Round Barns of Wisconsin

By

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ABSTRACT

The centric barn building type, whether round, octagonal, or multi-sided, is rare and comes in a wide variety of forms, materials, and designs. Its late nineteenth and early twentieth century origins in the United States are chiefly found in the professional and self-consciously progressive work of ambitious yeoman farmers, agricultural scientists, journalistic boosters, and professional builders at the turn of the twentieth century. Typically intended as carefully designed machines for agricultural efficiency. Yet each centric barn turns out to be largely distinctive and possesses a complex set of adaptations according to their respective contexts at odds with formal prescriptions.

This dissertation examines a series of examples in Wisconsin in order to examine the ways in which individual cases, while based in part on prescriptive literature, adapted to particular farmer's needs. Drawing from research originated in professional work in the architectural preservation field, specifically the "Wisconsin Centric Barns Multiple Property Listing," completed in 2013 for the National Register of Historic Places, this dissertation develops a deeper understanding of Wisconsin barns through the themes of technology, identity, or place, all common themes in the academic literature on vernacular architecture. Chapters elucidate background on the history and typology of the centric barn form; examine the role of technological change and application in design; consider personal identity and its impact on the specific history of a barn; and explore the role of the immediate natural and human environments in centric barn design and use.

"Centric Barns of Wisconsin" tells a story about the relationship between the specifics of the barns themselves and their professional design influences through a close study of technology, identity, and place. This relationship, where the local alters the professional intent

through a process of adaptation, reflects the nature of vernacular building in the modern world and especially reflects the transitional period at the turn of the twentieth century in the United States. By studying this relationship, the work moves beyond a typology of the building type and arranges a model of looking at barns elsewhere in a richer context.

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The following dissertation would not be possible without the frank assistance and diligence of my advisor and professor Anna V. Andrzejewski of the Department of Art History at the University of Wisconsin, Madison. Her support and editing has been genuine and patient. The comments and recommendations of the dissertation committee, including professors Ann Smart Martin of the Department of Art History, Janet Gilmore of the Department of Planning and Landscape Architecture and Folklore Program in the Department of Comparative Literature and Folklore Studies, and Arnold R. Alanen, emeritus professor of the former Department of Landscape Architecture have been equally helpful and sincere. Likewise, Legacy Architecture Inc., specifically principle Jennifer Lehrke, as my employer must be thanked not only for supporting me throughout the long process of research and writing, but also for directly providing the inspiration and topic of the dissertation. Along with fellow Legacy architects Bob Short, Jonathan DeJardin, and Gail Biederwolf, Jennifer made this work possible.

At the local level, focused on the barns themselves, I would like to thank Angela Cina, the owner of the Cunningham Round Barn and Marcus Kaplan the owner of the Harris Round Barn in Vernon County in addition to the Vernon County Historical Society and Museum and Kevin Alderson, who took the time to familiarize me with the round barns of Vernon County and the work of Alga Shivers. In Ozaukee County, the owners of the Vocke Octagonal barn, Erik and Jill Dahlberg, were kind enough to let me explore their property, Nina Look and the Ozaukee County Historical Society provided wonderful information on the variety of centric barns locally, especially the octagonal barns constructed by the Clausing brothers. Likewise, Robert Ten Eyck and Anne Bergenbrugge, the owners of the Ten Eyck barn in Green County, were happy to share their family history with me in addition to the local Green County Historical Museum. For the

work in Sheboygan County, I would like to thank Daniel and Janelle Irwin, owners of the Lueder 13-Sided barn, for their hospitality and genuine enthusiasm for the history of their barn, farm, and family. In addition, the resources and assistance provided by Beth Dippel and Katie Reilly of the Sheboygan County Historical Research Center and Travis Gross of the Sheboygan County Historical Society are always helpful and impressive. Michael Tibbetts, the owner of the Lindstrom Round Barn, and the Polk County Museum was more than accommodating at a great distance. I would like to stress that the barns that are the subject of this dissertation, as well as many other centric and round barns in the state of Wisconsin, are on private property and that the owners request that they not be disturbed.

I would also like to thank the State Historic Preservation Office for their active support and assistance in producing the initial National Register Nominations. I would like to thank Daina Penkiunas, Peggy Veregin, Joe DeRose, and Jim Draeger. Funding for the initial Wisconsin centric barn multiple property nomination, and six additional individual National Register nominations that inspired this dissertation came from the Fuldner Heritage Fund. Created through a donation from the Jeffris Family Foundation, the fund is focused on supporting historically and architecturally significant rural and small-town resources. The Wisconsin Historical Society Library and Archives has proved an invaluable resource for conducting research from the safe and accessible confines of Madison.

While the amount of existing literature on the subject of round barns is relatively scarce, there are those who have invested time and enthusiastic energy into these fascinating buildings and their history. I would like to credit Allen Noble for his work on the origins of the centric barn form in the Midwest in both *Barns of the Midwest* and *The Old Barn Book: a Field Guide to North American Barns and other Farm Structures*. Noble attributes barn design and variation to

common vernacular tropes in ethnicity and region, pointing to the builder's background and a response to specific climates, not to elite design sources. Similarly, several academics have conducted state-level surveys of round and centric barns in their respective states that attempt to also explore the history of the building type. John Hanou in Indiana, Lowell Soike in Iowa, and Richard Triumpho in New York, respectively, all also served as an inspiration. Dale J. Travis' website "Reading and Looking Material for Round Barns and Covered Bridges" is a great source for cataloging centric barns in Wisconsin and other states and may be the single largest repository of such information in the United States. Likewise, the previous work of Larry Jost in his *The Round and Five-or-More Equal Sided Barns of Wisconsin*, also of the University of Wisconsin, Madison, three decades ago was a great asset in identifying centric barns in the state and learning more about each one's physical characteristics and farm history. Taken together these served as the quantitative and qualitative foundation for this dissertation.

Most of all I am indebted to my own family, who have shown as much patience as can reasonably be expected in four years. Especially my supportive and loving wife, Lesley, and children, Lily and Eleanor. I would also like to thank my parents Kris Davidson and Roberta Humphreys as well as my mother-in-law Marla Martin for their emotional and physical support.

INTRODUCTION

This dissertation originated in professional work in the architectural preservation field, specifically the "Wisconsin Centric Barns Multiple Property Listing," completed in 2013 for the National Register of Historic Places. As a historic preservation consultant, I have written several National Register nominations, intensive surveys, and tax credit proposals for local governments and the Wisconsin Historical Society. One of the more ambitious among these was a multiple property nomination for centric barns in the state followed by a series of six individual nominations for various round, octagonal, and multi-sided barns. This required a broader history and definition of the building type, which in turn led to this dissertation. National Register nominations are not designed to explore academic questions, but to describe plainly and record the case for significance and integrity. The initial narrative in the National Register effort is one of elite and professional design influencing the construction of round and other centric barns in the name of progress and improvement. Agricultural research stations, political and economic progressive journalists, academics, agricultural magazines, and wealthy and influential farmers all worked to promote the relatively new building type at the end of the nineteenth century. Professional, or "book," farming was being adapted to specific conditions.[1] There is little room in this process of nomination writing for nuance or for the specific context of technology, identity, or place, all common themes in academic literature on vernacular architectural subjects.

Round barns are curious things. Today, a person driving by one perched on the agricultural landscape on a rural highway or road might remark on the interesting and

[1] Barbara Wyatt, ed., *Cultural Resource Management in Wisconsin, 3 Vols.* (Madison: Historic Preservation Division, State Historical Society of Wisconsin, 1986): Vol. 2, Agriculture, 1-1 to 11-1.

relatively rare nature of the building. Such barns serve as landmarks to locals, discussed as distinctive and eccentric monuments to the murky history of some ambitious dairy farmer. Personal conversations with owners, local historical societies, neighbors, and with those who have studied such buildings support this impression. This arguably nostalgic view of such buildings as symbols of the rugged independence of American agricultural development, ethnic affiliation, or arcane origins tells only part of a more complex history.

Although the building type is relatively rare and comes in a wide variety of forms, materials, and designs, the centric barn form has its origins in the professional and self-consciously progressive work of ambitious yeoman farmers, agricultural scientists, journalistic boosters, and merchant builders at the turn of the twentieth century. These unusual barns were intended as carefully planned and designed machines for agricultural productivity and, for their builders at least, they consciously drew upon ideals of efficiency and progress. Yet even this story belies more complexity. Each centric barn turns out to be largely distinctive, certainly in its history, and possesses an adapted vernacular architecture at odds with the prescriptions of the professionals who introduced the barn's formal concept. There exists a tension between these two aspects of the building type history, and this is the subject of this dissertation. This blurring of distinctions between professional and vernacular architecture has been covered previously, especially in the context of the transitional period of the late nineteenth and early twentieth centuries. James Garvin touches on a similar trend in his discussion of mail-order house plans and the influence of Andrew Jackson Downing in the mid-nineteenth century in his article "Mail-Order House Plans and American Victorian Architecture." Garvin discusses the rise in popularity of pattern books with published plans, sketches, and details and the development of the Queen Anne style of home. This was closely tied to early suburban growth

and a picturesque ideal aesthetic. A standardization of plans and drawings allowed for the services of the professional designer without actually employing them directly, akin to the initial development and spread of centric barn plans and concepts decades later. The mid-nineteenth century saw the widespread introduction of published instruction manuals and do-it-yourself kits.[2] Meanwhile, Henry Glassie states that "all Architecture is the embodiment of cultural norms that preexist individual buildings" in his 1984 article "Vernacular Architecture and Society." In this foundational text in vernacular architecture studies, Glassie's argument implies that vernacular building traditions are characterized by a shared understanding of cultural norms amongst designers, builders, and users, in contrast to modern western design, which is marked by a lack of regionalism and artificial aesthetics.[3]

Progressive agricultural ideas that were pervasive during the period may have introduced the centric barn form as a conceptual, formal model, but farmers and builders produced a wide range of structures in response. The design and history of these buildings arguably have far more to do with the lives of their owners and builders than the planned form, design, and use set down from elite sources. This fact alone makes them vernacular in the sense that they do not reflect accepted tropes of architectural design. The term vernacular, as used in this dissertation, implies a form of cultural evidence that is unmediated by professional and academic designers and is commonly applied in the study of vernacular architecture.[4] Indeed, there is a public perception that agricultural buildings such as barns, by their very nature, are often and easily associated with the vernacular since it is assumed that the evidence

[2] James L. Garvin, "Mail-Order House Plans and American Victorian Architecture," *Winterthur Portfolio* 16, No. 4 (Winter 1981): 309-34.
[3] Henry Glassie, "Vernacular Architecture and Society," *Material Culture* 16, No. 1 (1984): 4-24.
[4] Thomas Carter and Elizabeth Cromley, *Invitation to Vernacular Architecture: A Guide to the Study of Ordinary Buildings and Landscapes* (Knoxville: University of Tennessee Press, 2005).

that an agricultural building has to offer is formed out of utility, ethnic background, or some distant shared memory of the past as tradition. Centric barns were, and continue to be, a decidedly unusual building type that, despite the wide variety, traces its origins to the active encouragement of elite agricultural interests and breaks with tradition. Whether this motivation initially came from formal idealism, progressive reformist concerns with agricultural and scientific efficiency, or a commercial drive and novelty preference, it can be considered an elite and conscious design influence.

However, the story of centric barns, illustrated through the following case studies using the concepts of technology, identity, and place as organizing frameworks, reveals a vernacular building form that has a close relationship to context, heritage, motivations, economic situation, regional factors, and lives of individuals. Each one, in this sense, is exceptional, arising out of the particulars of people, time, and place rather than a prescribed architectural character. Although this can be argued for nearly any building or building type utilitarian agricultural structures, including centric barns, are often assumed to lack the imbued characteristics of other examples such as houses or architecturally designed institutional buildings. This is arguably complicated even further by the fact that centric barns are modern buildings. Their initial design principles, their chronological place in architectural history, their building methods and materials, and the lives of their builders and inhabitants, reflect an object created in an era of mass production, industrial efficiency, and capitalist interests.

The Cunningham Barn Example

As discussed, round barns represent an example of a building form that originates in professional design, yet they can be understood in terms of vernacular architecture. An

example of this is Bert and Mary Cunningham's Round Barn. The Cunninghams lived in the Town of Woodstock in Richland County and operated a dairy farm with their young family at the turn of the century. In 1912, Bert severely injured his back in a fall from poles in a tobacco shed. While he survived and continued farming, Bert's range of motion and ability to walk great distances were hindered. The Cunninghams moved to neighboring Vernon County and settled on a small, established farm very near the Town of Viroqua in 1915. They quickly constructed their round barn for the small dairy farm. The barn is constructed of hollow structural clay tiles, commonly produced at the time in eastern Iowa and distributed as a building material. These tiles, mass-produced in small cities and easily accessible by rail in the nearby town of Viroqua a mile away, make the barn unlike the other centric barns of the surrounding area. However, the roof construction, with shallow-braced trusses, matches other barns in Vernon County designed by Alga Shivers, a prominent local builder of round barns.[5] In terms of the small round barn's structure, it is specific to its local place.

A possible explanation of the preference for the construction of a round barn might have been a desire to limit physical work by centralizing the location of labor. Bert Cunningham's previous injury and reduced mobility inspired the barn. It was a design response to specific individual needs, and the construction of the round barn was in some ways dictated primarily by practical concerns like many other utilitarian agricultural buildings. The Cunninghams actively needed the convenience and efficiency of the design and the ideal of the form as some sort of distillation of pragmatic improvement may not have crossed their minds. It fills a specific niche based on evidence from sources as varied as common agricultural trade

[5] Kevin and Patsy Alderson, *Barns without Corners: Round Barns of Vernon County, Wisconsin* (Onalaska, WI: Kickapoo Valley Heritage, 2010), 36-40; and "Alga Shivers and His Round Barns," *LaFarge Epitaph*, November 7, 1979.

magazines, barn-building construction firms from western Wisconsin and Iowa, the local recent tradition of round barn building in Vernon County, and the specific needs of the Cunningham family itself, as can be seen in comparing historical and contemporary views of the barn (Figures 1 and 2).

Typical of most of these barns, the Cunningham barn draws on several elite architectural sources such as the knowledge of professional builders, trade magazines, agricultural equipment and building material producers, and perhaps even the active boosterism of state agricultural colleges on behalf of the building form. It is one of 109 identified examples of centric barns in Wisconsin.[6] The Cunningham barn is discussed along with five others in this dissertation, all which share a history of professional origin adapted the specific condition of the barn's context. This dissertation builds on existing scholarship on round barns by moving beyond a chronological narrative and catalog of existing barns to address the nuances and meaning of the centric barn building type in the state of Wisconsin. It is an interpretive work that explores how these examples of the building types were affected by factors related to technology, identity, and place.

The Round Barn Described and Defined

Several books and articles have been published that address the history of centric barns in the United States. Many of them focus on documenting the type in a specific state; however, they are more descriptive than analytical in considering the reasons behind the barns' popularity. Notable examples that address the building type, usually out of some effort to catalog sites, at a statewide level include Lowell Soike's *Without Right Angles: The Round*

[6] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing," National Register of Historic Places Inventory/Nomination Form. Wisconsin Historical Society, Madison, 2013.

Barns of Iowa, Richard Triumpho's *Round Barns of New York*, John Hanou's *A Round Indiana: Round Barns in the Hoosier State*, Roger Welsch's article "The Nebraska Round Barn," and Wayne Price and Keith Sculle's *The Failed Round Barn Experiment: Horace Duncan's Experience as Carpenter*. Only a few of these sources touch on the subjects of design origin and public response, including John Michael Vlach's *Barns*, Bertha Kitchell Whyte's article "Octagonal Houses and Barns," and Cynthia Falk's *Barns of New York: Rural Architecture of the Empire State*.[7]

By examining a series of case studies, this dissertation aims to produce a richer history of the building type than can be found in previous historic preservation efforts, and one which stresses the related architectural and human variety associated with the centric barn form. Using the "Wisconsin Centric Barns Multiple Property Listing" as a point of departure, this investigates the specific people who created and worked in round barns and the circumstances surrounding the creation of these buildings. As it does so, it attempts to answer some of the big questions surrounding a vernacular building type that has its origins in professional design influences.

However, the responses to these influences and the readily recognized variety of the building is lacking in previously published scholarship. Looking in detail at individual examples can enrich the accepted history of round barns by adding a more concrete human element in a variety of ways, including origin stories, personal histories, eccentricities,

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[7] Lowell J. Soike, *Without Right Angles: The Round Barns of Iowa* (Des Moines, IA: Penfield Press, 1990); Richard Triumpho, *Round Barns of New York* (Syracuse, N.Y.: Syracuse University Press, 2004); John Michael Vlach, *Barns* (New York, N.Y.: W.W. Norton and Co., 2003); Bertha Kitchell Whyte, "Octagonal Houses and Barns," *Wisconsin Magazine of History* 34, No. 1 (1950): 42-46; Cynthia G. Falk, *Barns of New York: Rural Architecture of the Empire State* (Ithaca, N.Y.: Cornell University Press, 2012); John T. Hanou, *A Round Indiana: Round Barns in the Hoosier State* (West Lafayette, IN: Purdue University Press, 1993); H. Wayne Price and Keith A. Sculle, "The Failed Round Barn Experiment: Horace Duncan's Experience as Carpenter," *Pioneer America Society Transactions* 6 (1983): 1-7; and Roger L. Welsch, "The Nebraska Round Barn," *Journal of Popular Culture* 4 (March 2004): 403-10.

ethnicity, and identity. In a sense, these are microhistories, intended to glean larger implications from small scale subjects. Microhistory, increasingly common and accepted in academic disciplines, is the study of small and well-defined points, either spatially or temporally or both. The study of a particular event, individual, or location can contribute to large-scale history and challenge wider historical assumptions.[8] This study of centric barns is intended to do exactly that by adding specific case information that has broader implications for the building type.

The full narrative of the development, variety, and decline of centric barns reflected here is hinted at in the work of Allen Noble, who addressed the specific history of centric, or round, barns in Allen Noble and Hubert Wilhelm's *Barns of the Midwest* and Allen Noble and Richard Cleek's *The Old Barn Book: a Field Guide to North American Barns and Other Farm Structures*.[9] Though these scholars have unearthed a great deal about the extent, variety, and even the dissemination of the design of centric barns, there is otherwise little holistic scholarship on the building type, and none that presents detailed case studies as evidence demonstrating facets of the history of centric barns. One way of interpreting the centric barn's role in Wisconsin rural life at the turn of the century is through the macro and micro-economics of individual farms and discussion of agricultural concerns through media, mostly printed magazines, leaflets, and newspapers. Notably, the conclusion drawn from sources like Eric Lampard's *The Rise of the Dairy Industry in Wisconsin: A Study of Agricultural Change, 1820-1920,* Joseph Schafer's *A History of Agriculture in Wisconsin,* Donald Marti's article

[8] Sigurður Gylfi Magnússon and István M. Szijártó, *What is Microhistory? Theory and Practice* (London: Routledge, 2013).
[9] Allen G. Noble and Hubert G.H. Wilhelm, eds., *Barns of the Midwest* (Athens: Ohio University Press, 1995) and Allen G. Noble and Richard K. Cleek, *The Old Barn Book: A Field Guide to North American Barns and Other Farm Structures* (New Brunswick, N.J.: Rutgers University Press, 1995).

"Agricultural Journalism and the Diffusion of Knowledge: the First Half-Century in America," and John Schlebecker and Andrew Hopkins' *A History of Dairy Journalism in the United States, 1810-1950*, arrive at similar conclusions to those of Allen Noble regarding the history of centric barns in the United States, and specifically in Wisconsin.[10] While certainly invaluable sources in the history of barn architecture, the existing literature on the subject of round barns rarely explores the small-scale histories of individual barns and their owners and builders.

