1
Iron point	0	1
Looking glass	16	0
Needles	124	0
Soap	24	0
Strike-a-lite	0	3
Tinkling cones	0	3
Tobacco	21	0
Traps	0	3
Unidentified metal	0	21
Utensils	144	5
Vermillion	2	0
Writing	9	0
Accessories	336	5
Ax	5	2
Bottle glass	66	33
British gunflint	1400	18
Buttons	432	1
Euro_ceramics	6	17
Faunal remains/Food	46	8147
Fishing	5	8
Gun parts	17	18
Kettle pieces	48	207
Lead	387538	63
Pocket Knife	323	2
Ring	24	2
Scissors	15	1
Silver	7546	54
Thimble	192	1
Tools	202	3
Transportation	36	7
TOTALS	399141	10097
Total Trade	399141	8712
Could Have Traded	398237	8589

Table 27: William Burnett Compared to Windrose Site

Artifact/Artifact types	William Burnett	12T6
Ceramics - Native	0	340
Lithics	0	219
Modified bone	0	7
Stone pipes	0	127
Beads - Glass	0	94
Clay pipe	0	33
Cloth	420	0
Copper Scrap	0	19
Fishing	5	0
French gunflint	0	2
Hawk bell	0	3
Iron point	0	30
Jaw harp	0	10
Lead seal	0	3
Looking glass	16	0
Needles	124	0
Soap	24	0
Sword part	0	1
Tinkling Cones	0	35
Tobacco	21	0
Unidentified metal	0	59
Vermillion	2	0
Writing	9	0
Accessories	336	50
Ax	5	2
Bottle glass	66	230
British gunflint	1400	140
Buttons	432	15
Combs	44	1
Euro_ceramics	6	27
Faunal remains/Food	46	81
Furnishings	100	106
Gun parts	17	76
Kettle pieces	48	288
Lead	387538	421
Pocket Knife	323	1
Ring	24	6
Scissors	15	4
Silver	7546	77
Thimble	192	3
Tools	202	52
Transportation	36	12
Utensils	144	70
TOTALS	399141	2644
Total Trade	399141	1951
Could Have Traded	398520	1662

Table 28: William Burnett Compared to Wea Village

221

Artifact/Artifact types	William Burnett	12T59
Catlinite	0	1
Ceramics - Native	0	1198
Lithics	0	11218
Stone pipes	0	4
Beads - Glass	0	31
Burning glass	0	1
Clay pipe	0	40
Cloth	420	0
Combs	44	0
Copper shapes	0	8
Fishing	5	0
Looking glass	16	0
Needles	124	0
Pocket Knife	323	0
Scissors	15	0
Soap	24	0
Sword part	0	1
Tin	0	3
Tinkling Cones	0	9
Tobacco	21	0
Unidentified metal	0	197
Vermillion	2	0
Writing	9	0
Accessories	336	9
Ax	5	1
Bottle glass	66	401
British gunflint	1400	8
Buttons	432	2
Euro_ceramics	6	271
Faunal remains/Food	46	1000
Furnishings	100	445
Gun parts	17	6
Kettle pieces	48	164
Lead	387538	32
Ring	24	2
Silver	7546	10
Thimble	192	1
Tools	202	7
Transportation	36	11
Utensils	144	4
TOTALS	399141	15085
Total Trade	399141	2664
Could Have Traded	398138	2374

Table 29: William Burnett Compared to Kethtippecanunk

Artifact/Artifact	12T59	12T9
Catlinite	1	0
Ceramics - Native	1198	197
Lithics	11218	335
Modified bone	0	56
Stone pipes	4	200
Burning glass	1	0
Cloth	0	4
Combs	0	6
Fishing	0	18
French gunflint	0	3
Hawk bell	0	50
Iron point	0	49
Jaw harp	0	27
Lead seal	0	64
Looking glass	0	1
Needles	0	128
Pocket Knife	0	1
Religious	0	41
Scissors	0	12
Straight pins	0	801
Strike-a-light	0	12
Writing	0	3
Accessories	9	128
Ax	1	18
Beads - Glass	31	12666
Bottle glass	401	4742
British gunflint	8	950
Buttons	2	99
Clay pipe	40	3093
Copper shapes	8	44
Euro_ceramics	271	2001
Faunal remains/Food	1000	70
Furnishings	445	153
Gun parts	6	604
Kettle pieces	164	2660
Lead	32	10377
Ring	2	92
Silver	10	92
Sword part	1	3
Thimble	1	18
Tin	3	1
Tinkling Cones	9	225
Tools	7	544
Transportation	11	35
Unidentified metal	197	1702
Utensils	4	347
TOTALS	15085	42672
Total Trade	2664	41884
Could Have Traded	2663	40664

