

Springwells Pottery Production at the Iler Earthworks

by

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### **Author's Declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## **Abstract**

This thesis examines the pottery assemblage from the Iler Earthworks (AaHr-22), a Late Woodland (Western Basin Tradition) Springwells Phase occupation in Essex County, Ontario. An assemblage of 3724 pottery sherds was found at this site between 2015 and 2018 as part of the University of Waterloo's archaeology field school. Eighteen vessels were identified in this assemblage and described using an attribute analysis and traditional typological methods. The analysis paints a picture of pottery form and decoration employed at Iler with an eye toward better understanding aspects of Springwells phase stylistic practices in the region. It is suggested that there is diversity in decorative practices when examining attributes of tool, technique, and motif, and that this diversity is in keeping with other Springwells and early Wolf phase sites in southwestern Ontario and adjacent areas.

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## **Chapter One: Artifact Stewardship within Ontario: A Unique Public Issue**

### **1.1 Introduction**

With the ever-increasing number of archaeological sites and an untold quantity of new artifacts being unearthed each year, collections stewardship and notions of artifact sovereignty have emerged as points of contention. While once of little concern given the emphasis placed on the academic or monetary value of things, ideas around the long-term care and ownership of artifacts have significantly changed with the incorporation of archaeological ethics and codes of practice, not to mention discussions surrounding decolonization and Indigenization (see e.g., Atalay 2006; Montgomery 2022). These concerns have thrust to the fore many regulatory issues within the discipline. Within modern archaeological practice, there are now different stakeholder groups and publics that wish to engage with or curate archaeological material. These include Indigenous and non-Indigenous groups, legislative bodies and policymakers, universities, and for-profit businesses, as well as archaeologists and other researchers. These different constituencies play a critical role in artifact stewardship and archaeological site conservation in both the province of Ontario and beyond.

In this chapter, I explore the public issues surrounding artifact stewardship by examining two key components. First, I define stewardship according to those publics that are connected to the archaeological material. Second, I examine how these issues come to the forefront of discussions within Ontario archaeology, and how these matters influence my work on the Iler Earthworks pottery assemblage.

## **1.2 Defining Archaeological Stewardship**

Stewardship is an all-encompassing term used not only by archaeologists but by academics and non-academics alike. It can be defined as “the conducting, supervising, or managing of something, especially the careful and responsible management of something entrusted to one’s care” (Merriam-Webster 2022). This emphasis on care is what makes the concept and practice of stewardship different from simply managing or collecting artifacts and has become something of a guiding principle in the codes of ethics developed recently by many archaeological societies. Care is associated with stewardship practices that aim for the proper preservation, management, and representation of past material culture, as well as accompanying archaeological sites. Along with site management, care is also placed on the information and interpretations that arise from such sites and can be seen in the codes of ethics developed by the Ontario Archaeology Society and Canadian Archaeological Association (CAA 2022; OAS 2022).

Beyond concerns for the information gleaned from archaeological sites and associated materials, stewardship also calls for collaboration and engagement with Indigenous groups and other stakeholders (CAA 2022; OAS 2022). This means an open dialogue should prevail between the different stakeholder groups and the archaeologist when it comes to decision-making over archaeological remains. This dialogue affects decisions ranging from how archaeological sites should be excavated to where artifacts are curated and how archaeological findings should be interpreted. But while stewardship calls for engagement, this central tenet has many shortcomings when practices fall outside the remit of ethical codes and mission statements crafted by archaeological societies, and from this disconnect an array of varied public issues arise.



### **1.3 Ontario Legislation and Governance over Archaeological Sites and Material**

In the previous section, I outlined the various interpretations and definitions of stewardship as it applies to archaeological materials and alluded to shortcomings in how archaeology is conducted in some settings. Many of these deficiencies come to the surface when legislation related to archaeology conflicts with the ontologies and wishes of Indigenous and other descent communities (e.g., peoples with connections to archaeological sites such as the Métis). This issue is also prevalent in regulations surrounding the need for archaeological assessment, which are woven into a variety of legislative acts. These regulations include, among other things, definitions of archaeological sites and heritage value, when and what forms of archaeological assessment must be undertaken, and standards and guidelines that dictate how sites are to be excavated. These standards and guidelines are presented by the provincial government in the document “Standards and Guidelines for Consultant Archaeologists” (Ontario Ministry of Heritage, Sport, Tourism, and Culture 2011) which provides the framework for how archaeological investigations are conducted in the province.

Yet before these standards and guidelines were developed, the Ontario Heritage Act was enacted to protect archaeological sites, giving powers to municipalities and provincial governments to preserve the heritage of Ontario (Ontario Ministry of Heritage, Sport, Tourism, and Culture Industries 1990). Proclaimed in 1975, the Ontario Heritage Act was the first step toward caring for archaeological resources in the province and led to larger and more detailed standards and guidelines for Ontario archaeologists working in development contexts. As mentioned above, the “Standards and Guidelines for Consultant Archaeologists” were first presented to the community by the Ministry of Heritage, Sport, Culture, and Tourism in 2011. They provide detailed requirements and best practices related to survey and excavation

methodologies, along with recommendations and requirements for engaging with descendant communities (Ontario Ministry of Heritage, Sport, Tourism, and Culture 2011). The standards and guidelines were formed after consultation with industry leaders, including members of the Ontario government, the Ontario Archaeology Society (OAS), the Canadian Archaeology Association (CAA), the Association of Professional Archaeologists (APA), and some Indigenous communities.

However, the Ministry of Heritage, Sport, Tourism, and Culture had earlier made attempts to incorporate Indigenous input through the document “Engaging Aboriginal Communities in Archaeology” (Ontario Ministry of Heritage, Sport, Tourism and Culture 2010). This bulletin provided a framework for Ontario-licensed archaeologists to engage effectively with Indigenous communities by pointing to such things as the incorporation of Indigenous ontologies into archaeological practices and proper post-excavation and analysis reporting to Indigenous communities. However, this bulletin remained in draft form, likely owing to the phenomenal growth of Indigenous monitoring practices and other engagement directives as outlined in Standards and Guidelines for Consultant Archaeologists.

The Standards and Guidelines however, like the Ontario Heritage Act and the “Engaging Aboriginal Communities in Archaeology” bulletin, ignore several core tenants of stewardship, most notably Indigenous input when it comes to the ultimate disposition of materials. This was partially addressed by the Ministry of Heritage, Sport, Tourism and Culture with its creation of the Archaeological Collections Deposit Fact Sheet. This database lists archaeological assemblages of importance to Indigenous communities along with the different Indigenous cultural or community centres that are able to house archaeological material. However, this listing does not address the more prevalent issue concerning the final deposition of assemblages

as it is still ultimately the archaeologist or Ministry who decides where a collection will be deposited. As noted above, it is these same forces that also dictate survey and excavation methodologies. In recent years, however, various Indigenous communities have created similar documents which outline how they believe archaeology should be conducted in their traditional territories and can be seen as direct critiques of the current legislative frameworks that govern Ontario archaeology.

#### **1.4 Indigenous-Made Archaeological Standards and Guidelines**

One of these Indigenous-made frameworks comes from the Mississaugas of the Credit First Nation (MCFN). It was produced in response to perceived shortcomings in the Province's archaeological standards and guidelines and was constructed with Mississauga traditional beliefs, history, and the firsthand experience of their field-liaison representatives in mind (MCFN Standards and Guidelines 2018). The biggest difference between the two legislative frameworks concerns, perhaps not surprisingly, policies around engagement. Currently, within the Ontario government's framework, engagement with a First Nation or other Indigenous group is not explicitly required until Stage 3 (test) excavation of a site (Ministry of Tourism, Sport, and Culture 2011). This means that archaeological work on Indigenous sites prior to Stage 3 does not need to incorporate Indigenous monitors or communicate with the community regarding strategies and decisions (MCFN Standards and Guidelines 2018). Although there is a 'guideline' to engage with descendent communities in earlier stages of work, this decision and power is retained by the archaeologist.