Larry Jost, in his 1982 catalog of centric barns *The Round and Five-or-More Equal Sided Barns of Wisconsin*, identified 188 centric barns in the state, 109 of which have since been confirmed to still stand in the "Wisconsin Centric Barns Multiple Property Listing" for the National Register of Historic Places in 2013.[11] Exhaustive lists of centric barns in Wisconsin such as the appendix attached to this dissertation already exist, so the cataloging is not the primary goal of this study. Instead, the purpose of this study is to synthesize the prevailing narrative, typology, and history of round barns in one place and then to expand on it using case study examples.

Several seminal studies have inspired the organization and argument of this dissertation, particularly in the value and importance they place on regional study and micro-historical examples. All of these works have also employed a method that works from the buildings as subjects themselves and expanding out to people related to them and broader

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[10] Eric E. Lampard, *The Rise of the Dairy Industry in Wisconsin: A Study of Agricultural Change, 1820-1920* (Madison: State Historical Society of Wisconsin, 1963): 244-351; Joseph Schafer, *A History of Agriculture in Wisconsin* (Madison: State Historical Society of Wisconsin, 1992); Donald B. Marti, "Agricultural Journalism and the Diffusion of Knowledge: the First Half-Century in America," *Agricultural History* 54, No. 1 (1980): 28-37; and John T. Schlebecker and Andrew W. Hopkins, *A History of Dairy Journalism in the United States, 1810-1950* (Madison: University of Wisconsin Press, 1957).

[11] Larry T. Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin* (Franklin, WI: L.T. Jost, 1982); and Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing," National Register of Historic Places Inventory/Nomination Form. Wisconsin Historical Society, Madison, 2013.

historical implications. Bernard Herman's *Architecture and Rural Life in Central Delaware, 1700-1900*, was, like this study, the outcome of observations made during a series of local architectural surveys. Similarly rooted in fieldwork and material culture assumptions, Herman's book tackles episodes of building that reflect cultural and social change in the specific location of rural Delaware. Fred Peterson's *Homes in the Heartland* also shares a similar subject matter, region, and period of study as well as a focus on using material evidence, closely following the adoption, adaptation, and diffusion of saw-milled lumber in the construction of homes and other buildings across the Midwest during the nineteenth century. Perhaps the greatest influence is the well-known and highly regarded *Big House, Little House, Back House, Barn* by Thomas Hubka. He concludes that the farmers of Maine and New Hampshire connected their farm buildings in a long configuration to manage their varied and complicated everyday tasks and remain within the accepted traditions of taste and social influence.[12] Following along these lines, this dissertation utilizes observations from fieldwork to tell specific cultural stories that have broader implications for the centric barn building type.

Methods

This dissertation draws on methods associated with the fields of history and art history. Specifically, it relies on architectural history methods to assist in formal architectural analysis; material culture studies as an inspiration to focus on the object and its relationship to, and dialogue with, people; and structuralist-functionalist social history and micro-historical

[12] Thomas C. Hubka, *Big House, Little House, Back House, Barn: The Connected Farm Buildings of New England* (Hanover, NH: University Press of New England, 1984); Bernard L. Herman, *Architecture and Rural Life in Central Delaware, 1700-1900* (Knoxville: University of Tennessee Press, 1987); and Fred W. Peterson, *Homes in the Heartland: Balloon Frame Farmhouses of the Upper Midwest, 1850-1920* (Lawrence: University Press of Kansas, 1992).

concern with people's lives, to emphasize the use of the buildings, barns in this case, to the end of improving our understanding of the people who constructed and used them and to try to glean meaning from this study. In this effort, the meaning of vernacular architecture closely follows the broad and accepted definition that it is not so much the category of building being studied, but rather a way of defining commonplace buildings.[13] This approach, modeled on the early work of Dell Upton and echoed in overviews of the field of vernacular architecture studies such as Thomas Carter and Elizabeth Cromley's *Invitation to Vernacular Architecture*, can address a number of popular conceptions of vernacular architecture as either an inferior and imitative way of building, or in direct competition with high-style design, or as a spontaneous architecture unrelated to accepted academic styles. Simply put, the meaning of vernacular architecture, and its acceptance as covering all common buildings, aligns more closely with the ideas of Upton rather than the traditionalism of earlier work in architectural history like that of Nikolaus Pevsner.[14] For the purpose of this dissertation elite architecture is defined in opposition to the vernacular in a reversal of the traditional definitions of the terms where vernacular is defined by what is not capital "A" architecture. Thomas Hubka illustrated this point effectively in his 1984 article "Just Folks Designing: Vernacular Designers and the Generation of Form," in which he sets up a dichotomy between folk builders and modern architectural designers. Hubka states that architectural form is dictated by physical and cultural constraints, and that folk architecture is bounded by habit and tradition with familiar responses while modern designers can use an unlimited capacity and associations for new forms and ideas. He also points out that the assumption that folk designers crudely copy elite models is

[13] Camille Wells, "Old Claims and New Demands: Vernacular Architecture Studies Today," *Perspectives in Vernacular Architecture* 2 (1986): 1-10.
[14] Dell Upton, "The Power of Things: Recent Studies in American Vernacular Architecture," *American Quarterly* 35, No. 3 (1983): 262-79 and Carter and Cromley, *Invitation to Vernacular Architecture*.

wrong. One approach is rooted in its social context, while the other embraces the concept of an individually inventive mind, both share processes of adoption and adaptation.[15] Regardless of an implicit preference, this work introduces a similar alignment of design influences as this dissertation. However, as the case of centric barns indicates, often the boundaries between folk, or vernacular, design and professional modern design are not so clear.

Elite architecture sources come from professionals, writers and trendsetters of fashion, architects, engineers, and academic origins and are straightforwardly recognizable by their conventions and defined styles. With these definitions considered, centric, or simply round, barns fill the unusual niche of belonging to the former, but perhaps being inspired by the latter. A centric barn is recognizable simply by its namesake - its shape in plan. It is a barn, obviously, designed to contain, feed, and shelter farm animals, and generally belong to a period of American rural history bounded by the late nineteenth and early twentieth centuries. In one sense, which will be discussed later, centric barns serve as an example of modern architecture that has nothing to do with "modernism" in the accepted architectural terms codified by writers of the past such as Sigfried Giedion and Henry Russell Hitchcock.[16] Instead of a set of aesthetic choices intended to break with the past and embrace a reflection of industrial life, centric barns, as well as other buildings, can be considered modern by virtue of their methods of construction using standardized materials and methods applied widely across building types and regions irrespective of cultural architectural traditions. This complicates Hubka's conclusions about folk design, which imply some reliance on tradition as the defining

[15] Thomas C. Hubka, "Just Folks Designing: Vernacular Designers and the Generation of Form," *Journal of Architectural Education* 32, No. 3 (1979): 27-29.
[16] Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge, Mass.: Harvard University Press, 1941).

constraint inspiring folk, or vernacular, architecture.[17] Centric barns then are modern buildings produced along similar lines to how Hubka describes the folk design process, but with additional layers of design inspiration and dialogue with elite and modern building methods and sources.

Much of the dissertation uses evidence from field study. I relied heavily on notes, drawings, conversations, and measurements at the site of each barn. This information is combined with public and social history research focused on documents such as plat maps, rural directories, historic photography, family and township histories, advertisements, journal articles, trade magazines, and newspaper articles from the turn of the century. Photographs, sketches, and occasional measurements complemented personal discussions with the property owners. The work also relied on rural directories and building records where available, plat maps, and census data. Most of this work was completed at local historical societies, libraries, museums, and government offices. Public records provided the historical context of names, places, and dates for each case study. Subsequent research, often pertaining to the owners, builders, and linear history of each case took place as a response to the information initially accumulated through observation and research. The barn examples used for case studies were selected based on the quality and quantity of information found. Specifically, if the barn subject had physical integrity and reflected its original building intent, and if information, whether from owners, previously published work, or local records, was readily available. Interviews with property owners, family members, and local records pertaining to the individuals who owned, operated, or constructed the barns followed. While the emphasis was on gathering as much micro-historical evidence as possible, this was balanced by looking at

[17] Hubka, "Just Folks Designing," 27-29.

agricultural trade magazines, farm manuals, and agricultural college bulletins, which turned out to be important sources for discussions about the design and application of barn building at the turn of the century. These sources often served as the stand-in for the professional view of centric barns and their development. Local newspapers were also useful for information about individuals, specific properties, or the material and building trades. However, though public history research and fieldwork methods were utilized in each case, each barn required a different emphasis in terms of research dependent on context and the theme of each chapter in keeping with micro-historical methods.

Organization

These case studies support the overarching argument that these barns are best interpreted through the lenses of, identity, and place. The first chapter, "Chapter 1: The History of Centric Barns in Wisconsin," develops the necessary background history and context of the typology and development of the centric barn building form in the state of Wisconsin. "Chapter 2: Technology" touches on the role of technological change and application in centric barn design and use through the example of the Ten Eyck Round barn and Lueder 13-Sided barn. The former deals with the precise roles of professional influence and the propagation of the round barn form based on progressive ideals and their reception and demonstrates the counter-factual model of round barn building that was rarely put into practice. The Lueder barn example adds to this and explores this concept further through expression and complexity, and how centric barns can be understood as personal demonstrations of eccentricity, wealth, and experimentation that consciously used its distinctive scale and form as defining characteristics. "Chapter 3: Identity" looks at the role that personal identity, whether ethnic, racial, or

otherwise, plays in the specific history of a centric barn through the examples of the Vocke Octagonal barn and the Harris Round barn. The Vocke barn tackles questions of German ethnic association related to the octagonal barn forms in Ozaukee County and the centric form's origins in possible prescriptive works of the nineteenth-century precedents. The Harris barn brings up questions about the variation in centric barn design and the role of racial identity in the production of these buildings and serves as a more common example of a remote and unique round barn building practice that expresses the needs and values of its owners and builders. "Chapter 4: Place" explores the role of the immediate natural and human environment in centric barn design and use with the examples of the Lindstrom Round barn and the Cunningham Round Barn. The Lindstrom barn example examines the role of regionalism and the tensions of technological change in "modern" vernacular architecture applied to the subject of centric barns and demonstrates later developments and modernization in the centric barn type. The Cunningham barn returns to the introduction with the process of appropriation and adaptation of the centric barn building to a set of needs and a specific time and place and closely examines how the rare building type can be a specific reflection of the people who built and used it. Each case study approaches the subject of centric barns in Wisconsin from a slightly different perspective, enriching our knowledge of the logic and reasoning behind the barns.

The centric barns of Wisconsin tells a story about the relationship between the barns and their professional design origins through the themes of technology, identity, and place. Centric barns have elite design sources, but looking at the barns themselves and the evidence around them shows that they are rarely translated exactly into practice and are instead adapted to particular contexts. This relationship, where the local alters the professional intent through a

process of adaptation, reflects the nature of vernacular building in the modern world and especially the period of transition at the turn-of-the-twentieth century. It is hoped that this provides a model for the interpreting other examples of the building type in the state and further afield.

CHAPTER 1
The History of Centric Barns in Wisconsin: Development and Typology

This chapter provides a history of the centric barn building type as context for the examples discussed in subsequent chapters, which focus much more on individual cases and the specific relationships involved in the design, construction, and use of such barns. Much of this history and typology exists elsewhere, in particular in the work of Allen Noble and others mentioned previously. Although this dissertation focuses on Wisconsin, much of this broad history applies to the centric barn building elsewhere in the country as well. Catalogs documenting centric barns within other states, such as John Hanou in Indiana, Lowell Soike in Iowa, Richard Triumpho in New York, and Larry Jost in Wisconsin, are also similar and proved useful in creating a typology. This background is necessary to understand the following case studies and the relationship between the vernacular centric barn and its professional origins and parallels during the transitional period around the turn of the twentieth century.

Development

Barn building, often called "raising," conjures up a rural image of community spirit, rugged independence, and a relationship with the land. Centric forms were rare during the nineteenth and early twentieth centuries when the directness and logic of right angles made the most sense given building traditions, materials, costs, and local labor practices.[18] Octagonal, multi-sided, and circular barns appeared as a Midwestern dairy-state phenomenon. While they certainly exist elsewhere in the country, especially New York and other mid-Atlantic states, centric barns have a dense concentration in the dairying and corn belts of the Midwest, from

[18] John Fraser Hart, "On the Classification of Barns," *Material Culture* 26, No. 3 (1994): 37-46.

central Minnesota in a diagonal direction to central Indiana and everything in between, from the Northwoods to the southern border of Iowa and central Illinois. Numbers are disputed in the Midwest generally, but as many as 215 round barns have been constructed in Wisconsin. However, not of these have been accounted for and only recently 109 centric barns have been confirmed to still exist along with another 63, which have since collapsed or been demolished. Neighboring states typically have fewer with estimates of 170 in Minnesota, 170 in Iowa, 155 in Illinois, 56 in Ohio, and 49 in Nebraska. Indiana is the only state in the country that possibly had more initially than Wisconsin, with as many as 225 identified.[19] There is ample evidence that many centric barns have been demolished or have collapsed in the last four decades, roughly a century after their completion. Over 440 centric barns were identified across the United States in the 1970s. By 1980, 180 centric barns were identified in Wisconsin alone, still a fraction of a percent of all barn buildings in the state.[20]

Multi-sided, polygonal barns have a long history. British agricultural building precedents from the seventeenth and eighteenth centuries include small, round horse-powered mills called "gin-gangs" from northern England. Two-story Dutch hay barracks, which house cattle below and hay above, are another similar eighteenth-century precedent. Both the gin-gang and the hay barrack were usually quite small in scale. Other well-known early examples in American history include George Washington's Dogue Run sixteen-sided barn and the Shaker's Hancock round barn.[21] Several Dutch colonial buildings in New York and Pennsylvania have octagonal and hexagonal shapes. Early centric barns in the United States

[19] John T. Hanou, *A Round Indiana*, 1-12.
[20] "The Preservation of Historic Barns, Brief 20," In National Park Service Preservation Briefs. Last modified April 7, 2018. www.nps.gov/tps/how-to-preserve/briefs/20-barns.htm; Soike, *Without Right Angles*, 1-9*;* and Hanou, *A Round Indiana*, 1-12.
[21] Eugene Dodds, *The Round Stone Barn* (Hancock, MA: Shaker Community Inc., 1968).

invariably took on octagonal and other polygonal shapes in plan. Most of these were built in New England and the Mid-Atlantic States, especially New York.[22] The post-Civil War period, especially the 1880s, saw a significant number of smaller, multi-sided agricultural buildings constructed. Most of these were multi-story designs with haylofts above for fodder grain and room for horses or cows below in stanchions and box stalls, used especially in the colder months of the year. These eastern seaboard examples were not large, usually about forty feet in diameter, and contained silos to store feed. Many of them were decorated with large cupolas and many windows, as they were often built by more successful and ambitious landowners on established farms. The search for increased efficiency, which was the motivation behind the development of octagonal and other polygonal shaped barns, encouraged the design of increasingly circular forms.[23] The interior concentric formation of cow stanchions or horse stables meant a purely round form, as the extra, and sometimes awkward spaces created at the obtuse interior angles were not necessarily used. Multi-sided variations of the octagon idea began to appear with 10-, 12-, and 14-sided barns appearing in the Midwest during the 1890s, with many more in the 1900s. Similarities amongst the octagonal and polygonal shaped barns indicate that some continuity in craft and personnel existed. These multi-sided barns, in general, pre-date the construction of truly round ones.[24]

The octagonal and polygonal shaped plans also correspond to other characteristics that indicate their earlier age. Octagonal barns usually do not have self-supporting, arched roof constructions. They never have an interior silo of any shape or scale. They are typically less

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[22] Triumpho, *Round Barns of New York*, 13-47; and Paul Leland Haworth, *George Washington: Country Gentleman* (Indianapolis, IN: Bobbs-Merrill, 1915).
[23] Bernard L. Herman and Gabrielle M. Lanier, *Everyday Architecture of the Mid-Atlantic: Looking at Buildings and Landscapes* (Baltimore, MD: Johns Hopkins University Press, 1997).
[24] J. H. Sanders, ed., *Practical Hints about Barn Building* (Chicago, IL: J. H. Sanders Publishing, 1893), 53-58; and "The Preservation of Historic Barns, Brief 20."

than sixty feet in diameter, and usually close to the small end of the scale with diameters close to forty feet. The multi-sided polygonal plans are not standardized in any way, with no equivalents found elsewhere. The materials used in their construction also indicate early dates in the use of pre-industrial techniques, such as vertical board siding, timber framing, and stone foundations instead of the cut lumber, stick-built and arched frames, concrete, brick, and tile materials of the true round barns of the twentieth century. In a broad sense, octagonal and polygonal barn plans dominated nineteenth-century round-type barn construction, while truly round forms were more common after 1900.[25]

Between 1860 and 1890, the state of Wisconsin experienced an agricultural revolution as the economic basis of production shifted from wheat to dairy.[26] As profitability in the production of wheat and other staple crops plummeted after the Civil War, farmers searched for alternatives. Experienced dairy farmers from New York and immigrants from central Europe moved into the southern and western portions of the state during the 1860s and 1870s as Wisconsin turned to dairy production, encouraging a move to more profitable products such as milk, cheese, and butter. In turn, these products became considerably more predictable in terms of quality and storage in the 1880s and 1890s with the development of specific agricultural technologies and methods including winter feeding, improved breeding, butterfat testing, and refrigeration. By the 1890s the dairy industry in Wisconsin was firmly in place and had reached an industrial and national scale.[27]

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[25] Hanou, *A Round Indiana*, 1-12 and Soike, *Without Right Angles*, 1-9.
[26] Wyatt, ed., *Cultural Resource Management in Wisconsin*: Vol. 2, Agriculture, 1-1 to 11-1.
[27] Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*, 1-8 and Richard W. E. Perrin, "Circle and Polygon in Wisconsin Architecture: Early Structures of Unconventional Design," *Wisconsin Magazine of History* 47 (Madison: Wisconsin Historical Society, 1963): 50-58.