Table 30: Kethtippecanunk Compared to Fort Ouiatenon

223

Artifact/Artifact types	12T6	12T9
Ceramics - Native	340	197
Lithics	219	335
Modified bone	7	56
Stone pipes	127	200
Cloth	0	4
Fishing	0	18
Looking glass	0	1
Needles	0	128
Religious	0	41
Straight pins	0	801
Strike-a-light	0	12
Tin	0	1
Writing	0	3
Accessories	50	128
Ax	2	18
Beads - Glass	94	12666
Bottle glass	230	4742
British gunflint	140	950
Buttons	15	99
Clay pipe	33	3093
Combs	1	6
Copper Scrap	19	44
Euro_ceramics	27	2001
Faunal remains/Food	81	70
French gunflint	2	3
Furnishings	106	153
Gun parts	76	604
Hawk bell	3	50
Iron point	30	49
Jaw harp	10	27
Kettle pieces	288	2660
Lead	421	10377
Lead seal	3	64
Pocket Knife	1	1
Ring	6	92
Scissors	4	12
Silver	77	92
Sword part	1	3
Thimble	3	18
Tinkling Cones	35	225
Tools	52	544
Transportation	12	35
Unidentified metal	59	1702
Utensils	70	347
TOTALS	2644	42672
Total Trade	1951	41884
Could Have Traded	1951	40875

Table 31: Wea Village Compared to Fort Ouiatenon

Artifact/Artifact types	12WA59	12HU1013
Ceramics - Native	0	1
Lithics	0	2818
Modified bone	0	2
Faunal remains/Food	0	2389
Fishing	0	2
French gunflint	1	0
Hawk bell	0	1
Kettle pieces	42	0
Lead	1718	0
Looking glass	11	0
Marbles	0	26
Pocket Knife	0	8
Ring	2	0
Scissors	0	0
Silver	28	0
Thimble	0	3
Tinkling Cone	5	0
Tools	11	0
Accessories	43	8
Beads - glass	250	2
Bottle glass	1171	765
British gunflint	3	1
Buttons	64	73
Clay pipe	80	49
Combs	3	2
Euro_ceramics	4933	1305
Eye glasses	2	1
Furnishings	7	6
Gun parts	13	4
Straight pins	76	2
Transportation	13	7
Unidentified metal	338	15
Utensils	15	13
Writing	11	8
TOTALS	8840	7511
Total Trade	8840	4690
Could Have Traded	7022	2261

Table 32: Cicott's Post Compared to Richardville

225

Artifact/Artifact types	12WA59	12HU1022
Ceramics - Native	0	4
Lithics	0	2019
Burning glass	0	5
Buttons	64	0
Combs	3	0
Copper shapes	0	3
Eye glasses	2	0
Faunal remains/Food	0	3067
Gun parts	3	0
Hawk bell	0	1
Jaw harp	0	2
Looking glass	11	0
Percussion caps	10	0
Tin	0	57
Writing	11	0
Accessories	43	2
Beads - glass	250	22
Bottle glass	1171	50
British gunflint	3	31
Clay pipe	80	12
Euro_ceramics	4933	15
French gunflint	1	5
Furnishings	7	1
Kettle pieces	42	1
Lead	1718	33
Ring	2	1
Silver	28	17
Straight pins	76	2
Tinkling Cone	5	10
Tools	11	3
Transportation	13	1
Unidentified metal	338	81
Utensils	15	3
TOTALS	8840	5448
Total Trade	8840	3425
Could Have Traded	8736	290

Table 33: Cicott's Post Compared to Ehler

Artifact/Artifact types	Fort Wayne	12HU1013
Ceramics - Native	0	1
Lithics	0	2818
Modified bone	0	2
Ax	250	0
Beads - Glass	0	2
Buttons	0	73
Cloth	11591	0
Combs	0	2
Eye glasses	0	1
Fishing	0	2
Jaw harp	576	0
Kettle pieces	4014	0
Lead	1077281	0
Marbles	0	26
Needles	24	0
Padlocks	60	0
Playing cards	48	0
Scissors	36	0
Silver	1674	0
Soap	375	0
Straight pins	0	2
Thimble	0	3
Tobacco	3	0
Tools	1000	0
Traps	6	0
Trunks	24	0
Writing	0	8
Accessories	515	8
Bottle glass	554	765
British gunflint	6000	1
Clay pipe	432	49
Euro_ceramics	1086	1305
Faunal remains/Food	23	2389
Furnishings	33	6
Gun parts	257	4
Hawk bell	372	1
Pocket Knife	135	8
Transportation	768	7
Unidentified metal	8	15
Utensils	560	13
TOTALS	1107705	7511
Total Trade	1107705	4690
Could Have Traded	10743	4571