Furthering this disconnect, from an Indigenous perspective, is how archaeological licensing is controlled by the state. Work in the province can only be conducted by individuals

who carry a Ministry of Heritage, Sport, Tourism and Culture-issued archaeological license. Moreover, the Ministry has created three classes of licenses: avocational, applied research, and professional, which dictate the nature and extent of work that may be performed by the licensee. The professional license carries the widest scope, allowing individuals to conduct and make decisions concerning all levels of archaeological fieldwork (Ontario 2022). The applied research level restricts decision making and allows for licence holders to conduct only limited excavation of archaeological sites. This licensing system is a source of contention when it comes to Indigenous-led excavation of Indigenous sites. In the eyes of the state, Indigenous individuals who may or may not have field experience are unable to legally excavate archaeological sites of their ancestors if they do not hold a Ministry-approved license. This furthers the divide between Provincial and Indigenous-led frameworks of archaeology.

By not allowing a representation of Indigenous voices, such as MCFN, to be heard through all four stages of archaeological assessment, there is the potential for loss in knowledge and interpretations that may differ from non-Indigenous sources. The MCFN guidelines produce a collaborative framework of communication and partnership involving the Province, the Nation, and archaeologists by providing for an open discourse across all stages of archaeology that involve Mississauga heritage. This is one of the larger issues that MCFN wishes to address in revisions to the provincial archaeological policy, however there are further recommendations for site-specific fieldwork policies. This difference in policy is just one example of contrasting perspectives between government and Indigenous groups that effectively thwarts attempts at collaborative stewardship. However, like many heritage issues involving Indigenous and non-Indigenous publics, the best way to move forward is to identify the root causes of disagreement and seek compromises that provide a path toward resolution.

## **1.5 Understanding Public Issues and Taking a Step Forward**

Understanding the discord between government heritage policy and Indigenous concerns can position archaeologists to take the idea of stewardship further. The focus for the second chapter of this thesis concerns an analysis of the pottery of Iler earthworks in Essex County, Ontario, and its connection to broader trends in the Ontario Western Basin Tradition (WBT). Throughout the recent excavations of this site, community members from Bkejwanong (Walpole Island) First Nation visited and shared their thoughts on the archaeology with those involved in the digs. However, collaboration regarding the ultimate disposition of the pottery collection has not yet taken place as work on the collections is required to meet Provincial licencing regulations. Once this work is completed, however, possibilities for future Indigenous stewardship may emerge, at Bkejwanong or elsewhere, allowing for programs and relationships to be made between the licensee (Christopher Watts) and the communities tied to Iler Earthworks. Listening to and understanding Indigenous concerns will hopefully lead to other, similar opportunities.

To strengthen an archaeological understanding of the work discussed in this thesis, I intend to publish the second chapter in the journal *Ontario Archaeology*. Published by the Ontario Archaeological Society, this journal has for some seventy years presented findings and interpretations related to Ontario's rich archaeological record and would be an ideal outlet to showcase the results of the Iler pottery analysis.

## **Chapter 2: Understanding Style and Pottery Production at the Iler Earthworks**

### **2.1 Introduction**

The analysis of ceramics, and pottery more specifically, often investigates different methods of production and the stylistic decisions used to fashion a given vessel. These lines of research have created a large body of scholarship and a variety of interpretative perspectives for understanding how pottery may have once been manufactured, used, and understood. However, engaging with these interpretative perspectives can affect how we view the potting practices that ultimately gave rise to activity areas, assemblages, and sites. As part of its ongoing engagement with this scholarship, the discipline continues to reflect upon and critically examine how this class of material culture can best be conceptualized.

In this chapter, I seek to engage with different archaeological perspectives and interpretations of past potting practices as part of a larger analysis of the pottery assemblage from the Iler Earthworks, a Western Basin Tradition (Springwells Phase) site near Harrow, Ontario. I begin with a brief review Western Basin Tradition culture history with an emphasis on the Springwells and early Wolf phases wherein Iler may be temporally placed. I then move to examining work conducted at the Iler Earthworks and related archaeological sites in southwestern Ontario and adjacent areas. From here, I review pottery types associated with Springwells and Wolf sites before engaging with the different discourses, theories, and arguments that continue to dictate the archaeological interpretation of material “style”. After these discussions, I present my analysis of the Iler Earthworks ceramic vessel assemblage followed by interpretations of the site’s various pottery styles.

## 2.2 Culture History of the Western Basin

The Western Basin Tradition is a distinct archaeological manifestation found in southwestern Ontario (i.e., counties of Essex, Kent, Elgin, Lambton, and Middlesex) as well as the bordering states of Ohio and Michigan (see Murphy and Ferris 1990). The tradition has four temporal phases, consisting of Riviere au Vase (600-800 A.D.), Younger (800-1200 A.D.), Springwells (1200-1400 A.D.), and Wolf (1400-1600 A.D.) (Murphy and Ferris 1990). With the exception of Wolf, these temporal phases were first presented by James E. Fitting in his (1965) book *Late Woodland Cultures of Southeastern Michigan* as part of a unified 'Younger Tradition' that has since been renamed the Western Basin Tradition. Fitting created these phases using archaeological data derived from his PhD research at the University of Michigan along with past research and excavations conducted by Emerson F. Greenman (e.g., Greenman 1937), and Thomas E. Lee (e.g., Lee 1958). To differentiate between the phases mentioned above, Fitting used stylistic and morphological changes in the different pottery designs he observed at various sites in southeastern Michigan, most notably from Macomb County, along with other data. These phases, along with their designated pottery styles, have long been used, modified, and elaborated upon by archaeologists to understand how expressions of cultural identity evolved over the course of the Western Basin Tradition.

Given that the Iler Earthworks are thought to date to the Springwells and early Wolf phases, these will be described in some detail. While in some ways following earlier lifeways associated with Riviere au Vase and Younger groups (e.g., seasonal mobility and exploitation of the resource rich shores and river drainages of western Lake Erie, Lake St. Clair, and lower Lake Huron; see Murphy and Ferris 1990:189, 254-255), several notable differences emerge by Springwells times. Movement into both lowland and upland forests, as suggested by the

Springwells phase Liahn I site, suggests a broadening of resource bases perhaps connected to the increasing importance of maize horticulture and were likely the result of summer community aggregations (Murphy and Ferris 1990:246). As well, white-tailed deer, racoon, rabbit, and black walnut could be taken from upland forests, while aquatic resources such as sucker, walleye, and perch could be accessed both in the adjacent lakes and marshes (Murphy and Ferris 1990:254). However, unlike earlier phases, Springwells is thought to have a higher use of cultigens, the cultivation of which appears to have been folded into overall dietary regimes (Murphy and Ferris 1990:254).

These changes from earlier periods are also reflected in settlement patterns. The Springwells phase is identified as having more formalized warm weather settlements, replete with longhouses and palisades, likely due to the result of summer aggregations (Murphy and Ferris 1990:254-255). These larger and more numerous warm weather settlements become more common by the Springwells phase and, in some cases, are found to have earthen enclosures. These earthworks are believed to have arisen from an increasing reliance on maize and other cultigens which in turn fostered greater degrees of sedentism and, perhaps, conflict with neighbouring Iroquoian communities (Murphy and Ferris 1990:254-255).