A combination of influences from the University of Wisconsin, the Dairyman's Association, and technological advancement prompted some of these changes. Cheese came into widespread production in the 1870s but was unpredictable in a pre-refrigeration era. The dairy industry found success as it became increasingly scientific. Farm research, experimentation, and the dissemination of knowledge in the industry through publications such as *Hoard's Dairyman* aided rapid advancements in dairy production and husbandry. Farmers worked to improve milk production through breeding, increasing the quality of hay and feed, and the general welfare of dairy cows. Feed was vitally important to this development; the introduction of the round silo and the process of ensilage, developed by Franklin H. King, a University of Wisconsin professor, allowed winter-feeding efficiency, and thus, more milk and more profit. Cheese, butter, cream, and milk have been large components of Wisconsin's economic base since and the state has developed an international reputation for dairy products. Dairy afforded the local agricultural economy less spectacular, but more consistent, gains from the 1880s on. This was especially aided by Professor Stephen Babcock of the University of Wisconsin, and the invention of the accurate butterfat test. The test significantly aided in quality control of dairy products for export and distribution. Dairy became the dominant type of farming suited to diversification in the late nineteenth century; this was especially true for Wisconsin, which had the appropriate climate, available land, and expertise for widespread dairy farming.[28]

The University of Wisconsin established the Agricultural Experiment Station in 1883, and the College of Agriculture in 1889. Their presence contributed to the advancement of dairy farming, to which the prevalence of round barns in the state was linked. Agricultural college

[28] Lampard, *The Rise of the Dairy Industry in Wisconsin*, 244-351; Triumpho, *Round Barns of New York*, 13-47, 86-89; and Jerry Apps, *Barns of Wisconsin* (Madison: Wisconsin Historical Society Press, 2010).

research directly contributed to improvements in the measurement of butterfat, the preservation and testing of milk, agricultural sanitation, ensilage, comparative breeding, and specialized dairy cattle. Barns were used to protect the newly popular Holstein and Guernsey cows, specialized breeds for milking only. Testing programs were also introduced in the late nineteenth century at the behest of *Hoard's Dairyman* and various state agricultural colleges. The round barn was a part of this scientific approach to agriculture. Modern dairy barns, encouraged by the same institutions, consisted of long rows of stanchions and systematic feeding in well-ventilated and well-lit spaces with wide aisles for year-round use. Threshing floors and haylofts were maintained near the cows for feeding. This arranged function dictated a form that lent itself to large and long bank barns or circular ones.[29]

Centric barns related to the rise of dairy farming in Wisconsin and across the Midwest as the round design was intended to address the stabling of cattle. Centric barns were strongly supported and promoted by the dairy industry, dairy agricultural professionals, and dairy trade publications. King's work expanded through the Wisconsin Agricultural Experiment Station to focus on farm buildings. His round silo helped to revolutionize farming practices and husbandry in the United States during the 1890s and he proceeded to make the round silo the central element in the design of round barns. He emphasized such a design as improving movement, work efficiency, ventilation, and sanitation. King's ideas and designs of true round barns with enclosed silos were quickly disseminated through the Agricultural Experiment Station and through the writings of J. H. Sanders, the founder of the successful agricultural journal, *Breeder's Gazette*, established in Chicago with readership across the Midwest. This publication, largely concerned with agricultural technology and methods, demonstrated how

[29] F. M. White and D. I. Griffith, "Barns for Wisconsin Dairy Farms," *Wisconsin Agricultural Experiment Station Bulletin* 266 (Madison, WI: 1916): 1-3; and Soike, *Without Right Angles*, 26-42.

new barn designs would work in dairy farming. Sanders compiled a few examples of farm outbuilding designs, including instructions, framing plans, and sectional construction drawings. Most of these were taken directly from various Midwestern state agricultural experiment stations, including King's drawings and illustrations of a round barn. Move to later with more King stuff In 1893, Sanders indicated that the true round barn plan's primary advantages were suited explicitly to dairy farming and included effective ventilation, temperature control, economy of construction, consolidated uses, and efficient movement of grain and cattle. The involvement of the University of Wisconsin in agricultural technology and research, focused on dairy concerns in the late nineteenth and early twentieth centuries, supported the state in becoming the national leader in the production of butter, cheese, and milk by 1914.[30]

F. H. King, professor of Agricultural Physics at the University of Wisconsin, was instrumental in the design of the round silo and the science of ensilage. His work on the subject probably inspired the form of a round barn design he developed for use on the dairy farm of his brother, C. E. King. King, a native of Wisconsin, served as a professor of agricultural physics from 1888 to 1902, and was a notable figure in the development of agricultural sciences at the University of Wisconsin, contributing extensively to the design and ventilation of farm buildings as well as the study of soil nutrients. In 1889, F. H. King received a request to design a large and modern dairy barn for his brother's farm near Whitewater, Wisconsin. Intended as a model as well as a working barn, King's design sustained warmth and coolness in respective seasons, admitted light, cost less to construct and maintain, and reduced farm labor. The resulting giant round barn, 92 feet in diameter and 28 feet from its sills to eaves, consisted of four concentric stone walls and foundations with a balloon frame of two-inch stock with a

[30] Wyatt, ed., *Cultural Resource Management in Wisconsin*: Vol. 2, Agriculture, 1-1 to 11-1.

sheathing of overlapping boards. The two-story building contained a large cylindrical silo in its center, which aided the efficient and proximate feeding of at least a dozen livestock and helped support the large roof. An 18-foot-wide barn floor adjacent to the silo, along with chutes leading to the feeding alley of dairy cows, allowed fodder to be delivered from a wagon in a circular drive and quickly moved into feeding positions. The non-extant dairy barn accommodated eighty cows and ten horses at all times of the year. Such a design, professionally developed by an expert in the field, inspired others to consider the round barn plan for dairy farms.[31] King's scientific design approach and idea of efficiency in one large integrated building with a minimum of movement appealed to other experts in the field, and the true round barn design found many receptive minds in departments of agriculture, trade magazines, and experiment stations across the country. The design of C. E. King's dairy barn was re-published and distributed numerous times across the Midwest from 1889 to the twentieth century. King's plan of the circular silo found widespread support, and not just in academic circles. A few examples of King's barn and similar barn concepts can be seen in several published drawings (Figures 3-5).

Introduced in 1891 through the Wisconsin Agricultural Experiment Station, the round silo, constructed in a similar way to true round barns with a balloon frame structural system, had immediate impact and popularity among farmers for its efficiency, convenience, and ability to preserve feed. The stick-built design of the silo, paired with the obvious shape in plan, encouraged true round types to be designed and built in the 1890s. Once a round silo was introduced, it made sense to simply build a round barn around it, out of the same materials and using similar methods. Self-supporting arched roofs were introduced later, but, in the

[31] F. H. King, "Plan of a Barn for a Dairy Farm," *Seventh Annual Report of the Agricultural Experiment Station at the University of Wisconsin* (Madison: University of Wisconsin, 1889), 183-92.

meantime, the introduction of a silo operated as a large column in the center of the barn, which every function would rotate around. This allowed the size of the true round barn to expand to much larger than the octagonal barns of the preceding decade. Widely publicized in *Hoard's Dairyman* and experiment station bulletins, the true round barn and silo was adopted and promoted by H. E. Crouch of the Illinois Agricultural Experiment Station after 1900.[32]

When the neighboring Illinois Agricultural Experiment Station and Agricultural College adopted the true round barn form from Wisconsin, demonstration models were built beginning in 1908 in Champaign under the direction of Wilbur Fraser. Fraser's documentation of the work and the study of the barn's use in "Economy of the Round Dairy Barn" had a significant impact on true round barn design. Fraser went on to outline similar benefits of the round barn form as King did before him, stating that the true round barn could incorporate a silo, encourage efficiency of use, use fewer materials, span large unobstructed spaces, possess good ventilation, and be easy to use. In a later publication, Fraser stated that interest in the true round dairy barn, through the promotion by the Illinois Agricultural Experiment Station, had only increased and that more were being built across the dairy states of the Midwest despite the form's relative unfamiliarity and potential difficulties. Fraser professed admiration for the progressive spirit of American farmers since none of the new owners and users of the building type had recorded a complaint.[33] This view coincided with Fraser's earlier criticism of imitation and tradition as limiting factors on human and agricultural progress.

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[32] Alan I. Marcus, *Agricultural Science and the Quest for Legitimacy: Farmers, Agricultural Colleges, and Experiment Stations, 1870-1890* (Ames: Iowa State University Press, 1985), 49-86.
[33] Wilbur J. Fraser, "Economy of the Round Dairy Barn," *University of Illinois Agricultural Expertise Station, Bulletin* 143 (Urbana: University of Illinois, 1912), 6-15 and Wilbur J. Fraser, "The Round Barn," *University of Illinois Agricultural Experiment Station Circular* 230 (Urbana: University of Illinois, 1918), 5-52.

The first demonstration barn on the Illinois campus was a sixty-foot diameter true circular barn intended to demonstrate the functional benefits of the building type. All of the latest agricultural technologies of the early twentieth century were included. The barn was built into the side of hill similar to a bank barn so that the second level could be easily accessed. It had a concrete foundation with a brick wall above for the first level. 2"x12" joists were used for the second-floor framing with eight-inch shiplap siding to sheath it. A large arched balloon frame of 1"x6" studs sat above the masonry wall and the interior silo was made from the same materials. While it was intended as a model barn, the Illinois Agricultural College round barn was actually very similar to many of the barns built across Wisconsin and the upper Midwest in the first decade of the twentieth century. Two more barns were subsequently constructed as variations and improvements on the first model. These round barns, the second with a diameter of 80 feet and the third with a diameter of 90 feet, possessed added structural elements, interior supports, greater window area for light and ventilation, added monitors and cupolas, and milking stalls. Otherwise, they were designed along a similar premise.[34] The Illinois demonstration barns and the various potential designs promoted and considered for them, contributed greatly to the diffusion of published round barn models.

The main argument made by Fraser on behalf of the round barn were its benefits in proportional expenses of construction and maintenance compared to rectangular designs. He directly compared two barns, one round and the other rectangular, of similar size and area and found that the sixty-foot diameter round barn would have a cubical content of 117,669 feet and would cost approximately $799.76 for lumber to build. In contrast, the rectangular option, with

[34] O. S. Sisson, "Unique Round Barn Silo," *American Agriculturalist* 61 (1897): 434; White and Griffith, "Barns for Wisconsin Dairy Farms," 1-37; and Otto R. Zeasman, *Dairy Barns* (Madison: Agricultural Experiment Station, University of Wisconsin, 1921).

36 feet by 88 feet dimensions, would have a cubic content of 117,138 feet, but would cost considerably more at $1,023.27 for lumber. Labor costs were notably left out. Disadvantages admitted by Fraser included unfamiliarity among farmers with the building type and a difficult process of construction with more angles, more cuts, and more mathematics necessary; the round barn would require more skilled carpentry to construct and a more open-minded farmer to build.[35]

Breeder's Gazette published extensive manuals and catalogs in addition to the monthly journal. In one such book from the 1910s, simply titled *Farm Buildings*, an extensive list of dairy cattle barns, complete with plans, sections, and renderings included round barns. One example of an octagonal plan in this text featured the objection of wasted space caused by the form that balanced out the positive gains from the use of fewer materials. *Breeder's Gazette* also explained that filling this kind of barn with hay could be difficult, and the lack of an integral silo was also a detriment. In comparison, truly round barns were highlighted as the ideal type for a dairy farm, if the owner could afford the initial cost and find the necessary skilled labor to construct such barns. The true round barn had the silo, less wasted space than other forms, and an efficiency of use that other types lacked, according to the listing. These positive attributes were repeated in literature from the 1890s through the 1910s by supporters of the centric barn type. The barns had large enclosed spaces built with significantly fewer materials with a self-supporting roof and a silo in the center, acting as a column. The round form stood up to lateral wind forces well, and the plan was distinctly efficient. Possible

[35] Fraser, "The Round Barn," 5-52.

detractions included unfamiliarity with the form and construction methods, the silos being difficult to use, and the potential waste if the interior space was not planned correctly.[36]

Round barns rivaled the recognized perception of the Wisconsin dairy barn held by farmers: long, tall, and rectangular. The round barn and the Wisconsin dairy barn competed with one another for popularity during the late nineteenth and early twentieth centuries. Both contemporary models developed and competed with each other simultaneously, encouraged and promoted as improvements in farm life. Both models shared similarities in their appeal to dairy farmers with vertically segregated functions of storage and feeding. They also both strove consciously improved circulation of animals, air, and light, and both were constructed with modern mass-produced materials, standardized masonry, and balloon framing building methods. Dairy farmers with means were given a choice of which barn model to follow. The round barn was explicitly used for dairy purposes and often built into a hillside like a bank barn so that the second level and haymow could be directly accessed with farm equipment. Like the rectangular plans, foundations and first levels were often of masonry construction with a large cut-lumber frame above, often stick built with 1x4s, 2x4s, and 1x6s of various lengths and sheathed in board siding. The round barns were also typically large and came with a high cost compared to their familiar rectangular cousins, often as much as 22% more initially.[37] As the vast majority of Wisconsin farms were run for profit rather than subsistence during the late nineteenth century, economic, scientific and industrial ideas were increasingly applied to rural daily life. The agricultural press and academic resources were used to legitimize these scientific approaches to agriculture in the name of economic improvement.[38]

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[36] Sanders, ed., *Practical Hints about Barn Building*, 101-108 and "Farm Buildings," *Breeder's Gazette* (Chicago, IL: Breeder's Gazette, 1916), 172-84.
[37] Noble and Wilhelm, eds., *Barns of the Midwest*, 17-20, 188-212.
[38] Schlebecker and Hopkins, *A History of Dairy Journalism in the United States, 1810-1950*.

Proponents of the round form repeatedly boasted of its radical novelty. The language used, whether the source is found in trade magazines or the work of the University of Wisconsin or Illinois, frequently refers to the round barn form's many advantages, its assumed relationship with reformist and scientific ideas, and opposition to its adoption from traditional and conservative farming habits. In a 1912 University of Illinois *Agricultural Station Bulletin*, Fraser stated that "the objections to round barns have usually been made by those who have only a superficial knowledge of the subject, and do not really understand the relative merits of the two forms."[39] Much of the existing literature on the topic of round barns stresses the moment around 1900 as one of experimentation and invention in a broad movement actively concerned with farming practices, industrial efficiency, and human betterment.[40]

The greatest and most common advantages outlined include the argument in favor of circular forms as geometrically efficient. The ratio of volume to surface area was especially large for a spherical object in comparison to a rectilinear one. The fact that less material was used to construct a round barn made it more economical according to promotional materials as rectangular barns typically required 22% more wall length to enclose the same amount of space. This material-saving quality combined with a supposed efficiency of use and the consolidation of multiple uses under one roof led to claims of 34-58% cost savings during the life of a round barn, compared to an equivalent rectangular dairy barn.[41] Other benefits included the large, unobstructed haymow, multiple stables and milking stanchions, and the integral silo and granary, all of which contributed to greater efficiency as multiple functions coexisted in a larger space saving time and energy on the part of farmers and laborers with

[39] Fraser, "Economy of the Round Dairy Barn," 6-15.
[40] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."
[41] Fraser, "Economy of the Round Dairy Barn," 6-15.

reduced movement. The circular plan also promoted an open and directed path of work. In an era without automated machine tools that still largely relied on muscle for many necessary activities on a farm, these improvements promised an increased level of production and a better life.[42] F. M. White and D. I. Griffith, in *Barns for Wisconsin Dairy Farms*, a Wisconsin Agricultural Experiment Station Bulletin, pointed to the increasing standardization of barn design and layout as the advantage of centric barns: "A greater area can be enclosed by a circle than by a rectangle of the same wall length and… Circular construction is claimed to be stronger and to give greater convenience."[43]

The increased convenience in storing, handling, and distributing feed offered by the round barn was supplemented by the greater structural strength of the building type. Despite fewer materials used in their construction, round barns, due to their shape, were thought to handle horizontal wind loads more effectively - a useful attribute in Midwestern and Plains states with occasional tornadoes. The sturdy construction of the round barn, partly attributable to a self-supporting roof in an arch and domed stick-built construction, came from taking advantage of the lineal, rather than the breaking, strength of wood members. The lineal strength in compression could be as much as twenty times greater in a 2x4 or 2x6 than the cross-grain strength in bending. The majority of strain in a round barn came down from the top, directed on to the vertical members like a dome. Rows of board sheathing acted as hoops to hold the structure together. F. H. King argued that the benefits of the round barn were greatest when the building was larger: "The great economy of the circular plan for farm buildings over other types of structure diminishes as the size of the building decreases."

[42] W.A. Foster and Deane Carter, *Farm Buildings* (New York, NY: John Wiley and Sons, Inc., 1922), 57-63 and King, "Plan of a Barn for a Dairy Farm," 183-92.
[43] White and Griffith, "Barns for Wisconsin Dairy Farms," 1-37.

However, floor planning for dairy cattle and simple wood frame construction methods limited the reasonable size of such barns to about ninety feet in diameter at the high end.[44] Likewise, floor planning and the requirements of a dairy barn created a lower limit for true round barns of about forty feet in diameter. As a result, a happy balance of economy, simple construction, and planning settled on a common size of roughly sixty feet in diameter. A large majority of the true round barns in Wisconsin are close to this size.[45]

Although many true round barn designs originated from agricultural colleges, experiment stations, and dairy trade magazines at the turn of the century, such designs were followed and elaborated on by local builders, professional architects and engineers, and even the adoption of the building type for mail order designs. Endorsement preceded the proliferation of a wide variety of designs within the type. Pattern books, like the ones published by *Breeder's Gazette*, other publications such as *American Agriculturalist, the American Farmer, Country Gentleman, Dairy World, Cultivator, Wallace's Farming, the Dairy Farmer,* and *the Prairie Farmer*, and mail order firms like Sears, Roebuck and Company distributed designs and instructions for low fees to farmers during the first two decades of the twentieth century. Organized commercial endeavors for the construction of round barns became common with notable contributors including M. L. King's Permanent Building Society, the William Louden Machinery Company, and architect William Radford's widely advertised designs.[46] Between 1907 and 1923 Benton Steele, a successful designer and builder of round barns, cultivated a broad readership of articles and advertisements in agricultural newspapers and journals, including *Hoard's Dairyman* and the *Breeder's Gazette,* for his services. Beginning

[44] King, "Plan of a Barn for a Dairy Farm," 183-92.
[45] King, "Plan of a Barn for a Dairy Farm," 183-92 and Hanou, *A Round Indiana*, 13-32.
[46] William A. Radford, "A Round Barn for the Man Who Produces Milk," *Power Farming* 28 (1919): 22-26.

in Indiana, but quickly expanding his range of work across the Midwest, including Wisconsin, Steele was typical of the industry in that he conducted his practice personally with a crew of experienced craftsmen. They would travel from site to site, commission to commission, erecting a single barn over the time span of roughly three months before moving on. This approach became increasingly common during the early 1900s as new building technologies became more widespread, including the use of concrete for foundations and floors and balloon framing and dimensional lumber became more pervasive. Steele actively promoted these building methods and materials along with boasting of the technical advantages of round barn building.[47]

While not specifically about the development of the centric barn, or even agricultural architecture and building, period literature on turn-of-the-century agricultural technological development and habits stressed the top-down model of professional influence and guidance. Both John Schlebecker's *A History of Dairy Journalism in the United States, 1810-1950,* and Gould Colman's *Innovation and Diffusion in Agriculture* in *Agricultural History* plainly assume that agricultural experiment stations, journals and magazines, and the corporate manufacturers of machinery directly dictated the methods and lifestyles of rural America by 1900. This view is outdated and more recent work on the relationship between farm life and prescriptive literature offers a different view. Sally McMurry, in her book *Transforming Rural Life: Dairying Families and Agricultural Change, 1820-1885*, offers an explanation for a related transition from farm-based butter and cheese-making to factory-based production that does not solely rely on elite economic influence, but rather these changes owed much to social

[47] Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*, 1-8 and Soike, *Without Right Angles*, 26-42.

and cultural change at home during the nineteenth century instead.[48] The example of the Ten Eyck Round Barn, and the other case studies discussed later in this dissertation, provides a more nuanced view that this elite influence certainly existed and was felt; however, it was often weak in its actual application and more often than not adjusted to suit the specific needs of individuals and farms.[49] Noble and Wilhelm in *Barns of the Midwest*, and Richard Cleek in *The Old Barn Book: a Field Guide to North American Barns and Other Farm Structures*, set out a very different approach through a series of typologies of rural architecture that actively emphasizes their variety in form and origin. While not arguing against the influence of elite sources, these scholars point to the heterogeneous origins of architectural styles and details that exist even on the large dairy barns of Midwestern states such as Wisconsin. Often the origin of such forms is traced to an ethnic past. While this is certainly true to a degree, the centric barn form is largely without a clear ethnic precedent.[50] Another approach, found in Jacqueline Jackson's *The Round Barn: A Biography of an American Farm*, is a non-fiction storytelling of rural life for the Dougan family through several generations. Jackson tells present-tense stories about everyday life on a Wisconsin dairy farm outside Beloit, not far from the Ten Eyck Orchard, during the early and mid-twentieth century. W. J. Dougan, the owner and builder of the round barn, visited with Professor F. H. King at the Agronomy Department of the University of Wisconsin in 1906 to discuss his plan for a round dairy barn. This type of history does not discuss the influence of elite architectural sources, the variety of individual vernacular conditions, or even discuss the ever-present round barn on the farm that is the subject of a

[48] Sally McMurry, "The Pennsylvania Barn as a Collective Resource," *Buildings & Landscapes* 16, No. 1 (2009): 9-29 and Sally McMurry, *Transforming Rural Life: Dairying Families and Agricultural Change, 1820-1885* (Baltimore, MD: Johns Hopkins University Press, 1995).
[49] Schlebecker and Hopkins, *A History of Dairy Journalism in the United States, 1810-1950* and Gould P. Colman, "Innovation and Diffusion in Agriculture," *Agricultural History* 42, No. 3 (1968): 173-88.
[50] Noble and Wilhelm, eds. *Barns of the Midwest*, 17-20, 188-212 and Noble and Cleek, *The Old Barn Book*, 19-25, 114-19.