Table 34: Fort Wayne Compared to RIchardville

Artifact/Artifact types	Fort Wayne	12HU1022
Ceramics - Native	0	4
Lithics	0	2019
Ax	250	0
Beads - Glass	0	22
Burning glass	0	5
Cloth	11591	0
Copper shapes	0	3
French gunflint	0	5
Gun parts	257	0
Needles	24	0
Padlocks	60	0
Playing cards	48	0
Pocket Knife	135	0
Ring	0	1
Scissors	36	0
Soap	375	0
Straight pins	0	2
Tin	0	57
Tinkling Cones	0	10
Tobacco	3	0
Traps	6	0
Trunks	24	0
Accessories	515	2
Bottle glass	554	50
British gunflint	6000	31
Clay pipe	432	12
Euro_ceramics	1086	15
Faunal remains/Food	23	3067
Furnishings	33	1
Hawk bell	372	1
Jaw harp	576	2
Kettle pieces	4014	1
Lead	1077281	33
Silver	1674	17
Tools	1000	3
Transportation	768	1
Unidentified metal	8	81
Utensils	560	3
TOTALS	1107705	5448
Total Trade	1107705	3425
Could Have Traded	1094896	3320

Table 35: Fort Wayne Compared to Ehler

Artifact/Artifact types	20BE13	12MR231
Ceramics - Native	5	56
Lithics	183	700
Accessories	1	0
Ax	0	0
Beads - Glass	14	0
Beads - Shell	1	0
British gunflint	3	0
Buttons	4	0
Clay pipe	151	0
Cloth	0	0
Combs	0	0
Fishing	0	0
French gunflint	5	0
Gun parts	0	2
Hawk bell	0	0
Jaw harp	0	0
Kettle pieces	15	0
Lead	5	0
Looking glass	3	0
Modified bone	1	0
Native materials gunflint	1	0
Needles	0	0
Padlocks	0	0
Playing cards	0	0
Pocket Knife	0	0
Religious medal	1	0
Ring	0	0
Scissors	0	0
Silver	5	0
Soap	0	0
Stone pipe	2	0
Thimble	0	0
Tobacco	0	0
Transportation	0	0
Traps	0	0
Trunks	0	56
Utensils	0	0
Vermillion	0	0
Writing	41	0
Bottle glass	349	7
Euro_ceramics	2949	20
Faunal remains/Food	2797	20
Furnishings	4	1
Tools	2	2
Unidentified metal	107	36
TOTALS	6649	844
Total Trade	6461	88
Could Have Traded	6208	86

Table 36: Pokagon's Village Compared to Benack's Village

229

Artifact/Artifact types	12HU1013	12HU1022
Ceramics - Native	1	4
Lithics	2818	2019
Burning glass	0	5
Buttons	73	0
Combs	2	0
Copper shapes	0	3
Eye glasses	1	0
Fishing	2	0
French gunflint	0	5
Gun parts	4	0
Jaw harp	0	2
Kettle pieces	0	1
Lead	0	33
Looking glass	0	0
Marbles	26	0
Modified bone	2	0
Pocket Knife	8	0
Ring	0	1
Silver	0	17
Thimble	3	0
Tin	0	57
Tinkling Cone	0	10
Tools	0	3
Writing	8	0
Accessories	8	2
Beads - glass	2	22
Bottle glass	765	50
British gunflint	1	31
Clay pipe	49	12
Euro_ceramics	1305	15
Faunal remains/Food	2389	3067
Furnishings	6	1
Hawk bell	1	1
Straight pins	2	2
Transportation	7	1
Unidentified metal	15	81
Utensils	13	3
TOTALS	7511	5448
Total trade	4692	3425
Could Have Traded	4563	3288

Table 37: Richardville Compared to Ehler

230

Artifact/Artifact types	12T6	12T59
Ceramics - Native	340	1198
Lithics	219	11218
Burning glass	0	1
Catlinite	0	1
Combs	1	0
Copper shapes	0	8
Copper Scrap	19	0
French gunflint	2	0
Hawk bell	3	0
Iron point	30	0
Jaw harp	10	0
Lead seal	3	0
Modified bone	7	0
Pocket Knife	1	0
Scissors	4	0
Tin	0	3
Accessories	50	9
Ax	2	1
Beads - Glass	94	31
Bottle glass	230	401
British gunflint	140	8
Buttons	15	2
Clay pipe	33	40
Euro_ceramics	27	271
Faunal remains/Food	81	1000
Furnishings	106	445
Gun parts	76	6
Kettle pieces	288	164
Lead	421	32
Ring	6	2
Silver	77	10
Stone pipes	127	4
Sword part	1	1
Thimble	3	1
Tinkling Cones	35	9
Tools	52	7
Transportation	12	11
Unidentified metal	59	197
Utensils	70	4
TOTALS	2644	15085
Total trade	2085	2669
Could Have Traded	2005	2656