Communities associated with the Wolf phase expanded upon the settlement pattern trends seen in the preceding Springwells phase with the presence of larger and more formal fortified settlements that are believed to have been occupied over longer periods of time (Murphy and Ferris 1990:260-261). Yet, even with these changes in settlement there was still an element of seasonality present with the dispersal of groups into economically important areas away from the larger, more permanent villages (Murphy and Ferris 1990:260-261). Interestingly, despite the apparent increase in cultigen use, these new settlement systems do not resemble other Late



Woodland archaeological contexts (e.g., Iroquoian) (Murphy and Ferris 1990:261). Wolf phase populations, in other words, are thought to have still exploited the same seasonal resources as earlier phases of the WBT but with a higher reliance on maize likely grown in horticultural fields close to these larger, more permanent villages (Murphy and Ferris 1990:260-261).

### **2.3 Previous Research at Western Basin Tradition sites in southern Ontario and the Iler Earthworks**

The sites of Liahn I (Kenyon 1988), the Parker Earthworks (Lee 1958), and E.C. Row/Lucier (Lennox and Molto 1995) all provide expressions of the Springwells phase, Wolf phase, and/or the transitory period between these phases and are the closest analogues to the Iler Earthworks. Liahn I, located along the eastern shores of Lake St. Clair in modern-day East Dover Township, Kent County, is a Springwells phase site based on the presence of the Macomb Linear pottery (Kenyon 1988). It shares a variety of site characteristics with Iler such as deep storage pits and examples of Macomb vessels. However, Liahn I differs from Iler in its lack of earthworks, along with its absence of later Mixer wares and Parker festooned pottery, all of which are found within the Iler assemblage. Liahn I also contains an earlier component (Late Archaic or Early Woodland) as well as later Wolf (Ft. Meigs) expressions (Kenyon 1988). These occupations of the site make it difficult to specifically examine the Springwells phase settlement patterns (Kenyon 1988).

The Parker Earthworks are located near Corunna, Ontario, along the eastern banks of the St. Clair River (Lee 1958). Parker is designated as a purely Wolf phase site based on the prevalence of Parker Festooned pottery and the lack of Springwells decorative forms. While this

places the Parker Earthworks slightly later in the WBT than Iler, there are still parallels between these two sites. These include the presence of similar (oval) earthwork forms, pit features, and use of the Parker Fестоoned type (see Lee 1958). Burial mounds, Iroquoian pottery types, and a distinct lack of Springwell decorative types at Parker stand out, however, as notable differences.

Finally, the sites of E.C. Row and Lucier are other examples of Springwells or Wolf phase occupations in Ontario. Both sites are located along the eastern shores of the Detroit River near one another in the modern-day city of Windsor (Lennox and Molto 1995). The pottery assemblages from Lucier and E.C. Row match much of the Iler Earthworks assemblage with the presence of Springwells pottery types and more notably the occurrence of Mixer wares (Lennox and Molto 1995). However, like other sites mentioned above, there is much that makes these sites different in comparison to what is known from Iler. Six features at E.C. Row were identified as being burials and the distinct remains of four longhouse-shaped structures, perhaps used as charnel houses, were found on the E.C. Row site. No evidence of burials or houses like those at E.C. Rowe have yet been documented at Iler, though the latter has not been completely excavated.

Along with the prominent sites of Parker, Liahn I, Lucier, and E.C. Row, there are two other sites in closer proximity to Iler: Juniper and Laramie. Juniper is thought to have been a Springwells phase inland winter camp site that was likely used by a small group (Lennox 1995). It was partially excavated by the Ontario Ministry of Transportation in July 1993 as part of the redevelopment of Highway 3 near Leamington. The site is identified as Springwells due to its pottery assemblage of four vessels and the identified types of Macomb Linear and Mixer Dentate which are like those found at Iler. Unlike Iler, however, Juniper lacks earthworks, as does the site of Laramie located just several hundred metres to the southwest of Iler. Laramie

was partially excavated in 1966 by J. Jameson Bond and a group of field school students from the University of Windsor (Bond 1966). The pottery assemblage is like that of Juniper and Iler with a high frequency of punctated and dentated pottery sherds (likely Mixer Dentate) and linear or push-pull (likely Macomb Linear) motifs. A burial was also documented at Laramie, something which has not yet been observed at Iler.

The Iler Earthworks (AaHr-22) are found in the Township of Colchester South, Essex County, about 2 km north of the Lake Erie shoreline. The site was first described by local collector John C. Bonham in 1944 with the creation of a site plan and its corresponding earthworks. The site was not excavated at this time and would suffer a variety of disturbances from agricultural activities and other forms of development until 1968 when a surface collection was conducted by Harry Bosveld of the Hiram-Walker Museum. In his field notes, Bosveld reported that a variety of pottery sherds and lithic materials were found along with plough disturbed pit features. This would be the extent of fieldwork and excavation done on the site until 2015 when Dr. Christopher Watts of the University of Waterloo began excavations as part of a field school. Between 2015 and 2018, this project exposed a large portion of the western side of the site, including ditches and other features associated with what was likely an elliptical earthen embankment. Sadly, owing to agricultural production, all above-ground traces of the embankment are now gone. A variety of pottery sherds dating from Springwells phase and into the Wolf phase, along with lithic debitage and formal tools, were recovered during the excavations. Preliminary assessments of the pottery assemblage suggested a series of Macomb

types were present at Iler, along with Mixer Wares and the presence of Parker Festooned pottery (Watts 2018).

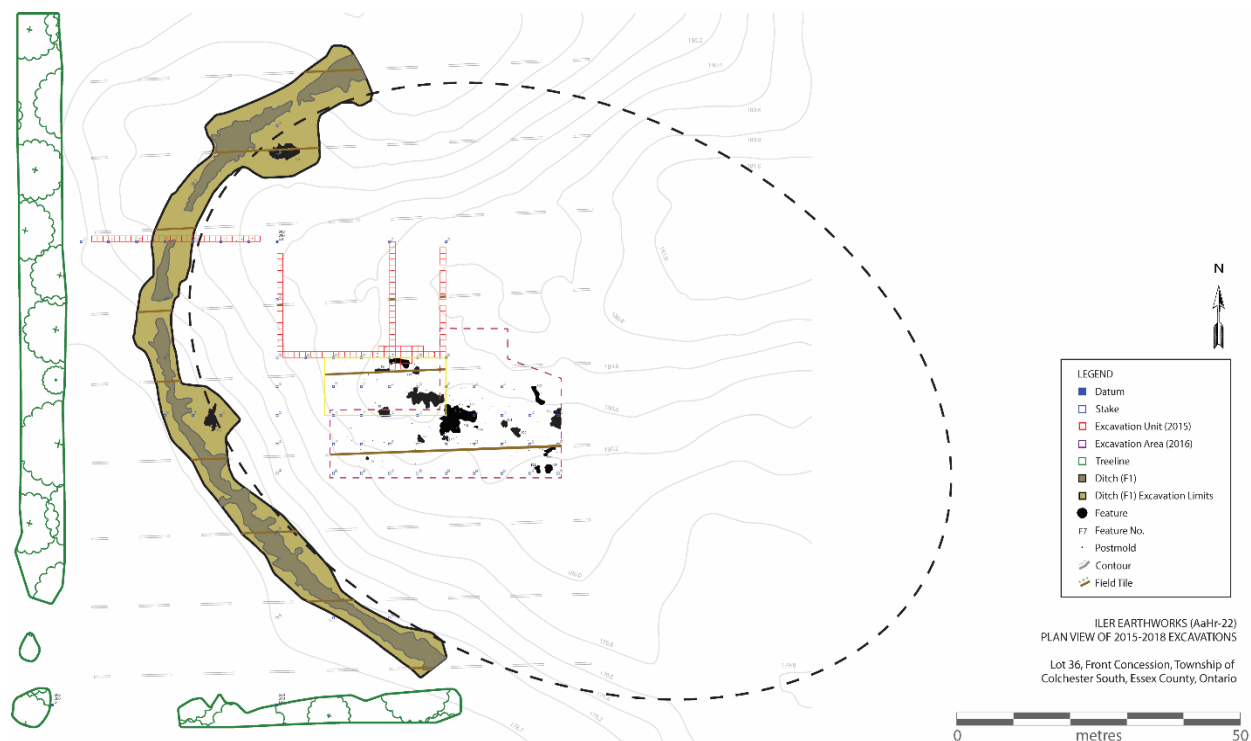


Figure 1. Current Excavation limits of Iler Earthworks. Courtesy of Christopher Watts

## 2.4 Springwells and Wolf Phase Pottery

The Springwells phase of the Western Basin Tradition is marked by the rapid diffusion of distinct pottery styles across the geographical area surrounding the western end of Lake Erie, suggesting complex patterns of regional interaction (Murphy and Ferris 1990:211-216).