series of books in great detail; however, it does assist in providing an intricate and human context for life on a dairy farm at the time. The round barn that is the subject of the title no longer exists.[51]

After the first World War, the agricultural press either actively decried the propagation of round barns or simply lost interest in their promotion. During the late 1910s many of the original supporters of the round barn abandoned their support as the type came under extensive criticism. For example, the Wisconsin Agricultural Experiment Station, originally one of the round barn's greatest proponents, published critical studies in 1916. Two researchers at the University of Wisconsin, F. M. White and C. I. Griffith, cited a number of reasons why the centric barn forms were inferior to rectangular designs. They claimed that the central silo was difficult to use, and the barns had a lack of saved and utilized space; they also criticized the lack of decent ventilation and lighting due to the depth of the spherical interior space. As agricultural technology changed, the round barn became increasingly difficult to use in contrast with its earlier appeal along similar lines. Large tractors and farm equipment no longer operated with ease in the narrow, turning driveways inside a round barn. The rarity of the round barn also made it difficult, over time, to maintain because of a lack of familiarity and an increasingly standardized set of building materials and practices. Hay, for instance, was standardized by machinery and habit into rectangular bales, ill-suited to the lofted curving spaces of the round barn. Round barns were not adaptable to the changes in technology. Widespread rural electrification and mechanization in the Midwest during the 1920s and 1930s

[51] Jacqueline Jackson, *The Round Barn: A Biography of an American Farm* (Beloit, WI: Beloit College Press, 2011), Vol.1, 29-33, 36-42.

along with standardized dairy machinery like barn cleaners and milk pipelines were more easily applied to rectangular barns.[52]

The claims of economic efficiency of the centric barn never materialized with any significant data to support it in practice. Rectangular barns became ever more pervasive over the course of the twentieth century because of their relative versatility and consistency. In comparison to round barns, they were predictable, easy to adjust regardless of their shape for future configurations, and easy to build. True round barns never found widespread support despite the publicity and apparent technical advantages over traditional rectangular barns. While the increasing cost of lumber initially made the round barn's efficiency more appealing, the limits on its size, frequently settling on a barn with a sixty-foot diameter, was a detriment as it was difficult to expand a round barn in a logical way once the needs of a dairy farm outgrew the capacity of the round barn. Because of this, many subsequent large additions to centric barns serve as functional replacements, housing dairy cows and milking equipment in rectilinear formations. Smaller additions vary considerably from milk houses to horse barns and silos and are approximately comparable to small agricultural buildings found on many farms throughout the twentieth century. Part of this discouragement is possibly attributable to the lack of enthusiasm for them by the 1920s amongst agricultural professionals, but this assumption leaves out the lack of success even with the support of publications and university systems. The round barn's efficiencies may have been well-suited to a time of intensive physical farm labor; however, the same design features made them difficult to adapt to a world of machines and changing farming practices.[53]

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[52] Fraser, "Economy of the Round Dairy Barn," 6-15 and "Efficiency of the Round Barn," *Kansas State Board of Agriculture, Eighteenth Biennial Report* (Manhattan, KS: Kansas State Board of Agriculture, 1911-1912), 136-45.
[53] Soike, *Without Right Angles*, 26-42 and "The Preservation of Historic Barns, Brief 20."

The decline in construction of round barns in the 1920s can also be attributed to the slowing of the agricultural economy in the United States during the same period. Westward expansion ended and most arable land in the country was claimed and farmed extensively by the interwar decades. Drought and protectionist policies simultaneously limited supply and eliminated markets. Farmers across the country struggled during the 1920s and 1930s compared to the successful decades that preceded them. Nonetheless, perhaps the biggest obstacle to the round barn's success was a lack of familiarity with the type's design for farmers and builders alike.[54]

The round barn, despite its potential structural advantages, was also not familiar to the carpenters and farmers who constructed and raised the majority of dairy barns. This was clearly recognized by many of the round barn's supporters even early on. In the same 1916 text that describes the benefits of circular design, White and Griffith elucidated the drawbacks and negative results of the round barn:

> In a round barn the silo must, for convenience in feeding and for roof support; be located in the center. This location is inconvenient for filling… Unless designed for a dairy barn and all interior arrangements are circular in form, there is much waste space. As the haymow must be unloaded inside a barn bridge leading to the second floor is required. Barn bridges are not always convenient, and much space is wasted… The center of the barn is poorly lighted which in a dairy barn is a very objectionable point. The construction of a round barn prohibits the economic use of rafters for if they are placed the proper distance apart at the plate they are too close at the top. There is a considerable difficulty in securing carpenters experienced in round barn construction. It is more difficult to secure proper ventilation in a round rather than a rectangular barn.[55]

Many early boosters included the presumed conservatism of farmers amongst the challenges facing the adoption of the round barn design. Farmers, it was claimed, were inclined to follow

[54] Triumpho, *Round Barns of New York*, 86-89.
[55] White and Griffith, "Barns for Wisconsin Dairy Farms," 1-37.

custom over the advice of rational expertise. Albert Ten Eyck, the author of the *Efficiency of the Round Barn*, from the Kansas State Board of Agriculture, Eighteenth Biennial Report of 1911-1912, stated that:

> Probably one of the most active opponents of the round barn is community custom, which in certain districts has favored the erection of one special type of barn to the exclusion of all others. In barn building as in farming the general country man is much more willing to follow custom than to attempt to deviate from locality dictate and to build a barn which would be an innovation for his district.[56]

In fairness, the efficiencies of the round barn were functionally fleeting while common rectangular barn designs proved themselves more adaptable to change.[57] Regardless of the relative success and popularity of the building type, centric barns were developed in a wide variety of form, scale, and material, largely informed by the specific context rather than a standard prescribed design.

Typology and Region

This dissertation is inclusive of all parts of the state, though some regions possess a greater density of centric barns than others. While this work is divided into more focused case studies, they are necessarily set in the wider spatial and typological context of centric barns within Wisconsin. A typology, in keeping with previous work on centric barns in the Midwest, is useful to define the building type more clearly and set the parameters within the boundaries of Wisconsin. Such centric barns were first constructed in the eastern part of the state during the 1880s and 1890s, followed by the southern portion during the first decade of the twentieth century, and finally the western and northern portions in the following two decades. Each of

[56] "Efficiency of the Round Barn," 136-45.
[57] Foster and Carter, *Farm Buildings*, 57-63.

these regions constructed centric barns in roughly chronological order within a period spanning from the 1870s to the 1930s corresponding with the rise and prominence of dairy farming in Wisconsin, as can be seen in this map documenting barn locations in the state (Figure 6). This map shows the distribution of centric barns (some of which are no longer extant), and their formal type, across the state correlating to their approximate addresses and town and range number also included the appendix list.

Form

The plan of centric barns can take the form of true circles, octagons, and other polygon shapes of five or more sides. The number of sides and the plan have some correlation with the period of construction; octagonal and multi-sided polygons appeared first in the 1870s and continued to be built through the turn of the century, while true round plans appeared after the 1890s.[58] Such barns are usually constructed out of wood, though variations utilize masonry construction in their load-bearing walls and foundations. Almost all examples have at least two floors, one below for livestock and one above for a hay mow and feed, with access via a ramp or berm to the second level like the more familiar bank barn form. It is not uncommon for a silo to be integrated in the center of a centric barn. There is a wide variation of roof types, both self-supporting and otherwise, and roofs are always constructed of wood framing. There are also a variety of sizes, varying from small forty-foot diameter barns to as great as one-hundred-and-fifty-foot diameter barns. As a visual aid, there are generic plans of a round barn type with common features found in many, but not all examples (Figures 7 and 8).

[58] Legacy Architecture, Inc. “Wisconsin Centric Barns Multiple Property Listing.”

The first type, the octagonal barn, is recognizable by its eight sides. Popular from the 1870s into the twentieth century, the octagonal barn has precedents from earlier in the nineteenth century in the work of Orson Squire Fowler and later Elliot Stewart. It may also owe some debt to vernacular northern European and colonial agricultural forms. In Wisconsin, the barns built by the Clausing family, concentrated in Ozaukee County, serve as good examples of the type. Usually smaller in scale than the later polygonal and true round barn forms, the octagon form was designed to hold dairy cattle and horses and has overall diameters in the range of forty feet or slightly more. The floor plans of octagonal barns compare with rectilinear bank barns and horse barns and are divided into a lower stable level and an upper haymow level. An example of this can be seen the plans of the Vocke barn (Figures 9 and 10), which is the subject of Chapter 3.

Easier to build and more familiar than a truly round shape, octagon barns were suited in scale and design to manual agricultural labor. The type rarely has a self-supporting roof and thus has interior columns and lacks a silo. The siding is typically a variation on vertical lap boards and the type divides functions, like most centric barns, between hay and feed above, and animals below in a bank barn configuration. Doors and windows in octagonal barns are typically utilitarian in design and placement. Octagon barns, while rare, were largely familiar in the rural landscape of late nineteenth-century southeastern Wisconsin as signs of prestige, wealth, and progressive ideals.[59]

The variety of polygon barn types reveals a period of transition and experimentation. The concept behind these designs was similar to the octagonal barns in that they could

[59] Nina Jo Look, *The Clausing Octagon Barns of Ozaukee County: An In-Depth Study* (Cedarburg, WI: Ozaukee County Historical Society, 2012) and Orson Squire Fowler, *A Home for All; or, the Gravel Wall and Octagon Mode of Building* (New York, N.Y.: Fowler and Wells, 1854).

approach the efficiency of a round shape while still following common building practices. They range from small, auxiliary six-sided agricultural buildings to large 14-, 16-, and 20-sided barns that operate in much the same way as later true round dairy barns. Most of the multi-sided centric barns in Wisconsin have between twelve and fifteen sides and have diameters similar to true round barns between 55 and 65 feet and are contemporary to both the professional and vernacular phases of true round barn construction. Like their round counterpart, polygonal barn plans are divided into two levels, the lower one arranged in open concentric rings and dedicated to housing and feeding livestock and the upper level consisting of a large open space for the storage of feed, hay, and other agricultural supplies. They also share a similar material vocabulary with true round barns in addition to their scale and the doors and windows are typically utilitarian in nature and generally feature many windows along the lower level and a single large barn door at the upper level. Some unusual variations exist in the odd-numbered sided types, which are asymmetrical along a line running through the barn door. The barn door side is often slightly larger in this case than all the other sides and can lead to modified hipped roofs. This category largely serves as a transitional one, covering all other centric barns outside of the clearly defined octagonal and round types.[60]

Round barns fall under two distinct categories, those designed and often built by professionals, and those designed and built by local farmers and carpenters. It is common to refer to all centric barns as "round," though this is clearly not the case and the distinction of form is an important one. The professional true round barns are the first examples of the round form, taking their inspiration from the efficient calculations of agricultural colleges, state agricultural experiment stations, and trade magazines and publications concerned with

[60] "The Preservation of Historic Barns, Brief 20;" Foster and Carter, *Farm Buildings*, 57-63; and "Wisconsin Round Barns List." Last modified April 7, 2018. www.dalejtravis.com/rblist/rbwi.htm

improving dairy farming and agricultural life scientifically. Round barn plans are divided into two levels, the lower one arranged in open concentric rings and dedicated to housing and feeding livestock and the upper level consisting of a large open space for the storage of feed, hay, and other agricultural supplies. They most often incorporated silos and were large, ranging from about 66 feet to over 90 feet in diameter. Doors and windows are typically utilitarian in nature and generally feature many windows along the lower level and a single large barn door at the upper level. While there are examples of deviations from such plans, most built examples are faithful to the overall design found in published materials.[61]

Round barns not designed or built by professionals and not finding their source in trade magazines and other published works began to appear in the early twentieth century. No doubt these examples were inspired by the professional models, but they did not clearly follow the prescribed designs. As a result, they have a wide range of variation often responding to the specifics of the place where they were built. One such model is that of the roving builder who traveled across Wisconsin and the Midwest, finding commissions and settling down for some months on a farm to construct a round barn using their specific carpentry skills and building methods, often distinct from others. A more common approach was the traditional one of farmers joining together to raise a neighbor's dairy barn. However, because of the complicated carpentry and framing of round barn roofs, there was often a foreman figure involved that had experience and previous knowledge of the building type.

The case of Alga Shivers in Vernon County, discussed in more detail in Chapter 3, is one such example. He led in the design and construction of over fifteen true round barns, all similar, but used local farm labor to construct them. Regional variation appears in the materials

[61] Fraser, "The Round Barn," 5-52 and Hanou, *A Round Indiana*, 33-58.

used in the construction of round barns, as locations with plentiful timber have wood barns, rocky land sometimes has fieldstone round barns, and locations with proximity to population centers more often used brick or clay masonry and even metal products. Vernacular true round barn types proliferated in areas that were largely underdeveloped by the turn of the century as new agricultural lands and farms appeared.[62]

Spatial and Serial Arrangement

Besides definitions based on form, Wisconsin centric barns can also be organized according to period and region. Conveniently, there is some overlap in this process as the first period of centric barn development in eastern Wisconsin from the mid-1870s to the 1890s coincides with octagonal forms. The development of round barns and experimentation matches the widespread construction of round barns in the southern half of the state from the 1890s to the 1910s. The proliferation of round barns across the western and northern portions of Wisconsin in the twentieth century corresponds to the spread of local and vernacular variations on the true round barn.

The first centric barns in Wisconsin were built in the already developed counties of the southeastern portion of the state, especially near Lake Michigan. Stretching from the Illinois border to Ozaukee County, several octagonal barns were built on established dairy cattle and horse farms. Ozaukee County alone had over a dozen such barns, most built by Ernest Clausing in the 1880s and 1890s. These barns, and certainly their designs, predate the establishment and influence of the Agricultural Research Stations and Colleges in the Midwest. Many appear to be inspired by architectural developments in New York and the East Coast, even though many

[62] Alderson and Alderson, *Barns without Corners,* 36-40; "Alga Shivers and His Round Barns;" and Soike, *Without Right Angles*, 1-9.

of the owners and builders of such barns were immigrants, albeit successful and established ones.[63]

Several true round barns and polygon barns were built in Southern Wisconsin from 1890 until World War I. Many of these were actively modeled on the ideas and plans coming out of the University of Wisconsin, the University of Illinois, and other institutions. Almost all were built to replace already existing rectangular barns and agricultural outbuildings for dairy purposes. The preferred concentric formation of cow stanchions combined with the design of self-supporting roofs and interior silos encouraged a move away from the octagonal models of the preceding decade. Beyond the counties along Lake Michigan, Dane, Rock, Walworth, Green, and Sauk counties can all claim, during this period, a number of round dairy barns. As further agricultural expansion of dairying moved westward, the round barn form followed. By the first decade of the twentieth century a variety of professionally designed and built round barns appeared in the western half of Wisconsin. These were a mix of true round forms and multi-sided polygons imitating the scale and use of true round barns. Added to the published models was the growing frequency of professionally built and mail-order centric barns in Grant, Iowa, and Buffalo counties.[64]

The last phase of geographic growth for centric barns in Wisconsin was a spread to the western and northern portions of the state. Large numbers of true round barn types, usually of a vernacular nature, were constructed in Vernon, Monroe, Pepin, and St. Croix counties. Vernon County alone had as many as twenty at one time. Part of this was due to the continued expansion of dairy farming and agricultural settlement in the state in the wake of new lands becoming available after intensive forestry. Many of these barns were completed in the 1910s

[63] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."
[64] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."

and 1920s, even after the round barn fell into disfavor elsewhere. These dairy barns across the western and northern halves of the state also exhibit the greatest variation in building materials and methods. Some barns are notable for the distinctive architectural features and influence on the rural landscape. Included in this group are many county fairground exhibit barns. Very large and meant for an audience, this barn type is typically found in the northern half of Wisconsin, and they were generally built in the 1920s and 1930s. Wisconsin centric barns can be categorized into one of these distinct periods and regions within the state's history.[65]

Conclusion

In many ways, centric, or round, barns met the needs of a nineteenth- or twentieth-century dairy farm, especially in a time and place that predates a highly mechanized agricultural world. These barns indicate a physical manifestation of progressive and technical values at the turn of the century, emphasizing a trend in American society that valued improvement and efficiency. In this case, such improvement and efficiency related to agriculture, specifically dairy farming. Some barns followed the prescribed models of agricultural publications and the work of agricultural experiment stations and colleges of agriculture. Others were designed directly by professionals eager to demonstrate the efficiency of the new barn building type. Still, other builders were inspired by the development of the centric designs as models for their own barns. The following chapters collectively tell the story of the form in ways that account for these variations through factors such as technology, identity, and place, thereby enriching our knowledge of the form and its history linked to people who designed, built, and used them.

[65] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."

CHAPTER 2: TECHNOLOGY
The Ten Eyck Round Barn and the Lueder 13-Sided Barn

This chapter discusses the role of building technology and its various applications in the history of the centric barn form, revealing a process of adaptation of the building form over time and space. This process was inspired by academic and professional sources with an interest in improving agricultural efficiency related to the specific context of individual barns. This is a modern process considering the tools, materials, and methods used in the architecture of these barn buildings; it is also modern in the sense that such buildings were promoted through mass print media and government-supported state agricultural colleges and research stations.

Albert M. Ten Eyck, a young and ambitious agronomist, constructed a large round barn on his family farm and orchard in Green County in 1922. Ten Eyck had previously conducted research on barn building types and actively promoted the round form at state agricultural colleges in Kansas and Illinois following his education at the University of Wisconsin. Late in the development and promotion of the building type, the barn nonetheless serves as an example of a professionally designed agricultural model intended to demonstrate the improved efficiencies that such a building could provide, even more so considering it was his own orchard that the round barn would serve. The barn itself reflects many features of published designs from the preceding thirty years of round barn development in the upper Midwest, and especially in Wisconsin. Among the case studies included in this dissertation, this barn most closely follows a prescribed model, probably because its builder and owner was one of the professionals.

Another example of technological expression and adaptation can be seen driving along County Road J in Sheboygan County, not far west of the city of Sheboygan. Here it is hard not to notice the mountainous barn, rising from the otherwise flat and gridded landscape. It is the only one around like this, and though it is set back from the road a significant distance, it is likely that everyone, even the locals, turn their heads to peer up at it from the road as they pass. It is equally easy to find on satellite maps, the only round structure for miles. The Lueder barn is not technically round, but it is mathematically close with thirteen nearly equal sides and an impressive diameter of ninety feet. It does not appear to belong, and it is assumed that whoever constructed such a building must have had quite the imagination. The stereotype exists that centric barn builders and owners are necessarily eccentric, that their buildings are akin to outsider art on an agricultural architecture level. There may be truth to this if eccentricity is defined as designing and building differently. Many centric barn builders and owners around 1900 appear to have been common people—farmers that share the same material wealth, background, and beliefs as their neighbors with the rectilinear dairy barns. However, some also stand apart with distinct identities, needs, and abilities. Often the centric barn can be understood as an expression of the people who produced it, who were typically of the sort who consciously wanted their building to be noticed. Rudolph Lueder's 13-sided barn is one of these examples.

In addition to fieldwork and public history research utilized throughout this dissertation, this chapter also enlists family archives and personal recollections of the descendants, who still own and operate the properties. Albert Ten Eyck wrote the autobiographical *Ten Eyck Family Record* towards the end of his life and this document was invaluable since it provided a direct source of the thoughts, concerns, and motivations of Ten

Eyck, who was deeply involved in agricultural reform, education and promotion of centric barn building through state college organizations. Likewise, the current owners of the Lueder barn are descendants of the Lueder's, and have kept historic records and documentation of their family's property. The building and its technology are used to explore the role of architectural expression and willful complexity in the design of an otherwise utilitarian building. Both of these examples reveal technological elements of centric barn construction and use that to define the building type within the context of the tension between elite sources and vernacular adaptation and interpretation. The Ten Eyck and Lueder barns reveal how the prescriptive literature on barn building was utilized and how farmers and builders could creatively diverge from these suggestions. Together, both barns show how technology is important to understanding the centric barn's individual history and how close examination of it may add to a broader story about adaptation in vernacular architecture.