Table 38: Wea Village Compared to Kethtippecanunk

231

	Rix	Ada	De Marsac	Burnett	Pokagon	Fort Wayne	Windrose	Benack	Cicott	Kethtippe	Ouiatenon	Richardvil	Ehler	Wea Village
Rix	0	1.923	1.976	0	0	0	0	0	0	0	0	0	0	0
Ada	1.592	0	1.623	0	0	0	0	0	0	0	0	0	0	0
De Marsac	1.889	1.886	0	0	0	0	0	0	0	0	0	0	0	0
Burnett	0	0	0	0	1.953	0	1.984	0.592	0	1.889	0	0	0	1.85
Pokagon	0	0	0	1.926	0	1.947	0	1.911	0	0	0	0	0	0
Fort Wayne	0	0	0	0	1.976	0	0	1.003	0	0	0	0.984	1.958	0
Windrose	0	0	0	1.848	0	0	0	0	0	0	0	0	0	0
Benack	0	0	0	0.063	1.063	0.107	0	0	0.812	0	0	0	0	0
Cicott	0	0	0	0	0	0	0	1.504	0	0	0	1.276	1.073	0
Kethtippe	0	0	0	1.155	0	0	0	0	0	0	1.147	0	0	1.138
Ouiatenon	0	0	0	0	0	0	0	0	0	1.953	0	0	0	1.958
Richardvil	0	0	0	0	0	0.618	0	0	1.095	0	0	0	1.576	0
Ehler	0	0	0	0	0	1.598	0	0	1.041	0	0	1.568	0	0
Wea Village	0	0	0	1.627	0	0	0	0	0	1.753	1.714	0	0	0

Table 39: Economic Coefficient Matrix

	Miami	Potawatomi
Ada	0	0
Rix	0	0
Ada	0	0
De Marsac	0	0
Rix	0	0
De Marsac	0	0
Burnett	0	1
Pokagon	0	1
Pokagon	0	1
Fort Wayne	0	1
Burnett	0	1
Windrose	0	1
Burnett	0	1
Benack	0	1
Cicott	0	1
Benack	0	1
Benack	0	1
Fort Wayne	0	1
Burnett	1	0
Kethtippecanunk	1	0
Cicott	1	0
Richardville	1	0
Cicott	1	0
Ehler	1	0
Fort Wayne	1	0
Richardville	1	0
Fort Wayne	1	0
Ehler	1	0
Wea Village	1	0
Ouiatenon	1	0
Wea Village	1	0
Burnett	1	0
Kethtippecanunk	1	0
Ouiatenon	1	0
Wea Village	1	0
Kethtippecanunk	1	0
Ehler	1	0
Richardville	1	0
Pokagon	0	1
Benack	0	1

Table 40: Cultural Affiliation Matrix

```
NODE LEVEL REGRESSION
------------------------------------------------------------------------

Method:                             Y-perm
# of permutations:                  10000
Random seed:                        32767
Dependent variable:                 economic values | Whole site
Predicted values:                   economic values-pred
(C:\Users\lyndr\Documents\Dissertation\Results Excel Files\economic
values-pred
Residual values:                    economic values-res
(C:\Users\lyndr\Documents\Dissertation\Results Excel Files\economic
values-res
Model fit stats:                    economic values-fit
(C:\Users\lyndr\Documents\Dissertation\Results Excel Files\economic
values-fit
Model coefficients:                 economic values-coef
(C:\Users\lyndr\Documents\Dissertation\Results Excel Files\economic
values-coef
p-values are 1-tailed


Overall Regression Fit Statistics

                      Value
                      ------
             Nobs        40
         R-Square     0.090
     Adj R-square     0.041
          F(37,2)     1.834
   Sig (classical)    0.174
        Sig (perm)    0.178


Regression coefficients.

                    1       2       3       4       5
                 Coef      SE       T   c.Sig   p.sig
               ------  ------  ------  ------  ------
   1  Intercept  1.815   0.211   8.616   0.000   0.031
   2      Miami  -0.366   0.240  -1.525   0.068   0.056
   3 Potawatomi  -0.480   0.252  -1.906   0.032   0.023

3 rows, 5 columns, 1 levels.


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Running time: 00:00:01 seconds.
Output generated: 04 Jan 19 15:58:04
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