Springwells Phase pottery is notable for its collared and castellated vessels with designs featuring horizontal, oblique, and cord-marked decorative motifs on the collar and neck (Murphy and Ferris 1990:211-216). As noted earlier, these design motifs were first identified by Fitting (1965:156-157) and classified into three distinct types: Macomb Linear, Macomb Interrupted Linear, and Springwells Net Impressed. Macomb Linear pottery was originally discovered but left unanalyzed by archaeologist Emerson F. Greenman at the sites of Riviere au Vase, Fort

Wayne Mound, Younge, and Wolf in southeastern Michigan (see Greenman 1937, 1939; see also Fitting 1965). This type would later be formally identified by Fitting (1965:156) as having horizontal impressions interrupted by occasional triangles that may run parallel to the base of the collar and upwards toward to the vessel's rim or castellations. This type, as described by Fitting, could appear to have either continuous horizontal lines of decoration on the collar or instead display short, overlapping incisions, hence the terms Macomb Linear and Macomb Interrupted Linear (Figure 2; see also Fitting 1965).



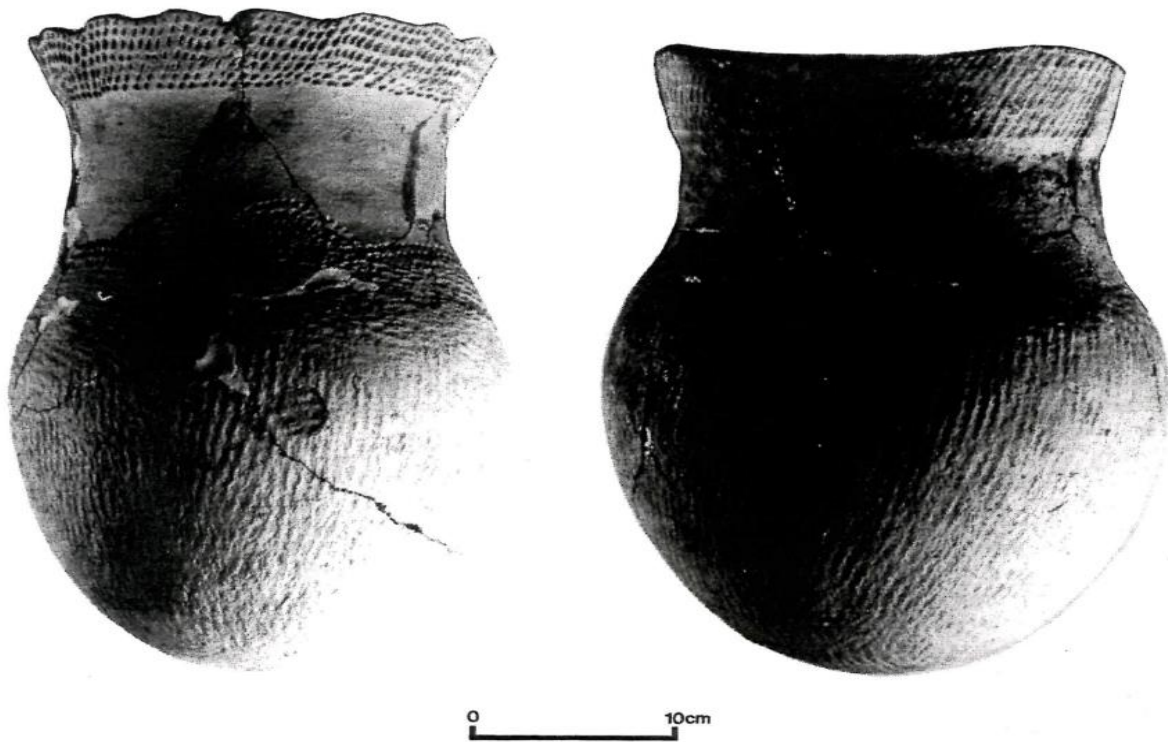
*Figure 2. Macomb Linear vessel from Riviere au Vase (20MB3). From Carrol (2019:190)*



*Figure 3. Springwells Net Impressed rim from Fort Wayne Mound (20WN1). (Carrol 2019:191)*

The other major type found during the Springwells phase is Springwells Net Impressed, which was initially recovered from the sites of Riviere au Vase, Fort Wayne Mound, and Wolf (Greenman 1937, 1939; Fitting 1965). As the term implies, the Springwells Net Impressed type was identified by Fitting as having a surface treatment stamped with a fishing net or similar woven fabric along with a series of crescent-stamps on the collar (Figure 4; see also Fitting 1965:157). Murphy and Ferris (1990:212) would later revisit this inference and attribute the net impressions to overlapping cord marks rather than a physical net being embedded in the wet vessel clays. While these three pottery types provide the foundation for the archaeological analysis of Springwells pottery, more recent research has resulted in the identification of additional subtypes (i.e., Linear corded, and Linear Tool Impressed). These new subtypes were proposed by Jon Carrol (2013, 2019) following research on Springwells pottery from Michigan and Ontario. Along with identifying these new subtypes, Carrol has also proposed various revisions to Fitting's (1965) Springwells Net Impressed type.

As the Springwells phase came to a close in the fifteenth century, it is thought that pottery form and decorative practices began to change. The presence of what are called Mixer wares (see Figure 5) is thought to characterize the transition between Springwells and Wolf, exhibiting more elaborate and decorated oblique tool-impressed designs on the rims of vessels (Murphy and Ferris 1990:215-216). Mixer vessels are believed to have originated in Ohio and



*Figure 4. Mixer Vessels from Libben Site, Northwestern Ohio (Murphy and Ferris 1990:217)*

through the diffusion of various stylistic practices across social networks of the Western Basin, later appeared in Ontario. These Mixer wares would eventually come to replace the original Springwells pottery types in Ontario (Murphy and Ferris 1990:217).

Mixer wares mark the transition between the Springwells and Wolf phase, but the presence of the Parker Festooned pottery type, first identified at the Parker Earthworks near Corunna, Ontario (Lee 1958), signifies the formal beginning of the Wolf phase in Ontario (Murphy and Ferris 1990). The Parker Festooned type (see Figure 6) is characterized by its large,

castellated vessels with elongated necks and the presence of a distinctive festoon decoration (one to three rows of zig-zagging narrow strips impressed in or applied to the vessel [i.e., appliqué]). The coming prevalence of Parker Festooned pottery, along with the eventual disappearance of Mixer-type vessels, marks the full transition from the Springwells phase to the Wolf phase (Murphy and Ferris 1990:219-224). These are the archaeological phases and the dominant pottery types found at the Iler earthworks and other contemporary sites in Essex and neighbouring counties.



*Figure 5. Restored Parker Festoon vessel excavated from the site of Windsor. Lee (1958)*

These pottery types, like all analytical constructs used to study material culture, are not without their conceptual limitations. The extent to which designs reflect individual or group identities, for example, or speak to the relationship between artistry and aspects of function, have long intrigued archaeologists and others who study artifacts. In the following section, I review



several seminal works in the study of archaeological style in an effort to better understand the appearance and use of types during the Springwells phase.