The Albert M. and Minnie Ten Eyck Round Barn and an Ideal Realized

The Albert and Minnie Ten Eyck Round Barn was consciously constructed to reflect the accumulated knowledge of academic and professional agricultural minds of the early 1900's. As previously discussed, agricultural colleges promoted the centric barn form along with a plethora of progressive rural reforms and scientifically studied farming means and methods. Albert Ten Eyck was one of these agricultural educators and writers. He was also a farmer; his barn, built on his family's farm and orchard, reflects values and data that he had accumulated over two decades preceding the construction of his barn.

Following a more idealized and professional vision of what a round barn should be, the Ten Eyck example is notable for its original simplicity in design. The barn is nestled into the

south-facing slope of a steep hill. The farm contains a mix of agricultural buildings, animal pens, and the extensive orchards to the north and west. The Ten Eyck orchard is still a functioning family-owned orchard and the barn is used for storage. The truly circular plan is sixty feet in diameter and almost the same in height with a central interior silo, ten feet in diameter, enclosed in both levels of the barn. Like most round barns, the lower level was intended for use as a feed floor with pens and troughs and the upper haymow was designed for storage; however, the Ten Eyck barn often, from its construction, was used as storage for the apple orchard as can be seen in plans of the barn (Figures 11 and 12).[66] The bank barn configuration is typical of dairy and other livestock barns and was especially popular in the design of centric barns allowing access to both levels from the exterior. There are a milk house and processing facility additions to the barn, which match the materials of the building (Figure 13).

The concrete foundation of the barn stops abruptly at grade and transitions to structural clay tile walls as seen in an historic photograph of the barn under construction (Figure 14). These red structural clay tiles, roughly four by twelve inches on a face, and eight inches in depth, function similarly to masonry construction and are stacked in a common running bond. Variation in the firing of the clay tiles results in a gradation of red colors, randomly seen on the exterior. Subsequent cement patches and repairs can be seen intermittently across the barn's exterior; these are especially noticeable where the window openings have been filled in to weatherize the lower level. The clay tiles used to fill in these openings are noticeably darker than elsewhere and are stacked in an uneven pattern, indicating that their origin is different than the clay tiles elsewhere in the round barn. The use of hollow clay tiles in the construction

[66] Albert Moore Ten Eyck, *Ten Eyck Family Record* (Brodhead, WI: 1949): 62-64, 95-98.

of round barns is relatively rare and is generally limited to use in other agricultural buildings, specifically silos. These clay tiles can be seen on the Ten Eyck barn (Figure 15).

The main entrance to the lower level is located on the west façade of the round barn. This large, hinged, wood door is flanked on either side by an additional blocked-in opening, formerly used for a pair of windows. The covered window openings, measuring approximately three and a half feet in height by six feet in width, were originally occupied by pairs of double hung wood windows with twelve equal lights for light and ventilation to the lower level; however, they are now filled in with replacement clay-tile masonry to roughly match the rest of the lower level of the barn. Directly above the window openings at the termination of the structural clay tile wall rests a large wood frame wall of the upper level of the round barn on a large oak plate. Approximately eighteen vertical feet of the exterior is clad in horizontal wood drop siding, painted red. This remarkable siding was steamed and curved to fit and then nailed in place to the wood frame (Figure 16). There are no openings in the upper-level wood siding. The wood used in the construction of the barn, both the siding and structural members, was cut from oak timber logged on the north face of Pine Bluff on the Ten Eyck property to the north.[67] The barn and the buildings on the rest of the farm were constructed on the south side of the bluff, an ideal siting for the round barn as strong winds simply go around the structure as intended. The wood frame wall terminates with a wood plate for the attachment of the roof above, with radiating rafters that extend to an open eave and narrow fascia. A large wood barn door, measuring roughly fourteen by twelve feet, dominates the north façade of the Ten Eyck Round Barn. As the grade level is significantly higher on this side of the barn, none of the clay tile or concrete foundation is visible. The large sliding barn door is constructed with the same

[67] Ten Eyck, *Ten Eyck Family Record*, 62-64.

oak as the rest of the barn structure and is hung from above with metal runners, which can be seen in recent photography of the building (Figures 17 and 18).

The roof above sits on a double oak plate that, in turn, extends around the entire circumference of the round barn as an extension of the wood frame walls. Rafters, arranged in a radial pattern from the center, are simply extended and exposed in an upturned angle at the end with a narrow fascia. The roof initially slopes sharply and then adjusts in a gambrel shape to a lower pitch at two-thirds of its total twenty-six-foot height. Three shed dormer windows, located on the east, west, and south facades, rest at the point of inflection of the gambrel roof. The original cedar shingle roof lasted more than fifty years and was eventually replaced with diamond asphalt shingles, and in 2007, the asphalt shingles were replaced with cedar shakes to replicate the original appearance of the barn roof. A four-foot-high cupola sits at the center of the roof with four windows facing in the cardinal directions (Figure 19).

The central circular silo, completely hidden from the exterior, is constructed from structural hollow clay tiles similar to the exterior walls of the round barn. The silo extends vertically up to fifty-five feet in height, quite high for a silo in the early twentieth century, and acts as the bearing wall for joists in the interior haymow floor and rafters in the barn roof. The roof of the silo is constructed of radial wood lumber with an opening in the central high point. In many ways, the silo's form is the same as the entire round barn itself. From historic photographs, it is apparent that the silo was completed first, and the rest of the round barn was subsequently constructed around it, like an armature.

Cow stanchions and stables occupied the lower level of the Ten Eyck Round Barn. The floor in this location is bare concrete like the foundation, and the floor plan was arranged in centric rings based on use for a dairy barn. When it was constructed, the Ten Eyck barn held

twenty cows for milking, several box stalls for calves, and stables for four horses. The stanchions were arranged in a ring with the cows facing in towards the central silo for feeding as is common for round barns. The walls of the haymow are the exposed back face of the oak wood frame seen on the exterior. The silo sits in the center of the circular space and rises to near the peak of the roof. The roof structure is a series of rafters resting at a low point on the top of the exterior wood stud walls and at a high point on the walls of the silo and reinforced at the gambrel point of inflection. The rafters rest at only six inches on center on the high silo end and two feet on center at the low exterior wall. Horizontal boards, in consistent sets around the circumference of the roof structure, are nailed to the top side of the structure as decking and the wood shingle roof is fastened to the decking. A number of original tracks and pulleys used for moving hay are hung from the rafters and remain in the haymow. When the barn was constructed, it was intended to hold as much as one hundred tons of hay. While many round barns have fallen into disrepair precisely because they serve no use on working farms, the Ten Eyck example has been maintained and altered because it is still an active storage building for the working orchard on the site. Besides being an object of pride for the Ten Eyck family, who still operate the orchard, it continues to function despite the more common fate of centric barns that cannot be adapted to new uses so readily.

Progressive Professionalism

The description of the Ten Eyck barn shows a building that closely follows the prescriptive models and advice of the professional agriculturalists and puts it into real practice. This is in keeping with the role of Albert Ten Eyck, who dedicated his career to the promotion of progressive agricultural improvements from planting cycles to the design of farm buildings.

However, the round barn itself is not an exact copy of any published example; instead it is necessarily altered to suit specific constraints of site, use, and needs of the Ten Eyck family as owners.

The Ten Eyck family constructed their barn based on design models that Albert Ten Eyck was no doubt familiar with at the time. Before operating the large family farm and orchard, Albert Ten Eyck had served as an agronomist in North Dakota, Kansas, Iowa, and Illinois. During this time, he actively promoted the round barn form in some of his writing, especially for use as a dairy barn in the upper Midwest. His preferred form, much like that developed by his mentor, F. H. King, was a large wood-frame round barn with an integrated masonry silo and foundation, a self-supporting roof, two levels with two separate entries, the one below with centric rings of cow stanchions, and the one above serving as a large, open haymow. This model, he argued, was superior to the rectangular dairy barns, and even octagonal designs, because of the increased efficiency of use and construction.[68]

Albert Ten Eyck's 1949 autobiography and family genealogy, *The Ten Eyck Family Record*, serves as a useful source in understanding the barn and its owner's intentions. The Ten Eyck family first settled in the area around Brodhead, Wisconsin, in Green County in 1839, when Jacob Ten Eyck, of old New York Dutch heritage, settled in the region. Albert Andrew Ten Eyck inherited the large 600-acre Ten Eyck farm along Pine Bluff on the Sugar River in Green County in the late nineteenth century and established an apple orchard. His son, Albert M. Ten Eyck, was born in 1869 and went on to earn a degree from the University of Wisconsin in Agronomy in 1892, where he studied under F. H. King. After marrying Wilhelmina Carolina

[68] "Efficiency of the Round Barn," 136-45 and Legacy Architecture, Inc., "Ten Eyck, Albert and Minna, Round Barn," National Register of Historic Places Inventory/Nomination Form, Madison: Wisconsin Historical Society, 2016. Reference # 16000813.

Maveus (Minnie) in 1896, he subsequently worked as an Assistant Agriculturalist at North Dakota Agriculture College, then became head of the Agricultural Department at Kansas State College in 1902. In 1906, he was appointed Head of the Department for the newly formed Department of Agronomy, where he developed a popular Farmer Institute to promote improved farming practices. He also served as the President of the American Society of Agronomy in 1910. He resigned from Kansas State College and the Kansas Experiment Station in 1912 and took a position at Iowa State College in Ames, Iowa. When his father died in 1914, Albert and his family moved to Rockford, Illinois, to be near the extended family as he worked as a Winnebago County agricultural agent. In 1918, he took over operations of the Ten Eyck farm in the Town of Spring Grove in Green County, Wisconsin.[69] His family barn was the only full-scale round barn designed and built by Albert Ten Eyck. Albert died in 1958 at the age of 88. One of Albert and Minna's sons, also named Albert, took over operations of the farm at that point, and it was successively passed on to the current owner of the orchard, Albert Andrew's son, Robert Ten Eyck, in 1975.[70]

Albert Ten Eyck can be considered an elite, or professional, design source because of his involvement as an instructor and researcher through a few colleges during his career. Unlike most Wisconsin dairy farmers of the period, he possessed an educational background based on agricultural practices and was instilled with an ideology that valued experimentation and progress at a basic humanistic level. His position is put, not so much in opposition, but as

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[69] Albert Moore Ten Eyck, *Ten Eyck Family Record*, 62-64; *Plat Book of Green County* (Rockford, IL: C.M. Foote & Company, 1891); *Plat Book of Green County* (Rockford, IL: W.W. Hixson & Company, 1920); *Plat Book of Green County* (Rockford, IL: Thrift Press, 1931); *Plat Book of Green County* (Rockford, IL: Globe Map and Atlas Publishers, 1936); *Plat Book of Green County* (Rockford, IL: Rockford Map Publishers, 1948); and Green County Rural Directory, 1906, 1936, and 1970.

[70] Ten Eyck, *Ten Eyck Family Record*, 95-98; *Plat Book of Green County*, 1891; *Plat Book of Green County*, 1920; *Plat Book of Green County*, 1931; *Plat Book of Green County*, 1936; *Plat Book of Green County*, 1948; and Green County Rural Directory, 1906, 1936, and 1970.

an alternative to vernacular sources for architectural design, which are presumed to rely more on tradition and experience.[71] Despite this, it is notable that like the other centric barn case studies the Ten Eyck Round Barn is also not an exact or deliberate copy of a prescribed, and more universal, centric barn design. Instead, Ten Eyck constructed a barn that is technically advanced and conceptually simple, yet responsive to the exact location of the barn and the exact needs of his farm and orchard. The material choices of clay tile, cast concrete, and steam bent lap siding make it a distinctly twentieth-century building of mass-produced standardized components. Moreover, the nearly perfectly circular, if not spherical, dimensions reflect the education and teaching of Ten Eyck as an agronomist and progressive farmer. However, the initial use of large, operable windows, the bank barn orientation along the prominent hill, the intentional storage of non-dairy supplies and lack of natural light or ventilation in the haymow floor make it distinctive and, more importantly, reveal its departure from prescriptive examples. The influence of professionally designed and conceived round barns, all the way back to F. H. King, is readily seen, but the Ten Eyck barn could only exist when, where, and for whom it was constructed.

As a young man, Ten Eyck was part of the wider development of progressive agriculture at the turn of the twentieth century focused on scientific improvement of rural life and farm efficiency and knowledge. Ten Eyck, in part due to his background coming from an orchard and a personal interest in farm buildings, focused on fruit farming and the development of centric barn designs in his research and writing relate to this. He published similar material to Wilbur Fraser during his time with the Kansas State Board of Agriculture in various reports such as the *Efficiency of the Round Barn from the Kansas State Board of Agriculture,*

[71] Glassie, "Vernacular Architecture and Society," 4-24 and Hubka, "Just Folks Designing," 27-29.

Eighteenth Biennial Report, 1911-1912 and *Efficiency of the Round Barn*. All of these publications stressed the advantages of the round barn form for dairy barns and the ideal situations of southern Wisconsin and Northern Illinois for such farming practices. Ten Eyck states in the former that the rise in popularity of the round barn form can be explained thus:

> When a country man is convinced that he can save from thirty-four to fifty-eight per cent of the cost of a rectangular barn by constructing a round barn of quite similar area he usually becomes decidedly enthusiastic about this unique building, other things being equal.[72]

While in Kansas, he served for a brief period as the department head at the Kansas State University Department of Agriculture (now Agronomy) and managed to construct a small demonstration round horse barn in Manhattan, Kansas (Figure 20). Ten Eyck also served as a promoter of the round barn building type throughout his academic career in the 1900s and 1910s. Despite this, the round barn he and his family eventually constructed does not exactly follow any prescribed model, even those that he actively promoted and published himself. There are no published or recorded plans that precisely resemble the Ten Eyck barn. Instead, the barn is the physical manifestation of the accumulated knowledge of Albert Ten Eyck over the course of his career as an agronomist. Its siting on the south side of a hillside with the main barn doors facing north, the use of standardized masonry for the lower wall and the difficult, though attractive, curved lap wood siding above, the open hay mow without evidence of much natural light, the proximity to other matching farm buildings, the insistence on a round barn despite the fact that the Ten Eyck family farm had already largely transitioned to an orchard in use, rather than a large dairy operation, all point to the personal insistence of remaining loyal to

[72] Kansas State University Department of Agronomy, "Past Department Heads: Albert M. Ten Eyck." Last modified April 7, 2018. www.agronomy.k-state.edu/about-us/past-department-heads/albert-m-ten-eyck/index.html; Ten Eyck, *Ten Eyck Family Record*, 62-64, 95-98; and "Efficiency of the Round Barn," 136-45.

Ten Eyck's education and progressive agricultural techniques. The barn, while still a practical and utilitarian farm building, also reflects a set of values and is displayed prominently as a symbol of the Ten Eyck family and their professionalism. This example shows how some centric barn designs were wedded to pre-determined models in their technology. However, not all barns reveal this. Instead, as can be seen in the following example, technology could also reflect creative and expressive ingenuity.

The Rudolph and Meta Lueder 13-Sided Barn as Expressive Vernacular Architecture

The centric barn as a symbol of technological competency and forward-thinking ambition is also on display in the large and unusual Rudolph and Meta Lueder 13-Sided barn. Unlike the example of the Ten Eyck Round barn, the Lueder barn demonstrates advanced building technologies and complex design as a reflection of personal ingenuity and a will to be noticed rather than following any prescribed model.

The Rudolph and Meta Lueder 13-Sided barn is situated amongst a number of other farm buildings away from the road. It currently faces the farmyard to the north and grazing fields and pens on the other directions. The plan of the barn is 85 feet in diameter, quite large for a centric barn, and has a circumference on thirteen straight sides of 240 feet. From the low point of the foundation wall to the top of the roof and cupola is at least 68 feet. The barn completely encloses a large 16-foot diameter concrete silo, two floors, and a loft, and sits on a cast in place concrete and fieldstone foundation. The barn is built into a gentle slope rising to the north that expresses itself most clearly in the rise in grade for the main barn doors on the north façade as a bank barn. The walls of the Lueder barn are technically advanced in their design. The first four feet of the lower wall comprise an extension of the foundation consisting

of a combination of concrete and a large aggregate of fieldstone taken from the property. This wall is over two feet thick around the entire circumference of the barn. A double brick wall, twenty inches deep, rests on the concrete and fieldstone base. This cavity wall is unusual and advanced given its early twentieth-century date and in relation to agricultural building practices of the period. The large air-space between the bricks serves as an insulating barrier. The yellow bricks are stacked in a common bond around the barn with frequent openings for windows, doors, and ventilation fans. Openings in the lower wall, combined with subsequently added fans and vents to the upper level are intended to draw fresh air into the barn and circulate upwards, moving cool air through the building. The concrete and fieldstone base steps up to follow the change in grade towards the north side of the building, making up the entirety of the lower wall functioning as a foundation retaining wall under the main barn doors facing north, which can be seen in plans of the barn (Figures 21 and 22).

As a centric structure with thirteen sides, the barn does not have a clearly defined hierarchy of facades as can be seen in recent photography of the barn (Figures 23 and 24). The east façade of the barn consists of the low wall of concrete and fieldstone aggregate extending up from the foundation roughly four feet. Set on the two feet thick concrete wall is a double brick masonry wall that continues up another four feet. At this level, except for at the banked area and the doors, each face has three equally spaced windows. Some of these windows have been altered with ventilation fans. Each wood six-over-six double-hung window is approximately two and a half feet wide and four feet high. At the north end of the eastern façade, a milk house was subsequently added to the exterior of the barn. The one-room milk house, constructed subsequent to the barn in the 1940s, is constructed of concrete block and has a hipped roof terminating at the wall of the 13-sided barn. The east face of the barn has a

large opening where two hinged doors, each eight-foot square, swing out from the masonry wall into a fenced yard. Above the lower masonry wall is a wood frame vertical wall extending up roughly twenty feet to the underside of the roof eaves. This wood frame wall of the upper level is supported by heavy timber columns, beams, and plate and is sheathed in unfinished vertical wood boards. These uniform boards were once painted white and have approximately 2" x 8" dimensions. This vertical wood wall continues around the entire barn's circumference (Figure 25). A prominent barn door dominates the north façade of the Lueder barn (Figure 26). This thirteenth side of the barn is the widest of all, measuring 26 feet as opposed to 21 feet on all the other sides. The large barn door leads directly to the haymow at the top of an earthen ramp.

The roof above sits on a lumber plate directly on the wood frame wall and extends around the entire circumference of the barn. Rafters are simply exposed at the end with a narrow fascia at the shallow exterior edge. The main timber columns of the walls below tie into the main rafters of the roof. Intermediate members do not angle but are simply set perpendicular on the low plate. The roof initially slopes sharply and then adjusts in a gambrel shape to a lower pitch towards the center of the roof. The point of inflection is approximately half-way up the height of the roof and is supported from below by interior timber columns in the haymow. At the top, the rafters rest on the central silo. Wood boards span the rafters in concentric rings and serve as the decking. The massive roof has a surface area of 2,700 square feet and there is a historic layer of wood shake shingles between the board decking and asphalt shingles. Four hipped dormers extend from directly below the gambrel hip. A cupola with thirteen sides, corresponding to the thirteen faces of the roof, rests directly above the silo. On

each side of the cupola is an opening, approximately a foot and a half in width and three feet high (Figure 27).

The central circular silo, completely hidden from the exterior, is constructed of cast concrete in horizontal bands. The large silo, measuring 16 feet in diameter and 68 feet in height, was constructed in 1915, before the rest of the 13-sided barn was completed around it. The silo descends half a dozen feet below grade with openings at the base to supply feed to the cows in the lower level of the barn. The rafter beams, that support the floor and the interior loft in the haymow, attach to the silo, which acts as a massive central column for the entire barn. The upper portion of the silo transitions to a wood frame structure and is tied into the roof structure above with bracing fastened to the rafters.