## **2.5 Archaeological Approaches to Style**

As mentioned earlier, various theories have been put forward regarding the nature and use(s) of material culture styles in keeping with the views of particular researchers and archaeological paradigms. From the early 'social signaling' interpretations offered by H. Martin Wobst (see Wobst 1977) to the notable 'style debates' of the 1980s and 1990s involving Polly Wiessner and James R. Sackett (see e.g. Sackett 1995; Wiessner 1983), to more recent post-positivist or post-interpretive concerns with the relationship(s) between materials and design (see e.g. Ingold 2007; Knappett 2007; Tilley 2007), what constitutes style and the circumstances under which it emerges in the past has occupied a great deal of archaeological attention.

One of the earliest explicit treatments of the relationship between style and social identity is found in a book chapter by Wobst (1977) entitled "Stylistic Behavior and Information Exchange". Here, Wobst suggests that style or stylistic behaviour is a method of information exchange between various groups involving designated emitters and receivers. At the time, this paper presented a novel approach to understanding the importance of style in the archaeological record and a means by which to understand the active roles played by different artifacts when it comes to communication. By understanding and classifying artifacts as vehicles for conveying social information (e.g., political or social identities) along with highlighting the different levels of interaction within and between cultural groups (i.e., immediate family to socially distant community), Wobst provided a way to conceptualize artifact style as an active consideration in the minds of manufacturers and a means to consider how styles could operate beyond any

immediate, functional constraints (Wobst 1977). By proposing that the communicative aspects of style were functional considerations alongside more task-oriented ends, Wobst (1977) pushed past the idea that style is merely a methodological means by which we can classify and date things.

Beginning in the 1980s, a prominent debate on the use and understanding of style emerged. In her work “Style and Social Information in Kalahari San Projectile Points”, Wiessner (1983) examined different varieties of projectile points among the Kalahari San of northwestern Botswana and showed how styles and methods of social exchange betray two distinct loci of identity. Described as ‘emblemic’ and ‘assertive’, Wiessner argued that the former refers to variation in material culture that conveys information regarding group/community affiliation or social standing. This form of style is expected to change only gradually through time, to be easily recognizable by diverse groups, and to be found with a degree of uniformity in the archaeological record (Wiessner 1983). By contrast, assertive style is attributed to the individual and their various inclinations. This was thought to be a smaller component or lower form of decision-making (i.e., choice) involving things like tools or other items. As a more expressive arena of individual or small group stylistic value, however, it was thought by Wiessner to undergo significant change over shorter periods of time within the archaeological record.

In response to Wiessner’s approach to style, Sackett (e.g., 1985) did not accept many of the assumptions that Wiesner made regarding the assumed categories of emblemic and assertive style. Sackett instead proposed the idea of isochrestic variation, where individuals operate within a set range of tools and styles of production. Within this range, variations of style can be found and analyzed within the archaeological record (Sackett 1985). This idea is seen as neither active

nor passive but rather enacted through individuals being part of certain social groups and coming to replicate the dominant styles within these units.

More recent approaches to style, beginning in the 2000s, have instead focused on more nuanced understandings of the dynamics at play in craft communities, leading to site-specific or group-specific stylistic assemblages, along with the reciprocal relationships that emerge between people and things, and how archaeologists interact with and understand archaeological materials. In these ways, more recent considerations of style push past the adage “pots equal people” and aim to understand the effects of materials in the decisions made concerning material culture style. This can be seen in discussions of materiality, including an exchange that took place in 2007 in the journal *Archaeological Dialogues*. In a contribution entitled “Materials against Materiality”, Ingold (2007) reviews how materiality has been taken up by archaeologists and others and finds that most discussions regarding style and materials are concerned with social relations or social contexts of use rather than the properties and relations of the materials themselves. By immersing a stone in water and watching it dry, Ingold invites us to consider how the seemingly obdurate nature of things can actually change in response to new relationships, in this case with water and the environment. Materials, in other words, can be variable and emergent, and we lose sight of this when our analytical focus is squarely aimed at finished products and their attributes.

While the following sections present the methods used in my analysis of the Iler pottery and the results of this exercise, I return to considerations of style in the discussion.

## 2.6 Methodology

The 2015-2018 excavations at the Iler Earthworks resulted in an assemblage of some 8,868 artifacts, including pottery, lithics, botanical remains, and faunal elements. For the purposes of this thesis, I focus my attention on the pottery collection and more specifically the recovered rim sherds. The pottery portion of the Iler assemblage is represented by over 3,724 sherds comprising portions of the body, rim, base, and neck of various vessels. Rim sherds were chosen as the focus of this study due to the nature of pottery production in the Western Basin Tradition, where rims generally have the highest frequency of observable decorative elements beyond surface treatments such as cord malleation. By concentrating our analyses on rim sherds, and employing a suitable classificatory framework, we stand the best chance of discerning stylistic variability within the pottery assemblage at Iler.

The analysis and cataloguing of the Iler Earthworks pottery assemblage identified 107 rim sherds with varying degrees of completeness (i.e., presence of interior, lip, and exterior surfaces). Within this assemblage, further focus was given to rim sherds that had all three surfaces intact (interior, lip, exterior) which resulted in a sample size of 28. Once this group of 28 intact rims had been identified, a vessel sort was conducted. The purpose of the vessel sort was to identify the minimum number of unique pottery vessels represented within the overall pottery assemblage (see Smith [1997] and Watts [2008]). Sorting was conducted by first identifying key rim sherd attributes such as thickness, decoration, colour, temper, and excavation location. From there, each sherd was compared with the others to see if a match was possible. Conducting this step ensured that vessels were not double counted and aided in identifying mends (both inferred and physical) between vessel sections. After conducting the vessel sort, 18 unique vessels were identified within the rim assemblage.

The 18 unique vessels recognized as part of the sorting process were further analyzed using methods outlined by Smith (1997) and Watts (2008). These two analytical methods use a series of nested (hierarchical) codes to classify the different attributes found on Woodland period pottery. Further, this attribute-based system allows pottery analysts to identify the different tools and techniques used in the execution of various motifs, which collectively we may use to characterize decoration and account for different elements of vessel form (e.g., surface modification, castellations, etc.) (Smith 1997; Watts 2008). This attribute-based analysis also aids in typing the vessels.

With the use of this attribute-based coding system, the following variables of form were considered: castellation form, lip form, upper rim profile, rim form, and surface modification. With regard to variables of decoration, the code allows for the analysis of tool, technique, and motif by band. The analysis of the 18 vessels produced a maximum of four exterior bands of decoration, one band of lip decoration, and one interior band of decoration on any given vessel. Once data related to form and decoration were generated, they were compared to pottery assemblages described at other Western Basin (Springwells Phase) sites including Parker, Juniper, Liahn I, and E.C. Row / Lucier.