The lower level of the barn is used for the milking of dairy cattle. The floor is a bare concrete slab, cast to allow for various curbs and drains in centric rings around the central silo based on use and including feeding stanchions, a manure drain, feeding trough, and various other uses (Figure 28). The width of this working ring of space is approximately 33 feet at its greatest and varies slightly. Originally, there were forty-two stanchions arranged facing inward. The original stanchions and equipment, which are still in place, were purchased from the Louden Hay Tools Company of Fairfield, Iowa. The feed alley around the silo is more than ten feet wide to accommodate machinery. The interior of the lower level is well lit from twenty-seven windows facing the east, south, and west. The ceiling is the exposed structure, mostly two-by dimensional lumber, of the haymow floor above. This floor structure is arranged with members radiating out from the central silo, similar to a round barn. There is one circular row of columns, near the mid-point of the span, to support and transition the joists from silo to

the exterior wall. These joists are roughly one foot on center bearing on the silo concrete wall, and two feet on center bearing on the exterior masonry wall.

The walls of the haymow are the exposed back face of the structural wood frame and timber columns (Figure 29). The only openings are the large barn door, a set of four dormer windows and a central cupola high above the floor. The large concrete silo sits in the center of the nearly circular space and rises to near the peak of the roof. There is an opening at the top of the silo to fill the silo and provide ventilation to the exterior. Above the haymow floor is a loft space, presumably to utilize the enormous space under the large roof. This hayloft is constructed around the central silo in a similar fashion to the floor, with joists for the floor attached directly to the concrete portion of the silo in a radiating pattern. The roof is also supported by timber columns directly underneath the hip all the way around the centric barn. A set of original pulleys and tracks hang from the roof rafters at the hip to assist in the moving of bales around the interior. Another distinct feature of this large barn is the presence of four chutes through which hay and other feed can be dropped from above directly to cows in stanchions in the lower level.

Eccentricity and Modernity

The Lueder barn shows that a centric barn could embrace sometimes outlandish and technically advanced design choices for the sake of personal expression or eccentricity. Such complexity was not derived from professional sources. The simple fact that the barn has thirteen unequal sides should make it abundantly clear. Instead, the Lueder barn is an extreme example of adaption, that may have been distantly inspired by published materials, but was

modified almost beyond recognition in its scale and technical features to suit its specific human setting.

The Lueder farm had been in operation since 1856, when it was settled by Herman Lueder and his family, who emigrated from northwest Germany. When Herman Lueder died in 1913, the dairy farm along with a large inheritance was left to his son, Rudolph A. Lueder. Rudolph, born in 1866, married Malinda Blanki (Meta) in 1893, and was an established local farmer at the time of his father's death. Rudolph had the large dairy barn. Lueder's daughter, Elsie, married another local neighbor, Frank Laack, and the two took over the farm in 1934, when Rudolph Lueder passed away. In turn, the farm and the barn were passed on to their son, Howard Laack, and his wife, Marilyn, in the 1960s. Howard and Marilyn's daughter, Janelle, married Daniel Irwin, and their family took over operation of the dairy farm to the present. The barn is still used for feed storage and milking of the Irwin family's fifty-seven dairy cows. The barn's imposing scale and distinct appearance make it one of the most recognizable buildings in the surrounding landscape.[73]

Most of the wood used in construction was obtained from oak, elm, and tamarack trees on the property, and boards and flooring were recycled from an existing dairy barn on the Lueder farm that was torn down when the new 13-sided barn was built, which can be seen in historic photographs (Figure 30 and 31).[74] A set of drawings and details was created for the large and complicated project, some which still survive and are in the care of the present owners, Dan and Janelle Irwin (Figure 32).

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[73] Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*, 1-8; and Legacy Architecture, Inc., "Lueder, Rudolph, 13-Sided Barn," National Register of Historic Places Inventory/Nomination Form, Madison: Wisconsin Historical Society, 2016. Reference # 16000768.
[74] Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*, 1-8.

When the barn was completed, it incorporated a number of advanced twentieth-century building techniques including the incorporation of a conscious air circulation system that would naturally pull cool air in from the base and draw it up to ventilate out the large cupola at the top. Another environmental component of the design is the thick double brick wall with an integrated airspace. This detail serves to insulate the lower level of the barn, making it warmer in the winter and cooler in the summer. The geometry of the building consists of twelve equal sides, all roughly matching one another, and a thirteenth side, longer than the others, for use as the main upper-level barn door. The scale itself is notable, with the roof spanning 85 feet and towering over 68 feet high with a large silo enclosed. The barn could hold 48 cows in stanchions in the lower level and enough hay and feed for all simultaneously. Perhaps one of the most distinguishing features of the Lueder barn is that it is one of the last centric barns in the state of Wisconsin that is still used for its original purpose as a dairy barn.[75]

The Lueder barn was constructed during a period of success and expansion of dairy farming in Wisconsin. Sheboygan County experienced rapid growth and success in dairy farming driven by increasing demand for its high-quality cream and cheese products. The Lueder barn's location and history of use exemplify these trends as it was initially designed and constructed for what was then a large dairy operation not far from the large towns of Sheboygan Falls, Plymouth, and of course the city of Sheboygan. The barn was also constructed by the first-generation son of German immigrants who dominated the population growth of this region of Wisconsin in the late nineteenth century. The farm, set in the flat

[75] Interviews/Conversations with property owners, May 21, 2014; *Map of Sheboygan County* (Milwaukee, WI: G.A. Randall & C. Palmer Map Makers, 1862); *Plat Book of Sheboygan County* (Minneapolis, MN: C.M. Foote & Company, 1889); *Plat Book of Sheboygan County* (Rockford, IL: W.W. Hixson & Company, 1924); *Plat Book of Sheboygan County* (Fond Du Lac, WI: Calumet Advertising Company, 1955); and Sheboygan County Rural Directory, 1905, 1918, 1927, 1936, 1938, 1940, 1945, and 1967.

landscape of Sheboygan County, an area of the state with few centric barns, is still owned by Lueder's descendants and continues to be used as a dairy farm with one of the only remaining operational centric barns in the state.[76]

While there is no evidence of what exactly the Lueders' neighbors thought of their new unusual barn it can be assumed they thought something. It is unlikely that such a structure went unnoticed locally as the majority of the dairy barns within miles are significantly smaller in scale and orthogonal in design. If perhaps the Lueder barn existed in another part of the state where such building at least existed it might pass as simply an extreme version of farm one-upmanship, but there was no precedent for such a project in Sheboygan County. Subsequent discussion of the Lueder barn, and other centric barns around the state, imply a degree of eccentricity. Lueder himself was not necessarily a socially disengaged or outrageous barn owner, but instead a locally successful individual merely expressing themselves. This eccentricity stands apart in something like a dialectic with the common role of the vernacular architecture of what is, simply, a dairy barn.[77] As mentioned earlier, centric barns do seem rooted to their place and the local context defines their form and understanding (this will be discussed and elaborated in Chapter 4). In this sense, what about the conditions of the well-off dairy farming community of Sheboygan County produced such an unusual building? Barns, being the largest and most expensive buildings on a farm, could be entered into a friendly rivalry of architectural improvement and expression between neighbors: the most successful, and the wealthiest, farms would have the biggest and best barns. In this case, the Lueders went one step beyond and not only went big, but also different. Interestingly, no neighbors were

[76] Lampard, *The Rise of the Dairy Industry in Wisconsin*, 244-351 and Schafer, *A History of Agriculture in Wisconsin*.
[77] "Round barn's rare example of architecture spans nearly a century," *Wisconsin State Farmer*, March 8, 2012.

willing to follow their lead. The chosen design aesthetic of the 13-sided barn made the Lueder dairy farm easily recognizable in the local community. The common assumption that centric barns are a sort of peculiar vernacular, marked by their expressionist architecture, is not entirely false.

Despite the Lueder barn's immense scale and recognizable profile on the landscape of rural Sheboygan County, it remains relatively unknown outside of being an unusual local landmark. Little has been written specifically about it as a specific subject and the topic of polygonal sided barns has been treated as an anomaly in existing literature, broadly included as a variation of the centric barn plan type. For this reason, much of the research on the Lueder barn is limited to the records of the current owners of the property, descendants of the Lueder family, and a couple of overviews of the centric barn type in Wisconsin, including Larry Jost's *The Round and Five-or-More Equal Sided Barns of Wisconsin* and the "Wisconsin Centric Barns Multiple Property Listing."[78]

Multi-sided variations of the octagonal model began to appear at the turn of the century with 10-, 12-, 14-sided barns. Such forms can be understood as a design compromise: they are essentially intended as centric barn forms, but avoid some of the difficulties of construction that come with curved surfaces. Masonry foundations for straight sides would be easier to mark and lay and wood frame upper walls would not have to be steamed and bent or have the potential for gaps or board-and-batten construction. Roof structures could go either way with many small centric trusses, like at the Lueder barn and round barns, or more readily identifiable major structural members. There are only fifteen identified multi-sided barns in Wisconsin and most of them do not follow any prescribed models. The Lueder barn, for

[78] Interviews/Conversations with property owners, May 21, 2014; Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*, 1-8 and Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."

instance, is the only known extant 13-Sided barn in the state. The multi-sided polygonal plans that exist in Wisconsin are not standardized in any way. The materials used in their construction also typically indicate early dates in their use of pre-industrial techniques like the vertical board siding, timber framing, and stone foundations instead of the cut lumber, stick-built and arched frames, concrete, brick, and tile materials of the true round barns of the twentieth century.[79] This is clearly not the case regarding the Lueder 13-sided barn, which contradicts the typical multi-sided barn in its date of construction, size, complexity, and modern building materials and methods. Indeed, the Lueder barn, demonstrating an unusual, and well-executed, geometry, massive scale, a hollow exterior wall, standardized yellow brick masonry, cast concrete, an air recycling system, and dimensional lumber cross bracing is a completely modern building in a technical sense.[80]

The variety of polygonal barn types reveals a period of formal transition and experimentation. The concept behind these designs was similar to the octagonal barns in that they could approach the efficiency of a round shape while still following common building practices. They range from small, auxiliary six-sided agricultural buildings to large 14-, 16-, and 20-sided barns that operate in much the same way as later true round dairy barns. Most of the multi-sided centric barns in Wisconsin have between 12 and 15 sides and have diameters similar to true round barns between 55 and 65 feet and are contemporary to both the professional and vernacular phases of true round barn construction. They also share a similar material vocabulary with true round barns in addition to their scale.[81] In some ways, the multi-sided centric barns, like Rudolph Lueder's massive 13-sided example, are the most complex

[79] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing" and Zeasman, *Dairy Barns*.
[80] Price and Sculle, "The Failed Round Barn Experiment," 1-7.
[81] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing;" and "Wisconsin Round Barns List."

variant of the centric barn building type and express a conscious complexity among otherwise assumed utilitarian agrarian simplicity. Not only did such structures necessarily indicate a level of gregariousness and eccentricity on the part of their builders and owners, but also a willingness to embrace technical skill and modern technology, whether considered vernacular or high architectural style.[82] Some unusual variations exist in the odd-numbered sided types, which are asymmetrical along a line running through the door. The barn door side is often slightly larger in this case than all the other sides and can lead to modified hipped roofs. This category largely serves as a transitional one, covering all other centric barns outside of the clearly defined octagonal and round types. Such a building was not only unfamiliar to many, but it was also expensive to construct for the same reasons. Multi-sided barns like Lueder's reflected an upwardly expanding economy and a successful farmer able to afford an "experimental" building introducing new methods and technologies in addition to an awkward geometry. Perhaps this barn can be understood to intentionally reflect the owner's wealth, success, and progressive sentiment locally.

The Rudolph Lueder 13-Sided barn in Sheboygan County is truly bizarre in its form with oblique angles along the exterior wall of approximately 141.5 degrees. This is not especially easy to do given that the foundation walls are brick and concrete and it was constructed in rural Wisconsin during the 1910s. The barn also possesses cavity walls, a vaulted hayloft, mechanical milking equipment, an enormous roof span, and other modern building techniques.[83] These features can be considered modern building technologies

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[82] Fred Kniffen and Henry Glassie, "Building in Wood in the Eastern United States: A Time-Place Perspective," In Dell Upton and John Michael Vlach, eds., *Common Places: Readings in American Vernacular Architecture* (Athens, GA: University of Georgia Press, 1986), 159-181 and Fred W. Peterson, "Vernacular Building and Victorian Architecture: Midwestern American Farm Houses," *Journal of Interdisciplinary History* 12, No. 3 (Winter 1982): 409-27.

[83] Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*, 1-8.

integrated into the design of a utilitarian building that serves an essentially industrialized modern process for twentieth-century people. Taking these features into account, the Lueder barn is a modern building, not in a stylistic sense but as a reflection of modern life and modernity. Such a barn has more in common with ranch houses and manufacturing plants than it does with vernacular agricultural buildings of the nineteenth century. Furthermore, the design origins of centric barns can be traced to conscious design from elite sources, such as agricultural colleges, mass-production catalogs like Sears-Roebuck, and progressive expertise, propagated through the mass media.[84] These design sources, along with centric barns, can be considered more a part of the modern world as opposed to a commonplace historical precedent. In this sense, such barns are a vernacular expression of a modern building type.

Conclusion

Both the Ten Eyck and Lueder barns are technically advanced structures for agricultural buildings constructed in the early twentieth century and demonstrate the adaptation of professional and elite architectural ideas to the needs and vernacular nature of their specific contexts. In many ways, Ten Eyck is the closest embodiment of a professional source. This barn example reflects the concerns and goals of the university and design elite directly applied to a real, working barn through the flourishing influence and production of agricultural experimentation. Perhaps the Ten Eyck barn was always intended to be more than just an efficient structure, as it can be speculated that its prominent location was intended to be seen and admired locally. However, given Albert Ten Eyck's own writings on the subject and his biography there is no actual evidence to support this supposition. The barn was completed a

[84] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."

number of years after critical approaches to the centric form were published and decades of failure for the building type to catch on amongst the general population of Wisconsin dairy farmers. In addition, it is only one of two round barns in all of Green County and by far the most remarkable, so it did not have a lasting impact on neighboring agricultural architecture. The barn was a last gasp of the centric building type. Of all the centric barn case studies discussed in this dissertation the Ten Eyck barn is the closest to resembling those plans and suggestions given in agricultural bulletins and magazines, but even this purist round barn is not an exact replica of a prescribed design. This barn, like all other examples in Wisconsin, is tailored to a condition, geographically, personally, and materially. It is, however, a technological example of what progressive agricultural techniques and elite source material looked like when they were put into practice.

Similarly, the building of such a striking structure as the Lueder barn, in the middle of flat and cleared landscape, can be interpreted, at some level, as the personal expression of wealth, influence, and pride and as a declaration of ambition and perhaps eccentricity through technological know-how. Rudolph Lueder's 13-sided barn was not a typical or easily completed project in 1916 when it was built. While Lueder had only a small part to play in the actual design and construction of the enormous dairy barn, its existence was the performance of the Lueder family declaring the size of the dairy herd and the technical skill and modern thinking of its owners to the surrounding neighbors in Sheboygan County. Likewise, the complexity of the Lueder barn design, and the design of other unusual centric barns, helps to define them within the context of rural life at the turn of the twentieth century. Local architectural expression, almost always in the form of farmhouses and large barns, required a very different set of architectural traditions and habits. Why would a Wisconsin dairy farmer

go to such lengths to construct a centric barn, especially a thirteen sided one, and why would such formal choices be made? Is this an expression of experimentation or perhaps some progressive interest in taking an architectural form to its logical extremes? It is unlikely that dairy farmers were especially interested in a new progressive and expressionistic architecture, though it is possible. Instead, such centric barns were simply a way of standing apart while demonstrating a degree of ambition. This need to be innovative is shared, on some level, between all the producers of centric barns.

The Lueder barn also serves to explore concerns about how such centric barns were received at a local level. Without any primary examples or commentary about what people thought of the large and technically advanced barn, it still follows that such centric barns were used as deliberate attention-grabbing features of a modern dairy farm. Though not specific to the Lueder barn, there are instances of reminiscences about specific centric barns in the Midwest region from the mid-twentieth century. These invariably come in two variants, those who are nostalgic for the odd buildings, and those farmers that are dismissive of the agricultural mistakes. Perhaps the consensus, well after the initial promulgation of the building type, is that they are structures that combine expertise and folly, and this view was shared at the early twentieth century, which helps explain the lack of successful adoption and popularity of the building type. Centric barns became the exception to the rule of standard rectilinear building practices on farms in Wisconsin at the turn of the twentieth century. Such an unusual shape, though familiar to dairy farmers of the period as a legitimate alternative through decades of published examples, often reflected the specific interests, needs, or identity of the farmer who made the difficult and exceptional choice to build a centric barn adapted from promoted models.

CHAPTER 3: IDENTITY
The Vocke Octagonal Barn and the Harris Round Barn

Because of their relative rarity, round barns are often discussed and interpreted relative to the identity (ethnic, racial, gender, or regional) of the designers, builders, and users. This chapter considers how issues of identity overlap with professional design origins. The two examples discussed herein reveal how the identity of a builder affects the design and construction of each centric barn; in addition, they also reveal a degree of subsequent historical explanation for these barns rooted in ethnic and racial identity that arguably was not a factor when the barns were constructed.

The Frank Vocke octagonal barn was designed and constructed for Vocke in 1888 by Ernst and Theodore Clausing, all members of recently immigrated German families. The barn and the history of its builders and owners reinforces the idea that, while the octagonal barn form originated in elite agricultural and design sources, the vernacular building diverges from the dictated model and becomes specific to its context. In this case, specific applicable criteria include the published nineteenth-century origins of octagonal forms as well as the conscious German-American identity and association of those who built and owned the barn, which offer ways to explore the building type. Subsequent histories of the Clausings and the octagonal barn form in Ozaukee County have focused on the German ancestry of those involved and assume a relationship between the barn's form and a German identity. While such octagonal forms probably did not originate in north central Europe, the octagonal form became a conscious unifying type for the horse and dairy farmers of Ozaukee County, many of whom claim Germanic ancestry. Likewise, the octagonal form was tailored as a response to the specific environment of Ozaukee County. Existing promotional literature developed earlier in the

nineteenth century served as the model; however, the specific response was local. This chapter explores the Vocke barn's acquired associations with German-American ethnicity.

The example of the George and Mayville Harris barn, meanwhile, located in the unglaciated driftless region of Vernon County in west-central Wisconsin, also shows the value of considering issues of identity. The barn is reputed to have been built by Alga Shivers, the son of an African American slave. The region's deep valleys have served to insulate and isolate many of the settlers who arrived in the area from the mid- to late nineteenth century. Such a pastoral setting is ideal for the development of regional vernacular round barns to complement the growth of dairy farming in the area at the turn of the century. In the first two decades of the twentieth century as many as twenty round barns were constructed in Vernon County, most of them by Shivers and his crew. It is estimated that Vernon County has the greatest number of this type of buildings in the state.[85] This concentration of the building type is so closely related to the work of Shivers that he becomes a pivotal figure in the history of centric barns in Wisconsin. His identities, as both the son of a former slave and as a young man building in a remote rural area, play a role the development of centric barns. The primary source of information on these barns, besides the usual fieldwork and references to plat maps, public records, newspaper articles, and census data found throughout this dissertation, was taken from existing discussions on the subject of the builders, the Clausing brothers and Alga Shivers. The cases of the Vocke Octagonal barn and the Harris Round barn lend themselves specifically to further research and discussion on the builders because there is already a significant amount of information available about them and their designs. Both barns reflect complicated relationships between the identity of their producers and builders with the physical form of the

[85] Jost, *The Round and Five-or-More Equal Sided Barns of Wisconsin*.

barns themselves, as well as the potentially inconsistent role that identity plays between the people who built these barns and subsequent interpretations of their value and meaning.

The Frank and Bertha Vocke Octagonal Barn and Formal Origins

As its name indicates, the "Vocke" barn suggests the Germanic heritage of its original owners, Frank and Bertha Vocke. From the time it was constructed by Ernest and Theodore Clausing in 1888, the barn has been associated with the German-American community in Ozaukee County, perhaps partly because of its form. This section considers the barn's origins and history before examining how it assumed its association with this ethnic group. The Clausings built a series of octagonal barns in Ozaukee County during the late nineteenth century. The German ancestry of the Clausings, and many of the octagonal barn owners, stands as a possible explanation for their form and development locally; however, it is far more likely that the builders derived the form from published material as a favored response to the physical context of Ozaukee County.

The Vocke barn is set back from the road on an eight-and-a-half-acre property surrounded by woods that, historically, was adjacent to a Clausing family farm. The barn itself is large, sixty-four feet in diameter and approximately forty-six feet in height over two levels as can be seen in plans (Figures 9 and 10). All of the octagonal barns in Ozaukee County are large for their type across the state; the Clausing's pushed the structure and size of these buildings to their relative limit, thus expressing their scale, technical sophistication, and expense. Each of the eight sides is close to twenty-six feet in length on the exterior with two-foot-thick walls at the base. Originally, the lower level served as stalls and pens for livestock. Traditionally occupied by both horses and cattle the clearance is less than eight feet. The large

haymow above, cleared of any interior columns or silos, makes up most of the volume of the barn. The proximity of the stalls below and storage above, as in almost all centric barns, was intended to make the work of the farmer easier and the operation, especially in winter months, more efficient. This motivation was clearly stated by Stewart and others before, during, and after the period of the Clausing brothers' barn building. However, the Clausing barns, including the Vocke barn, are distinct for octagonal barns with their large haymow, lack of upper-level columns, overhead Dutch doors, and chutes between levels placed at the periphery of the plan rather than the center as can be seen in recent photographs of the barn (Figures 33 and 34).

The barn sits on a fieldstone foundation and is built into a slope gently rising to the west. This configuration, often referred to as a bank barn, is a common design element of livestock barns; it is intended to permit direct access to both floors from the exterior and is the most common arrangement for centric barns. The fieldstone is clearly visible as the barn walls rise approximately eight feet to form the exterior wall of the lower level. The fieldstone wall is incredibly thick and is as much as two feet deep in locations around the perimeter. These massive walls were necessary to support the heavy timber frame, but also served an environmental purpose, keeping the livestock inside warm in winter and cool in the summer. The fieldstone was gathered on the farm during construction and is stacked in a non-uniform pattern and joined with cement mortar. The floor of the lower level is also constructed with fieldstone and is integral to the foundation. Many of these building methods were common at the time to nearly all barn buildings, regardless of type. However, the scale of the Vocke barn, like other Clausing barns, is quite large for an octagonal shape and thus such elements as the foundation and timber structure are exceptionally oversized. Many of the octagonal barn

examples promulgated through agricultural magazines showed more generic designs that utilized frame construction and the early use of concrete. Such examples would be smaller in scale than what the Clausings actually built. A central clear passageway, connecting the doors at the north and south ends of the barn, is the defining feature of the lower level (Figure 35).

While many centric barns arranged animals in the lower level in concentric rings, the octagonal models, especially of earlier dates such as with the Vocke barn, often had rows and pens in a similar arrangement to rectilinear barns across the United States and Europe. A series of whitewashed timber columns and beams form the structure of the lower level and support the hayloft floor above. The columns are spaced equally, roughly twelve feet on center with some variation with additional timber joists running perpendicular at a foot on center. A set of steep wooden stairs lead up the granary space in the hayloft above and a series of chutes, attached to bins above, also link the two levels at locations around the exterior wall, unlike many other octagonal barns.

The walls of the haymow are the exposed back face of the structural timber frame sheathed in the board and batten pine siding seen on the exterior. Each of the eight walls consists of two shared corner posts and a central post on the wall with bracing at each end. The corner posts have a five-sided sectional profile rather than the four-sided timber frame found in other barns, even those octagonal barns constructed by Ernst Clausing in Ozaukee County. Such construction is rare and without much precedent in agricultural architecture or really much building during the last two centuries. These massive corner posts are almost pre-modern in scale and design sensibility being difficult to produce and lacking any kind of standardization. Two sides of the post are flush with exterior siding and trim, two sides align perpendicularly with the timber beams leading to the next set of posts, and the last side faces

into the haymow floor. Two major openings, the large barn door facing west, and the large Dutch door facing east, give the large open space an east-west axis of entry. These doors are also not typical of any standardized and published plans and must have originally required some mechanical apparatus to utilize as they are intended as a high access point for loading and removing hay from the barn. The floor is constructed out of dimensional wood lumber set on the timber joist below. In the southwest corner of the haymow is a series of wood frame structures open in some places and closed in others that served as the granary for the animal barn. Within these wood frame cubes and lean-to structures are an additional set of windows and a set of stairs leading down to the lower floor below.

The exterior facades of the barn feature lower-level sliding wood doors, small wood windows for light and ventilation in bands, massive fieldstone walls at the lower level, board and batten vertical wood siding, and large barn doors hung from above (Figure 36). Each piece of dimensional lumber runs up the entire twenty feet of the wall uninterrupted. The upper-level timber structure begins with a large sill plate resting on the masonry wall below. Each of the eight corners and midpoints has a large vertical timber column supporting another sill plate. The timber frame wall and vertical board and batten siding terminates with a timber plate for the attachment of the roof above, with radiating rafters that extend to an open eave and narrow fascia. Eight large timber beams extend up from the corners at an angle and rise about twenty feet to meet at a central point, at which they are braced together. About two-thirds of the way up there is a ring, similar to the large octagonal plate at the base, attaching each rafter beam. This ring, and the one at the base, distribute the load of the roof and direct it to the corners, which act as columns below (Figure 37). The result is a long-spanning, self-supporting roof with no interior columns. Secondary members rest on the high plate of the walls and span

parallel to each other. The roof is capped with an octagonal cupola about four feet in height. The cupola lacks windows or louvers and originally had a horse weather-vane.

Inspiration and Ethnicity

The Vocke barn is formally similar to the octagonal horse and dairy barns developed during the 1870s and 1880s further east in New York State. These examples were actively promoted in the late 1880s and early 1890s when the Clausing brothers were constructing octantal barns across Ozaukee County for their neighbors and relatives. The barns were adapted, on a case by case basis, to their particular owners and did not come from vernacular northern European sources of the distant past. The German-American identity of the owners of these barns has only more recently been assumed to explain their design and construction.

The associations of the Vocke barn with the German-American community of which it is part stems principally from its association with its builders, the Clausing brothers. The brothers reportedly got the idea of octagonal and round shaped barn construction from a picture in an agricultural magazine in 1885, perhaps by, or related to, the work of Elliot Stewart.[86] Records do not indicate which magazine they referenced at the time. After that, the pair constructed a round barn, quickly followed by another ten octagonal barns in Ozaukee County over the following fifteen years.[87] Ernst Clausing led the construction of the barns for family members, friends, and relations, all of them of German ancestry. The Clausing family came to Ozaukee County from Saxony in 1846 and settled on farmland amongst the wooded areas along Lake Michigan. Frederick and Dorothea Clausing had four young sons and three

[86] Look, *The Clausing Octagon Barns of Ozaukee County.*
[87] *Ozaukee County Historic Plat Map Reproductions, 1873, 1892, 1921, 1938, and 1948* (Cedarburg, WI: Ozaukee County Historical Society, 1994-1998); *Plat Map of Ozaukee County* (Rockford, IL: W.W. Hixson & Company, 1931); and Ozaukee County Rural Directory, 1905, 1923, and 1960.

daughters, all of whom were born in Wisconsin. Ernst, their second son born in 1859, who later became a carpenter and builder, is credited with the design and construction of a dozen centric barns in Ozaukee and Washington Counties. The popularity of these barns locally can be explained, in part, by the fact that almost all of them were built by and for members of the Clausing family.[88] It would seem that these more experimental and unusual horse and cattle barns were limited to those who had a close relationship with, and interest in, the work of Ernst Clausing.

The first barn that the Clausing brothers built was a round design for their brother, Richard. Something of an experiment, it was torn down in the mid-twentieth century. The first octagonal barn designed and constructed by Ernst and Theodore Clausing was built for the farm of Frank Vocke in 1888, adjacent to Richard Clausing's farm.[89] The barn sits a short distance from a major east-west road in Mequon, an area that is relatively flat, densely populated and has good cropland. Frank Vocke, the son of German immigrants, William Vocke and Caroline Frederike Clausing, was a typical successful farmer who maintained a herd of horses and dairy cattle. Frank Vocke was born near Mequon, perhaps on the land he later inherited, in 1859. His mother was the aunt of the Clausing brothers. Frank married Bertha Boemer in 1894 and had four children. He later died in 1919 when the Vocke farm was inherited by his son Herwart Vocke. The property was later sold and subdivided in the 1960s for development.[90] Frank Vocke's barn itself has some distinctive construction features, even

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[88] Look, *The Clausing Octagon Barns of Ozaukee County*; *Ozaukee County Historic Plat Map Reproductions, 1873, 1892, 1921, 1938, and 1948*; *Plat Map of Ozaukee County*, 1931; Ozaukee County Rural Directory, 1905, 1923, and 1960; and Legacy Architecture, Inc., "Vocke, Frank, Octagonal Barn," National Register of Historic Places Inventory/Nomination Form, Madison: Wisconsin Historical Society, 1988. Reference # 16000740.
[89] *Ozaukee County Historic Plat Map Reproductions, 1873, 1892, 1921, 1938, and 1948*; *Plat Map of Ozaukee County*, 1931; and Ozaukee County Rural Directory, 1905, 1923, and 1960.
[90] Interviews/Conversations with property owners, May 19, 2014.

for an octagonal Clausing barn, including five-sided structural corner posts, a window-less cupola, and a pair of Dutch doors to the exterior, high in the hay mow.

The second octagonal barn that the Clausing brothers constructed was for their relative Frederick Timpel, which was completed in 1889. It initially doubled as a post office as well as a horse barn and burned down in 1983. Another octagonal barn, this one in neighboring Washington County, stood on the farm of Lester Hardt. Ernst Clausing, often accompanied by his brother Theodore, went on to build ten more octagonal barns in the area including one for their cousin, William Clausing, in 1890. This barn was used for twenty-eight head of dairy cattle instead of horses and was eventually dismantled in 1978 and moved to Old World Wisconsin in the town of Eagle as a tourist attraction.[91]

They also built an octagonal barn for their other cousin John Clausing, and one for their friend and neighbor, Leonard Maul, neither of which survives. The brothers constructed a sixty-foot diameter octagonal barn for Theodore Clausing in 1895, which was sold to the Tetzlaff family a decade later and still exists. Another barn, constructed for the brothers' cousin, E. Edward Clausing, was finished the same year and has since collapsed. In 1897, they constructed another barn for their relation Henry Kiekhaefer for approximately $1,000, the going cost of a barn at the time. The largest of the octagonal barns, it lasted until 1983, when it collapsed. A barn built for the last Clausing brother, Henry, in 1898, burned down in 1954. Ernst and Theodore Clausing constructed their last octagonal barn in 1898 for their cousin Julius Clausing. This barn was dismantled in 1976. All of these barns are strikingly similar, with their octagonal diameter and volume height varying only a few feet from one to another. In 1896, Julius Schnukel, a fellow German-American farmer in Mequon, constructed an

[91] John D. Krugler, *Creating Old World Wisconsin: The Struggle to Build an Outdoor History Museum of Ethnic Architecture* (Madison, WI: University of Wisconsin Press, 2013).

octagonal horse barn for William Haeusern for $1,500. This barn is essentially similar to the Clausing barns and may have been modeled on one its close neighbors. It was moved to the Milwaukee County Zoo in 1986 and is the only centric barn example in the county that was not constructed by the Clausing brothers.[92] In total, Ernst Clausing with the help of his brothers, constructed ten octagonal barns and one earlier and more experimental round barn.

Ernst Clausing continued to work as a carpenter long after he and his brothers stopped building octagonal barns. He died in 1941. Most of his later work is easily categorized as traditional vernacular houses and outbuildings on rectilinear plans.[93] Similar to other centric barns, Clausing's octagonal barns were arranged with cattle stables below and a haymow and storage above on a second level, and were typically constructed with a fieldstone foundation, poured concrete and flooring, and board siding. The Clausing brothers' octagonal barns exhibit a cupola for light and air, and a timber ring near the top of the roof that joined converging rafters and helped make a self-supporting roof free of columns and other obstructions, as historic photographs show (Figures 38 and 39).

The Clausing brothers built their barns in a setting of an already developed and populated part of the state along the shore of Lake Michigan. This area, specifically Ozaukee County, was largely populated by successful horse and dairy farmers, and had experienced a large influx of German immigration during the 1850s and 1860s. By the time the Clausings were building, German families made up a majority of citizens and German was commonly spoken at home, in church, and even at school. Indeed, earlier scholarship on centric barn forms in the United States focused on looking for a European origin of the building type. While

[92] Look, *The Clausing Octagon Barns of Ozaukee County*; *Ozaukee County Historic Plat Map Reproductions, 1873, 1892, 1921, 1938, and 1948*; and *Plat Map of Ozaukee County*, 1931; and Ozaukee County Rural Directory, 1905, 1923, and 1960.
[93] Look, *The Clausing Octagon Barns of Ozaukee County.*

there is no direct antecedent for the round barns found in Wisconsin or the rest of the United States, there are some agricultural buildings in northern Europe that resemble them. Hexagonal and octagonal small horse barns and machinery sheds are relatively common in the agricultural architecture of Northern England, which were later modified into gin-gang and roundhouse forms. Likewise, small, round or multi-sided barns can be found in Sweden, Denmark, Holland, Pomerania, Friesland, and northern Germany.[94] These examples are by no means considered typical of the vernacular barn architecture of their respective locations, though they do share some basic environmental factors such as high winds off the North Sea and Baltic Sea, cold winters, and a stone and thatch base of materials. Arguably, some of these factors also exist along the east coast of Lake Michigan. However, there are multiple examples of German immigrants bringing their agricultural architecture to the United States and much of it can be seen in the bank barns, dairy barns, masonry low walls, and hex-patterns of Wisconsin's rural landscape.[95] These do not include small centric-shaped masonry outbuildings.

Colonial and early Republican America also had a few eccentric and well-known examples including George Washington's sixteen-sided small hay barn, since destroyed, at Mount Vernon. There were also several octagonal shaped Dutch congregational buildings in the Hudson Valley dating from the early eighteenth century, and a large and impressive stone round barn belonging to the Shaker Village of Hancock, Massachusetts, constructed in 1826. During the mid-nineteenth century wealthy individuals sometimes built octagonal houses, often in an Italianate style, across the Northeast and Midwest.[96] Many of these are considered to be related to the ideas of Fowler. Wisconsin alone had over a dozen such houses, mostly owned

[94] Whyte, "Octagonal Houses and Barns," 42-46.
[95] Hart, "On the Classification of Barns," 37-46.
[96] Triumpho, *Round Barns of New York*, 13-47.

by prominent business and farming families. The Clausings did not construct octagonal houses, only barns, and only in specific cases.[97]

The idea that such distinct rural architecture as octagonal barns can develop a set of local associations over time is not unusual. Local lore can attribute original motivations and meanings where there were none at all. In Ozaukee County, for instance, it is not uncommon to refer to the octagonal barns as German horse or dairy barns, because the original builders and owners were first or second-generation German-American immigrants, like the Clausing family or Frank Vocke. Such appropriation is referenced in relation to centric and octagonal barns specifically in both Jost's catalog *The Round and Five-or-More Equal Sided Barns of Wisconsin*, and in Triumpho's more recent *Round Barns of New York.* The barn building of the Clausing brothers in Ozaukee County is referenced specifically as a conscious descendant of Fowler's ideas in both Rebecca Lawin McCarley's "Orson S. Fowler and a Home for All: The Octagon House in the Midwest" and Richard Perrin's "Circle and Polygon in Wisconsin Architecture: Early Structures of Unconventional Design." In both cases, the design of octagonal barns is described as influenced by agricultural magazines, but not specific designs. In addition to the influence of existing literature and the expression of a specific rural German immigrant identity, the barns of Clausing brothers have been considered examples of environmentally inspired, or regionalist, design due to the high winds, animal husbandry, and flat landscape of Ozaukee County by both Nina Jo Look in her brief article "The Clausing Octagon Barns of Ozaukee County: An In-Depth Study" and Bertha Kitchell Whyte in "Octagonal Houses and Barn."[98]

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[97] Whyte, "Octagonal Houses and Barns," 42-46.
[98] Rebecca Lawin McCarley, "Orson S. Fowler and a Home for All: The Octagon House in the Midwest," *Perspectives in Vernacular Architecture*, 12 (2005): 49-63; Perrin, "Circle and Polygon in Wisconsin

The octagonal Clausing barns follow a typical pattern of design and construction and closely resemble one another. A fieldstone foundation was most often used with rough cut limestone and extended up as the thick wall of the lower floor, obscured by the embankment leading to the upper-level haymow barn door. The floor was constructed with a variety of materials such as fieldstone, concrete, or wood, and the barns were always sided with vertical lumber. The most characteristic feature of the barns was their roof design. Roof beams were joined near the high center point by an additional octagonal timber ring, and the low plates on which the large beams rested were joined to make a continuous ring at that location as well. This converted the lateral thrusts of the roof into vertical loads on the outside wall making the roof self-supporting and eliminating columns. This simple design put a great deal of stress on the bulking corners, but avoided an arched roof or difficult trusses and left more storage room in the middle the haymow floor, which was supported by many columns below. The pitched roof was always capped with a cupola for light and ventilation at the top. None of the Clausing barns, typical of the octagon shape, had integral silos when they were constructed.

The Vocke barn's formal origins, as an octagonal barn, can arguably be traced back to the writing of Orson Squire Fowler in the mid-nineteenth century; however, this lineage is complex and incomplete. Fowler, a noted New York phrenologist and follower of pseudo-scientific pioneer J. F. Gall, traveled across the Midwest in 1855 promoting his recent book *A Home for All; or, the Gravel Wall and Octagon Mode of Building*, giving lectures and publishing newspaper and magazine articles along the way. As an extension of his work developing and promoting phrenology, the study of the shape of the human head to deduct scientific conclusions about personality and mental ability, Fowler carried an interest in

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Architecture," 50-58; Look, *The Clausing Octagon Barns of Ozaukee County*; and Whyte, "Octagonal Houses and Barns," 42-46.

discovering perfect and rational forms. Like the stated goals of phrenological study, he wished to improve human existence. Fowler was not a builder, nor did he possess some geometric expertise; however, he described the construction methods, space planning, and overall design of houses and agricultural buildings based on the ideal of the octagonal form.[99] In truth, a circle was actually the perfect form according to Fowler, who based his argument in the work of mathematicians dating back to ancient Greece. He rationally concluded that building circular plans was simply too difficult a task in most cases, so he settled on the octagon instead. The essential idea, one that still holds practical resonance in engineering and design, is that a circular form is more efficient than a rectilinear one because a circular volume is larger per its surface area than any other shape.[100] Applied to building, the argument follows that a round form is larger for less material used in its construction. It also lacks defined orientation and hierarchy of space, a benefit according to Fowler. The octagonal shape was decided on simply as a compromise between lesser polygons and the ever increasingly complex larger ones approaching, but never reaching, the perfection of the circle.[101]

The design of octagonal barn with two floors, a bridge, and windows for ventilation and natural light, similar to the vernacular design of American and German bank barns, was included among the simple designs of octagonal houses. Fowler's drawings indicate a lower level for livestock arranged concentrically, and a second floor supplied with grain - a fundamentally similar design to the centric barns that would be built in Wisconsin and across the country decades later. Orson Squire Fowler's book encouraged and inspired the

[99] Fowler, *A Home for All.*
[100] Charles B. Calvert, "Essay on Farm Buildings," *American Farmer* 9 (1854): 369-71.
[101] McCarley, "Orson S. Fowler and a Home for All," 49-63 and Perrin, "Circle and Polygon in Wisconsin Architecture," 50-63.

construction of centric barns.[102] However, the presence of a direct link between the phrenologist's work and the development of octagonal barns in Wisconsin remains unclear.