## **2.7 Results**

This section provides results of the vessel rim analysis, which are summarized in the tables that appear in the Appendix. With regard to castellation form, the vessel assemblage contained a very high frequency of indeterminate classifications (n=17, 94%) with only one castellated form being positively identified (n=1, 6%). This likely relates to the highly fragmentary nature of the

assemblage since castellations are known to be present on Springwells and Wolf phase pottery. A comparable frequency of indeterminate castellation was found at Liahn I based upon plates/diagrams provided by Kenyon (100% indeterminate; see Kenyon 1988:16-17) but the results from Iler differ from the sites of Parker and Juniper, where 75 percent of vessels were castellated in some manner (Lee 1958:19-22; Lennox 1995:14-15). Lip forms from Iler, meanwhile, have two variants: flat (n=13, 72%) and rounded (n=5, 28%). This distribution is unlike that of Parker where rounded lip forms were dominant. Sadly, the analyses of Juniper and Liahn I have no data regarding this attribute. Regarding the upper rim profile, Iler has two types identified: concave (n=3, 17%) and straight (n=15, 83%). These frequencies are similar to those seen at the sites of Juniper, Liahn I, and Parker, where the majority of vessels were found to have straight upper rim profiles. Regarding rim forms, Iler vessels have two identified types: collared (n=2, 11%) and collarless (n=1, 6%). Again, likely as a result of the sample's highly fragmented nature, the presence or absence of a collar could not be determined on the vast majority of rims (n=15, 83%). This is similar to sites such as Liahn I, Juniper, and Parker where only a small portion of these assemblages displayed collared vessels. Finally, concerning surface modifications of the different vessels (interior, lip, and exterior) all were found to be smooth (n=18, 100%). This follows the same pattern found at Liahn I, Juniper, and Parker with nearly all vessels at these sites exhibiting smooth interior, lip, and exterior surfaces.

Moving to decorative completeness, vessels from Iler have only one band of decoration on interiors (n=18, 100%) and only one decorative type – plain (n=18,100%). This is similar to vessel interiors from the sites of Liahn I, Juniper, and Parker as well. Regarding the lips of the rim sherds at the Iler Earthworks, all contain only one band of decoration. Of the decorative motifs present on this surface, a significant portion of the assemblage is plain (n=6, 33%) with

the remaining vessels (n=13, 72%) displaying the following tool use (see Table 14): dentate (polygonal) (n=5, 28%), dentate (round) (n=2, 11%), cord wrapped instrument (n=2, 11%), pointed (annular) (n=1, 6%), linear straight (n=1, 6%), and one indeterminate tool type (n=1, 6%). Concerning decorative technique (see Table 15), we see primarily stamping [(oblique stamping: n=1, 6%; parallel stamping: n= 10, 56%)] along with one indeterminate form (n=1, 6%). As for the motifs present on lip surfaces (Table 16), we see crescent horizontal (n=1, 6%), linear left oblique (n=2, 11%), linear right oblique (n=1, 6%), linear vertical (n=1, 6%), punctate horizontal (n=6, 33%), and one indeterminate motif (n=1, 6%). This pattern of tool, technique, and motif use in the decoration of the vessel lips is also found when examining the exterior decorative elements of the Iler Earthwork vessels.

Here, exterior decoration at Iler is largely confined to one band of decoration (n=17, 94%), and one (Parker Festooned) vessel where there are four unique bands of decoration (n=1, 6%). Of the 18 vessels in the assemblage, only one vessel (n=1, 6%) contains no decoration on the exterior while the remaining vessels (n=17, 94%) are represented by a variety of treatments. The exterior band one tool types used to decorate the Iler Earthwork vessels are as follows (see also Table 17): cord (n=2, 11%), cord wrapped instrument (n=4, 22%), dentate (polygonal) (n=6, 33%), dentate (round) (n=1, 6%), linear straight (n=2, 11%), pointed (annular) (n=1, 6%), and pointed (round) (n=1, 6%). Techniques inferred to have been used to decorate the exterior band one include incising (n=1, 6%), push-pull (n=1, 6%), stamping (oblique) (n=1, 6%), stamping (parallel) (n=13, 72%), and stamping (perpendicular) (n=1, 6%) (see Table 18). Decorative motifs, meanwhile, on band one include crescent horizontal (n=1, 6%), linear horizontal (n=5, 28%), linear left oblique (n=4, 22%), linear right oblique (n=3, 17%), punctate horizontal (n=3,

17%), and punctate vertical (n=1, 6%) (see Table 19). As additional bands of decoration are found only on one vessel, they are not summarized here (see instead Tables 20-28).

Beyond the vessel attributes described above, the analysis of Iler rims also included classification by way of the established pottery typology for Western Basin forms created by Fitting (1965). Of the 18 vessels identified at Iler, 15 could be typed this way with the remaining three vessels deemed unanalyzable due to their fragmentary or exfoliated states. The identified types include Macomb Interrupted Linear (n=1, 6%), Macomb Linear Corded (n=4, 22%), Springwells Net Impressed (n=1, 6%), Mixer Dentate (n=6, 33%), Parker Festoon (n=1, 6%), Vase Corded (n=1, 6%), and Vase Tool Impressed (n=1, 6%). Together with the attributes described earlier, these pottery types provide the foundation for a discussion about Springwells and Wolf phase potting practices and stylistic expression at the Iler Earthworks.

## **2.8 Discussion**

Prior to engaging in a discussion of pottery production and stylistic practices at Iler, the following caveats must be noted. First, as there were only 18 pottery rim sections available for analysis, sophisticated statistical analyses were deemed unsuited to any discussion of broader patterns. Second, as the fragmentary and exfoliated nature of the pottery limited the surfaces available for classification of decorative treatments, constraints must be placed on what can be said regarding the overall morphological and stylistic universe present at Iler. Along these lines, it is worth pointing out that the pottery assemblage as a whole contains 2,923 microspherds and fragmentary pieces, which accounts for 79 percent of the pottery collection. Fragmentary body, rim, lip, and basal sherds comprise the remaining 21 percent of the pottery collection (n=794).



Many of the rim sherds were identified as being under the size of 28 millimeters. A consequence of this, of course, is that pieces tended to be broken well before neck decoration could be observed. The final limitation of the assemblage is its spatial representativeness. Since formal field school excavations began in 2015, known areas of the site are limited to the western and southern portions of earthworks. These limitations, however, do not preclude a preliminary attempt at characterizing pottery production at the site.

Although the sample size from Iler is small, it seems likely to be representative of the range of stylistic practices at the site insofar as similar pottery is found at other sites dating to the Springwells and early Wolf phases. As presented above, this is suggested by similar type frequencies, assemblage sizes, and morphological features (e.g., presence of collars and lip forms) when Iler is compared to what is known of the Juniper, E.C. Row, Liahn I, and Parker Earthworks. The types identified at the Iler Earthworks, and what has been argued by Fitting (1965) and Murphy and Ferris (1990) regarding their occurrence in time, allows us to place the site toward the close of the Springwells phase and into the early Wolf phase. This is given by the high frequency of Macomb types at Iler, along with Springwells Net Impressed, and what we assume are slightly later Mixer forms. Furthermore, that the assemblage was recovered from a variety of spatially distributed site contexts, including unit and feature excavations, along with different stratigraphic layers (e.g., the plow zone, subsoil interface, and feature fills) points to a site wide Springwells presence at Iler.

If we accept that the Iler assemblage is a representative sample of Springwells / early Wolf phase pottery, one defining characteristic of potting practices here (and at other Western Basin sites) is the diversity of available tools, techniques, and motifs available to potters. This can also be seen in the variety of identified types, which are also found in the pottery

assemblages at sites such as Liahn I, Parker, Juniper, and E.C. Row. The sites of Juniper and Liahn I are both represented by a much smaller pottery vessel assemblage in comparison to Iler, with Juniper having only four vessels present and Liahn I having six. Interestingly, both sites have a varied array of tool types, techniques, and motifs like Iler. Juniper, for example, has three types of tool techniques, one type of technique for applying decoration, and two types of motifs for exterior decoration (Lennox 1995) although the small sample size here, like at Iler, limits our ability to confidently illustrate the range of stylistic practices. This variation in pottery production can also be seen at Liahn I which has three tool types, three types of techniques for applying decoration, and three types of motifs for exterior decoration (Kenyon 1988). As with Iler and Juniper, however, sample size is low at just six total vessels.

This trend continues when comparing Iler to larger pottery assemblages such as the one recovered from the Parker Earthworks. According to Lee (1958), Parker has a much larger collection of vessels represented by pottery rims (n=67). In classifying these vessels, Lee created five distinct groups based on sherd types (e.g., Parker Festooned, punctuated, etc) and within each of these groups noted that there are variations in how the decorative "punctuates" and other elements are expressed. Group 1 or the "Parker Festooned" group was defined by Lee as containing any type displaying a festooned pattern (see Lee 1958:19) but it would appear there is significant variation within this class. For example, the presence of appliqué vs. non-appliqué festoons, along with a variety of punctate and dentate decorations ranging from one to four rows suggests a single class may be difficult to differentiate. Variation is also present within Lee's (1958) Group 3 or the "punctates-only" category, which was further classified sometime later as part of the Mixer pottery series following the work of Shane (1967) at the Mixer site. Lee

(1958:21) remarks that the assemblage of pottery with only punctates was made by “various implements of different sizes, and shapes and in different combinations”.

Indeed, the pattern of stylistic diversity at Iler is entirely in keeping with variation observed by Fitting (1965) when creating the Springwells and Wolf types. For example, Fitting identifies Macomb Linear as a general type which includes decorations created by cord-wrapped instruments or cord designs and either impressed or applied via the push and pull technique running parallel to the rim (Fitting 1965:43). However, Fitting (1965:43-44) also notes that variants exist, such as Macomb Linear-corded and Macomb Interrupted Linear, and that each of these sub-types varies in its appearance and frequency. Moreover, Springwells Net Impressed, the Mixer series, and Parker Festooned were all considered by Fitting (1965) and Lee (1958) to be highly variable in their nature and distribution.

In this way, Iler provides no exception; while Mixer (n=6, 33%) and Macomb (n=5, 28%) forms account for the bulk of the assemblage, the presence of these types does not mean all subvariants are included. Vessels 4, 12, 17 (see Figures 6, 7, 8) are all typed as Macomb Linear but have different design expressions. Vessel 4 was created through the use of the push-pull technique while Vessels 12 and 17 are stamped parallel to rim. These subtle differences are not simply found in aspects of decorative technique but also in the tool used to create the motif. Seen in Vessel 12, a cord was used to decorate the vessel while Vessels 4 and 17 used a cord-wrapped instrument.



*Figure 6. Vessel #4: Macomb Linear Vessel found at Iler Earthworks*



*Figure 7. Vessel #17: Macomb Linear found at Iler Earthworks*



*Figure 8. Vessel #12: Maccomb Linear found at Iler Earthworks*

These subtle variations within types are also present when examining the Mixer vessels from Iler. Vessels 3, 14, and 18 were identified as Mixer Dentate but a significant degree of variation is found when examining the expression of dentate. Vessel 3 (see Figure 9) uses a polygonal shaped three-row tool with uniform rows found parallel to the rim, and a design that is not deeply impressed when compared to the Vessels 14 and 18. Vessel 18 (see Figure 10), meanwhile, uses a rounded, three-row dentate tool, however, unlike Vessel #3 the dentate decoration does not follow the same uniform rows parallel to the rim and the impression is much more pronounced. Vessel 14 (see Figure 11) shares similar elements with both Vessels 3 and 18; a polygonal three-rowed dentate tool is used, and while the impressions are not as pronounced as Vessel 18, they are deeper than those of Vessel 3, and the rows of dentate are not as uniform.



*Figure 9. Vessel #3 Mixer Dentate found at Iler Earthworks*



*Figure 10. Vessel #18 Mixer Dentate found at Iler Earthworks*



Figure 11. Vessel #14 Mixer Dentate found at Iler Earthworks

More importantly, and in more pronounced ways, the diversity of stylistic expression within Springwells and early Wolf pottery types is found across the geographical area of the Western Basin, and like Iler, is present at the sites of Liahn I, Juniper, E.C. Row, and Parker. At the site of Liahn I, nine of the 10 typed vessels are interpreted by Kenyon (1988) as being part of the Macomb series previously described by Fitting (1965). However, by examining the pottery figures provided by Kenyon (1988:Figure 13) there is little uniformity to the different vessels; each decorative design varies in its tool usage (i.e., Dentated tools vs. Cord Wrapped Instruments), the presence of lip decoration, and even the motifs themselves (e.g., the depth of the linear designs). Similar variability is also seen when examining the pottery assemblage figures provided by Lennox (1995:Figure 7) from the site of Juniper. Within the six vessels from the Juniper pottery assemblage there are two that are identified as having dentate decoration with one being typed as Mixer Dentate. However, the second dentate vessel appears very similar to many other Mixer Dentate forms found, for example, at Iler, Liahn I, and E.C. Row. These differences betray the diversity present in Springwells pottery and highlight a problem that arises when older typological systems are not updated with more recent analytical findings. This

problem, however, has been addressed with Springwells Phase pottery through the work of Jon Carroll (2019), as noted earlier. By splitting the original Macomb series types and Springwells Net Impressed type into ten distinct subgroups, Carroll has explored the diversity within these designs by recognizing variation in the tool types, techniques for decorative applications, and importantly how the motif is expressed on the vessel (e.g., truncated linear, interrupted linear).

This diversity can be interpreted in a number of ways. Returning to the style literature discussed earlier, Wobst (1977), for example, might see the range of decorative motifs as a product of pronounced social differentiation. While there is perhaps some degree of broader cultural identity bound up in types such as Macomb Linear and Mixer, the diversity in applications of tool, technique, and motif perhaps relate to instances of signaling smaller group identities (e.g. families or potting communities) if we can understand these as intentionally executed. Wiessner (1983), meanwhile, would understand the pottery assemblage through the frameworks of emblematic and assertive styles. In this way, perhaps the types of Macomb Linear and Mixer are examples of an emblematic style (i.e., group or community affiliation) while variations in decorative designs (i.e., alterations in the applications of tools, techniques, and motifs) reflect the assertive identities of individual or smaller groups of potters. Sackett (1985) would likely suggest something similar using isochrestic variation. Like Wobst and Wiessner, isochrestic variation would treat the larger types of Macomb Linear and Mixer as the acceptable range of style for the community with an allowance for a larger and more diverse range of tools and motifs to be used for production. Were we to follow Ingold (2007), however, pottery production would not be seen so much as a vehicle for cultural identification, following the hylomorphic foundations of Wobst, Wiessner, and Sackett, but would instead invite us to consider how the materials used to make these vessels, along with their properties, interacted



with the potters' skills and intentions to produce the styles (and stylistic diversity) we see during the Springwells and early Wolf phases.

With these patterns and interpretive frameworks in mind, how can we best conceptually characterize the variability seen in Springwells phase stylistic practices? Admittedly, while all pottery typologies must contend with issues of variability when dealing with classes, the extent to which this is characteristic of Western Basin Tradition types results perhaps from several different factors. For one, as hinted at above, many of these types were first identified at a time when little was known about the areal extent of the Western Basin Tradition. Few sites had been documented, and even fewer had produced collections that could be made available to archaeologists interested in pottery typology such as Lee (1958), Fitting (1965), and Shane (1967). Accordingly, we should expect the various type designations to be subject to error in light of more recent analysis such as that conducted here and by Carrol (2019). And yet, the fact that many of the sites discussed here are comprised of multiple types, the expressions of which in themselves (individually) seem variable, perhaps speaks to notions of style in Springwells times that are subject to a potter's interpretation rather than part of a prescriptive package of design. This kind of 'play' in the use of various tools, techniques, and motifs in the execution of pottery designs, as seen at Iler and elsewhere, would make sense given our understanding of Springwells lifeways. In the absence of a formalized village life, as seen in neighbouring Iroquoian sites at this time (i.e., early fifteenth century) to the east, it may be that smaller communities of potters, untethered to house-based lineages and subject to seasonal mobility, were perhaps unable or unwilling to adhere to formal design repertoires featuring a smaller array of types. Indeed, given smaller population aggregates and a commitment to seasonal movement, even by Wolf phase times, it seems unlikely that highly regimented design repertoires even existed in the first place.

If true, then perhaps the typologies identified through the work of Fitting (1965) and others do indeed have some salience, and the archaeology of the region simply requires more work that like of Carrol (2019) to identify the true extent of pottery variability.

## **2.9 Conclusion**

In this study, I have explored Western Basin Tradition pottery production during the Springwells and early Wolf phases in Ontario as suggested by materials recovered from the Iler Earthworks and other sites. Through a typological study and attribute analysis of the Iler pottery assemblage, both quantitative and qualitative data were gathered to examine form and decoration on 18 vessels. This analysis found a high degree of variability in the use of tools, techniques, and motifs present at Iler and in the collections of other Springwells and early Wolf sites (e.g., Liahn I, Laramie, Juniper, and Parker). These data paint a picture of pottery production both at Iler and beyond that suggests some commitment to what we might call a Springwells ‘design’, as suggested by the identified types, but enough variability is present at Iler and other sites to suggest there was little in the way of standardization across the Tradition beyond the appearance of three broad typological categories (i.e., Macomb, Mixter, and Parker). This could result from small population aggregates along with seasonal mobility during the Springwells and early Wolf that ultimately contributed to potting practices centered on individuals or small groups rather than collectives comprised of members drawn from lineages and neighbouring communities. Further work is needed to refine the Springwells typologies used in Ontario and additional data would go a long way toward assessing the veracity of these classificatory systems.

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## Appendix: Tables

Table #1: Castellation Form

<b>Iler Earthworks Castellation Forms</b>		
Indeterminate	17	94.44%
Present	1	5.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #2: Lip Form

<b>Iler Earthworks Lip Forms</b>		
Flat	13	72.22%
Rounded	5	27.78%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #3: Upper Rim Profile

<b>Iler Earthworks Upper Rim Profile</b>		
Concave	3	16.67%
Straight	15	83.33%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #4: Rim Form

<b>Iler Earthworks Rim Form</b>		
Collared	2	11.11%
Collarless	1	5.56%
Indeterminate	15	83.33%
<b>Grand Total</b>	<b>18</b>	<b>100.00%</b>

Table #5: Interior Surface Modification

<b>Interior Surface Modification</b>		
Smooth	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #6: Lip Surface Modification

<b>Lip Surface Modification</b>		
Smooth	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #7: Exterior Surface Modification

<b>Exterior Surface Modification</b>		
Smooth	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #8 Interior Decorative Completeness

<b>Interior Decorative Completeness</b>		
B1>Break	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #9: Lip Decorative Completeness

<b>Lip Decorative Completeness</b>		
B1>Break	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #10: Exterior Decorative Completeness

<b>Exterior Decorative Completeness</b>		
B1>B2>B3>B4>Break	1	5.56%
B1>Break	17	94.44%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #11: Interior Band 1 Motif

<b>Interior Band 1 Motif</b>		
Plain	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #12: Interior Band 1 Tool

<b>Interior Band 1 Tool</b>		
Plain	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #13 Interior Band 1 Technique

<b>Interior Band 1 Technique</b>		
Plain	18	100.00%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #14: Lip Band 1 Tool

<b>Lip Band 1 Tool</b>		
Cord Wrapped Instrument	2	11.11%
Dentate (Polygonal)	5	27.78%
Dentate (Round)	2	11.11%
Indeterminate	1	5.56%
Linear (Straight)	1	5.56%
Plain	6	33.33%
Pointed (Annular)	1	5.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #15: Lip Band 1 Technique

<b>Lip Band 1 Technique</b>		
Indeterminate	1	5.56%
Plain	6	33.33%
Stamp (Oblique)	1	5.56%
Stamp (Parallel)	10	55.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>



Table #16: Lip Band 1 Motif

<b>Lip Band 1 Motif</b>		
Crescent Horizontal (CH)	1	5.56%
Indeterminate	1	5.56%
Linear Left Oblique (LLO)	2	11.11%
Linear Right Oblique (LRO)	1	5.56%
Linear Vertical (LV)	1	5.56%
Plain	6	33.33%
Punctate Horizontal (PH)	6	33.33%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #17: Exterior Band 1 Tool

<b>Exterior Band 1 Tool</b>		
Cord	2	11.11%
Cord Wrapped Instrument	4	22.22%
Dentate (Polygonal)	6	33.33%
Dentate (Round)	1	5.56%
Linear (Straight)	2	11.11%
Plain	1	5.56%
Pointed (Annular)	1	5.56%
Pointed (Round)	1	5.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #18: Exterior Band 1 Technique

<b>Exterior Band 1 Technique</b>		
Incised	1	5.56%
Plain	1	5.56%
Push-Pull	1	5.56%
Stamp (Oblique)	1	5.56%
Stamp (Parallel)	13	72.22%
Stamp (Perpendicular)	1	5.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #19: Exterior Band 1 Motif

<b>Exterior Band 1 Motif</b>		
Crescent Horizontal (CH)	1	5.56%
Linear Horizontal (LH)	5	27.78%
Linear Left Oblique (LLO)	4	22.22%
Linear Right Oblique (LRO)	3	16.67%
Plain	1	5.56%
Punctate Horizontal (PH)	3	16.67%
Punctate Vertical (PV)	1	5.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #20: Exterior Band 2 Tool

<b>Exterior Band 2 Tool</b>		
Pointed (Round)	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #21: Exterior Band 2 Technique

<b>Exterior Band 2 Technique</b>		
Incised	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #22: Exterior Band 2 Motif

<b>Exterior Band 2 Motif</b>		
Linear Horizontal (LH)	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #23: Exterior Band 3 Tool

<b>Exterior Band 3 Tool</b>		
Pointed (Elliptical)	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #24: Exterior Band 3 Technique

<b>Exterior Band 3 Technique</b>		
Stamp (Perpendicular)	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #25: Exterior Band 3 Motif

<b>Exterior Band 3 Motif</b>		
Punctate Horizontal (Ph)	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #26: Exterior Band 4 Tool

<b>Exterior Band 4 Tool</b>		
Dentate (Polygonal)	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #27: Exterior Band 4 Technique

<b>Exterior Band 4 Technique</b>		
Stamp (Parallel)	1	1
<b>Total</b>	<b>1</b>	<b>1</b>

Table #28: Exterior Band 4 Motif

<b>Exterior Band 4 Motif</b>		
HD   LRO LLO	1	100.00%
<b>Total</b>	<b>1</b>	<b>100.00%</b>

Table #29: Identified Typologies Based on Fitting (1965) and Murphy & Ferris (1990)

<b>Identified Typologies Based on Fitting (1965) and Murphy &amp; Ferris (1990)</b>		
Macomb Interrupted Linear	1	5.56%
Macomb Linear Corded	4	22.22%
Mixer Dentate	6	33.33%
Parker Festoon	1	5.56%
Springwells Net Impressed	1	5.56%
Undetermined	3	16.67%
Vase Corded	1	5.56%
Vase Tool Impressed	1	5.56%
<b>Total</b>	<b>18</b>	<b>100.00%</b>

Table #30: Lip Thickness of Iler Vessels

<b>Vessel Number</b>	<b>Lip Thickness (mm)</b>
1	6.4
2	6.4
3	7.1
4	6.5
5	6
6	6.1
7	5.6
8	5.7
9	7.2
10	4.3
11	8.7
12	4.3
13	7.6
14	8
15	5.9
16	4.8
17	9.4
18	6.2
<b>Total</b>	<b>116.2</b>

<b>Average Lip Thickness (mm)</b>
<b>6.455556</b>