A more likely source than Fowler's eccentricities of inspiration and ambition in building octagonal barns can be traced to Elliot W. Stewart, a successful farmer and lecturer in agricultural sciences at Cornell University. Stewart constructed a large two-story octagonal barn on his horse farm property in Erie County, New York, in 1874 and proceeded to write extensively about his experience. He published and promoted the building type from a position of first-hand knowledge and professional expertise and his views were widely disseminated and well received in the press nationally, published in book form and in journal and newspaper articles.[103] One reason for his success was the rapid growth of livestock farming in the northern United States, particularly in Midwestern states, during the 1870s and 1880s. Dairy farming, in particular, was lucrative with a growing demand for, and ability to produce, high-quality milk, butter, and cheese. The previous wheat production model was in decline as prices plummeted at the end of the American Civil War and wheat farmers moved further west. Barns for dairy production and maintaining livestock needed to be larger to store both the animal themselves as well as their winter food in close proximity.[104] Octagonal, and other centric shapes, made some sense in this context, and Stewart actively sought to expand their popularity.

Stewart argued that the octagonal form was a superior and practical approach for livestock barns because it was potentially cheaper to build and contained more storage area in volume (the same rationale used by Orson Squire Fowler earlier). In many published works, he states that, while a truly round barn would be best, it was an impractical approach and was too

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[102] Fowler, *A Home for All* and Whyte, "Octagonal Houses and Barns," 42-46.
[103] Elliot W. Stewart, "An Octagon Barn," *Cultivator and Country Gentleman* 41 (1876): 554 and Marti, "Agricultural Journalism and the Diffusion of Knowledge: the First Half-Century in America," 28-37.
[104] Schafer, *A History of Agriculture in Wisconsin*.

difficult to construct; thus, an octagonal plan would suffice as can be seen in the simple drawing of Stewart's plan and section (Figure 40).[105] In addition, these "round shapes" would not be as affected by lateral wind loads and would possess a more efficient line of travel and work for their operators. In a pre-industrialized era of agriculture, efficiency of movement on the part of farmers and other workers was important to save time and physical effort. The octagon shape also offered, partly due to its size and height, enough room to combine many functions of farming, especially on a dairy farm, under one roof.[106] Elliot Stewart continued to actively promote the building type, serving as a booster for the high-end octagonal livestock barn, for the following three decades. By the mid-1880s, approximately forty octagonal barns based on Stewart's published model had been constructed around the country, almost all of them in his home state of New York, and in Michigan and Wisconsin.[107] Among these are dozen octagonal barns in Ozaukee County, Wisconsin along Lake Michigan north of Milwaukee designed and built by Ernst and Theodore Clausing. In the specific case of a barn designed and built by the Clausing brothers a set of questions, revolving around the origins and inspiration for such an unusual approach to barn building. The first deals with the direct influence of nineteenth-century design ideal promoted largely by Fowler and Stewart. While each man had different motivations for promoting octagonal forms in building, ranging from pseudo-scientific mathematical ideals to logical agricultural efficiency, both were successful in circulating their ideas. Ernst Clausing consciously cited the influence of a specific trade magazine in promoting round and octagonal barn shapes; however, it is unknown exactly what

[105] J. J. Newlin, "Stewart Likes Round Barn," *Prairie Farmer* 90 (1918): 32 and Joseph E. Wing, "An Octagon Cattle Barn," *Breeder's Gazette* 42 (1902): 10.
[106] "Octagonal Barns," *Cultivator and Country Gentlemen* 46 (1884): 679 and Stewart, "An Octagon Barn," 554.
[107] Elliot W. Stewart, "Barn for One Hundred Cows," *Cultivator and Country Gentleman* 57 (1892): 812.

he read or saw, much less what he was looking for and why.[108] Was Clausing alone in being persuaded by such publications? It seems unlikely since Stewart, the prominent New York lecturer and yeoman farmer, personally took credit for the inspiration of over forty octagonal barns across the country during the 1880s. However, the Clausing barns are not replicas of Stewart's recommendations and explaining them as such would leave out the specifics of region and place as well as other, perhaps older, origins for the idea of a centric barn, especially for immigrant farming families from Northern Europe. For example, the Clausing barns are larger and lack the interior columns found in many of the New York, Stewart inspired variants. Instead, the Clausing octagonal barns, and Frank Vocke's barn specifically, demonstrate significant alterations to the promoted octagonal barns of agricultural literature of the 1870s, 1880s, and 1890s.

The rapid growth in popularity of the octagonal barn form implies both some successes and clear advantages of the building type as well as a transference of ideas and communication through diffusion.[109] It is true that these barns were commissioned by extended members of the Clausing family or their neighbors and friends; however, the case can also be made that these farmers shared more than just their names, background and experiences. Without exception, the horse and dairy farmers of Mequon and the rest of Ozaukee County were comparably well-off for Wisconsin farmers. They were successful, their children were educated, and they made and saved a great deal of money. Octagonal barns were popular with those who wanted to be noticed and wanted to express either their eccentricity, knowledge, or wealth as such barns

[108] Look, *The Clausing Octagon Barns of Ozaukee County.*
[109] Fred Kniffen, "Folk Housing: Key to Diffusion," in Dell Upton and John Michael Vlach, eds., *Common Places,* 3-26.

were still not easy or cheap to construct. Essentially, these farms were being displayed intentionally as a high-end building type.[110]

Many of these octagonal barns in Ozaukee County, the Clausing brothers' barns, appear very similar to ones being constructed on the East Coast at the same time or slightly before. They share a similar form, scale, and use of materials. New York State specifically had a significant number of octagonal barns near Lake Ontario and Lake Erie.[111] This architectural similarity implies some connection, which is supported by the fact that the Clausings referenced such work drawn from agricultural magazines and publications. Was this a common relationship? Were the sons and daughters of immigrant farming families across Wisconsin busy reading about farming machinery, new dairy processes, and above all, unusually shaped barns suggested by elite farmers and educators from the New York? It would appear that in some cases the answer is yes. However, such influence was limited to the agricultural press, and neighboring built examples as the Agricultural Research Stations and Colleges of the Midwest were not yet active in promoting their brand of progressive agriculture to farmers in the 1880s. The appeal of the octagonal shape was clearly expressed in the design of the Clausing barns as they were significantly easier to erect than a truly round plan shape, and familiar carpentry and building practices could be employed. The stated benefit of the building type was the ease of use for manual agricultural labor due to their design and scale. Octagon barns, while rare, were largely familiar in the rural landscape of late nineteenth-century southeastern Wisconsin as signs of prestige, wealth, and progressive ideals. The eccentricity and rarity of the type combined with the technical difficulties and experience required in constructing such buildings led them to be considered special in rural settings. Such round and

[110] Newlin, "Stewart Likes Round Barn," 32.
[111] Triumpho, *Round Barns of New York*, 13-47.

octagonal barns eventually became local landmarks in their specific surroundings, but were not necessarily emulated.

Like much of Wisconsin, Ozaukee County serves as good pasture land and as such, farmers needed a warm, dry, and convenient place to keep their animals during the cold months – a place where they could also be fed, cared for, and cleaned frequently. The octagonal shape is supremely good for these purposes, if manual labor is required, due to their large interior size, banked and thick walls, and the proximity of food, above in a hayloft, to the animals below, in their stalls and pens. Stuart's designs and suggestions made a great deal of sense in this case and a series of horse stable and barn designs in the late nineteenth century embraced the centric form, adjacent feeding areas, and extensive light and ventilation. Furthermore, a centric shape is naturally better at withstanding wind loads, lacking long flat walls, and Ozaukee County along the lakeshore is known for its high winds. All the Clausing barns, for example, were arranged in a similar manner with horse stables below. Generally, the octagonal form was more common for horses and other centric shapes were more common for dairy cattle. Such horse farms have historically been wealthier than other livestock farms. This is in keeping with the assumption that wealthier farms aligned closely with more progressive and prestigious farmers. However, centric barns do not necessarily correlate with wealth, but rather with a certain mindset among their original owners and builders.

The Vocke barn, and others designed and built by the Clausings, relates as much to the identity of those involved in its construction as it does to technical aspects of the building itself. Assumptions that the barn is closely tied to some innate German ethnicity, in this case, fall short since there is nothing specifically German-American about octagonal barns and no folk precedent exists to indicate that this is the case. Instead, the barns became German-

American through subsequent considerations, as the Clausings and their neighbors and clients took their building ideas from published material and adapted them to their specific needs and location. This process of adaptation linked to identity, and not always an ethnic one, also appears in the other centric barn examples including those designed and built by Alga Shivers in Vernon County on the other side of the state.

The George and Mayville Harris Round Barn as a Reflection of Local Identity

As the Vocke barn example showed, the design and construction of a centric barn is tied to more than simply the technical aspects of the building, but also to its association with a particular builder, owner, or both. This is equally true with the George and Mayville Harris barn, which was built by Alga Shivers, an African American builder known to have constructed many barns throughout Vernon County. Shivers was a prolific and ingenious barn builder, a prominent inhabitant of Vernon County, and a progressively-minded and ambitious individual—all factors which, besides his racial identity, must be taken into account when examining the Harris barn and others built by Shivers during the early 1900s.

The barn itself, situated close to a bend in Harris Road, was originally located close to several other farm buildings, of which only a farmhouse, garage, and attached milk house remain. The Harris farm is in a narrow and deep valley surrounded by tree-covered hillsides and much of the farmland in the valley, no longer in agricultural use, has returned to forest. The true circular plan of the barn is fifty-six feet in diameter, relatively small for a true round barn. The structure stands roughly thirty-six feet high from the low point of the foundation to the top of the cupola and contains two floors. Predictably, the lower floor serves as stalls, pens, and a feeding alley for milking cows and has a vertical clearance of roughly seven feet in

height. Above is the haymow floor that makes up most of the barn's volume. A large twelve-foot diameter silo sits directly in the center of the barn, penetrating both floors and extending as a cupola above. There are also four clerestory openings in the haymow to provide access, ventilation, and light. Such openings are relatively rare in round barns, especially those in Vernon County attributed to Shivers. These features can be seen in plans of the barn (Figures 41 and 42).

The Harris barn sits on a fieldstone and cement foundation and is built into the slope of a hillside rising to the northwest. The fieldstone for the foundation was collected on site from the Harris farm fields and constructed with cement. The foundation wall is roughly two feet thick and varies considerably by location along the circumference of the barn. Most of the fieldstone appears to be limestone, common in the southern and western parts of the state of Wisconsin. While level at the top, the foundation wall varies in height following the height of grade around the building (Figure 43).

As a truly round structure, the Harris barn does not have clearly defined facades (Figures 44 and 45). The exterior consists of a wall constructed of a fieldstone and cement foundation at the base with a wood frame wall, sheathed in metal panels rising an additional seventeen feet to the eaves above. The stone foundation wall terminates with a large wood sill on which the rest of the barn exterior wall rests. The metal panels at the lower level have a stamped pattern and are arranged in horizontal stripes, cut to fit around openings. The tin panel's pattern vaguely imitates a masonry construction; however, it is clear, especially without paint, that they are large metal sheets. This type of metal siding, found on other round barns in the region, was introduced as a building material and became common in the 1910s and 1920s. The metal panels change type above the doorway and fenestration to a larger

vertical variety, measuring at least ten feet in length by almost two feet in width. These panels overlap and alternate to avoid openings and any uneven horizontal lines on the façade of the barn. The metal panels probably date from a later period, having a corrugated and industrial appearance. Both types of metal panels appear to be fastened directly to existing horizontal wood siding.

There are six windows on the lower level that can be seen along the southern façade of the Harris barn. These windows match and are roughly two feet wide and three feet high, and are spaced ten feet apart. The fixed wood single hung windows consist of four equal square panes each and are painted red, resting on small wood sills (Figure 46). The main entrance to the lower level faces nearly due south and holds a large wooden door, approximately three and a half feet wide and seven feet tall. The door's header aligns with those of all the windows. Directly under the shallow eaves, facing the southeast, is a large clerestory opening many feet above the finished floor of the haymow. It is presumed that this opening, along with three other similar ones spaced equally around the round barn, was originally used similarly to a Dutch door, utilizing a pulley and crane system to load bales in and out of the barn without using the large barn doors. Such large openings would also serve ventilation purposes. The opening has two large wood shutters for inclement weather. The exterior wall terminates with a wood plate for the attachment of the roof above, with radiating rafters that extend to an open eave and narrow fascia. Along the southeast façade of the barn is an attached milk house that was clearly added later given its materials and the exposed materials apparent in the transition from one structure to the other. A large barn door and the sloped ground leading to it dominate the northwest side of the Harris Round barn. The lower level in this area is largely covered by sloped earth and a cracked concrete approach to the barn doors. The pair of replaced wood barn

doors and frame, extending from grade to a few feet from the underside of the roof eave, are roughly twelve feet tall and sixteen feet wide.

The roof structure of the Harris barn is distinctive in its use of nearly total trusses to support each rafter. The rafters are arranged in a radial pattern from the lower exterior bearing wall to the central high point above the interior silo. The silo structurally behaves as a large central column for an otherwise self-supporting roof. However, the roof of the George and Mayville Harris Round barn has required significant reinforcement because over time the roof has experienced structural strains, including surviving a tornado in 1944. The roof takes its gambrel shape, with a sharp slope transitioning to a low one, from a long, shallow truss under each rafter. Truss systems are typical in the support of wood barn roofs; however, few examples are as shallow or as long as the truss systems of Vernon County round barns. The entire roof structure is constructed of dimensional wood lumber for a stick-built frame. This structural system is found in all of the barns constructed by Alga Shivers in Vernon County. Although the basic form is common to many true round barns, the pattern of roof boards and the nearly total truss are distinctive.

Cow milking stanchions and stables occupied the first level of the barn; however, it is currently used for storage (Figure 47). The floor is bare fieldstone and cement, similar to the foundation walls, and the plan is arranged in centric rings based on function. The silo sits in the middle, then the feeding troughs, then the stanchions, a space for the cows to stand and be milked, then a gutter, then the mechanical equipment such as a manure carrier and track, all in concentric rings from the center to the exterior wall. Much of the original equipment, including tracks and pulleys, is still present and there are between twelve and twenty cow stanchions. These stanchions are arranged so that cows face inwards for milking and feeding with their

backs to the windows and the width of this working ring of space is twenty feet. The exterior walls are simply the exposed dimensional lumber construction and fieldstone walls, with the exception of a recently repaired area. The ceiling is the exposed wood structure, mostly 2x dimensional lumber, of the haymow floor above. This floor structure is arranged with members radiating out from the central silo. There is one circular row of columns, near the mid-point of the span, to support and transition the joists from silo to the exterior wall. These joists are roughly one foot on center bearing on the silo wall, and two feet on center bearing on the exterior wall.

The haymow second level is large open space commonly intended to hold and store hay and feed. The walls are the exposed dimensional lumber of the exterior walls and the large barn door dominates the interior with four additional clerestory openings with shutters spaced nearly equally around the circumference of the barn. The central silo sits in the middle of the circular space and rises to near the peak of the roof. There is opening at the top of the silo to fill it and access and ventilate it to the exterior. Several pairs of columns and bracing has been recently added to the interior of the haymow to support the roof which was in danger of collapsing. The columns run directly from the floor, supported by the column ring in the lower level, to the underside of the trusses with bracing to the central silo (Figure 48). Above the silo is an extension of the roof structure pitched to a central point with a cupola for ventilation capping the roof. The current owner, to preserve the structure, worked with a local builder and craftsman around 2010 to reinforce the roof with additional interior columns in the haymow, shore up portions of the exterior stone foundation wall, and add a metal overlapping roof to protect the building into the future. There was a conscious attempt to preserve as much as possible of the original barn design and its materials and limit deterioration. One of a number

of round barns in Vernon County, locals take pride in the barn in part because it a symbol of the rural local landscape and also because this barn was one of several designed and constructed by Alga Shivers.

Alga Shivers and Vernacular Design

The previous description of the Harris barn reveals a round barn that clearly reflects the design habits of Shivers in the context of his home in Vernon County. In many ways the Harris barns is remarkably similar to other eleven existing Shivers barns, most of which stand within ten miles of this one. However, no two are identical in their scale, arrangement, site, or materials and only hint at an inspiration found in elite design sources.

Shivers's work gained enough prominence to be published in Illinois farm journals as early as 1910 despite the fact he only worked locally near his family farm.[112] Born in 1889, Shivers went to college, studied carpentry, and assisted in building his family's round barn as a teenager. He would go on to build many more, all of them of wood construction, over the next two decades with the help of his small crew. Shivers would cut the necessary logs from local wood a year or two in advance, then return and saw it into boards. He would stay on site throughout the process and was aided by locals when the barn was raised. Shivers kept detailed notes and books of calculations for lumber, design specifications, and costs. The construction process usually took about three months. When round barns lost popularity in the 1920s, Shivers continued to build more conventional barns and other building types locally.[113] Shivers's work was, in many ways, comparable to that of a more professional builder like

[112] Whyte, "Octagonal Houses and Barns," 42-46.
[113] "Alga Shivers (obituary)," *Wisconsin State Journal*, November 29, 1978 and "Alga Shivers and His Round Barns."

Benton Steele, but his work was not published widely, was not the primary means of employment for the designer, and was limited to Vernon County. Shivers's extensive work demonstrates the wide architectural variation of the building type and the potential role that identity can play in the vernacular design of round barns. As in the other case studies, Shivers's barns also illustrates the influence of elite sources on round barn design in the early twentieth century, while also serving as another example of the vernacular adaptation of such guidance.[114]

Thomas Shivers, Alga's father, was born a slave in Tennessee in 1854 and moved with his family to Vernon County as a young man in 1879. He purchased sixty acres of land in the Town of Forest from his Uncle Edmund Harris, George Harris's grandfather. There he became one of the most successful farmers in the county and the largest African American landowner in Wisconsin for a brief time in the late nineteenth century, operating a 600-acre dairy farm in the Cheyenne Valley. Thomas Shivers moved near Hillsboro in Vernon specifically because the area had previously been settled by a community of approximately 150 former slaves with the assistance of Quakers after the 1850 Fugitive Slave Act. The area was deemed remote and the state of Wisconsin was considered extremely friendly to abolitionist goals. Many of these settlers came, as former slaves, from North Carolina, Tennessee, and Missouri in addition to many free men and women who found cities in Indiana, Ohio, and Kentucky unwelcoming. The story of the Hillsboro community is also one of gradual racial integration, both socially and genetically. Oral histories and recollections from the turn of the century support this view as many residents--black, white, and mixed--did not find race to be a factor in their small

[114] Alderson and Alderson, *Barns without Corners,* 36-40; and Legacy Architecture, Inc., "Harris, George and Mable, Round Barn," National Register of Historic Places Inventory/Nomination Form, Madison: Wisconsin Historical Society, 2017. Reference # 100000575.

community. However, this is not to suggest a state of racial harmony and integration since records also indicate occasional friction. Racial difference was a recognized factor in rural life in Vernon County, but did not play a large role.[115]

Alga Shivers was born in 1889. He attended George Smith College in Sedalia, Missouri, as a teenager and studied mathematics there. He also trained as a carpenter and worked closely with his father on building projects and on the family farm. An avid follower of innovation and technology, Thomas Shivers built a round barn, with his young son's help, in the early 1900s. Alga Shivers took this experience as a model for the round barns he built during his career. He quickly began constructing farm buildings across Vernon County at a young age. Shivers continued to build round barns with his crew after World War I, when the popularity of the building type was waning. He married Flora Revels Waldon in 1945 at the age of 56. Flora was a member of another large and prominent African American family in the area. While the couple never had children of their own, the couple raised a few orphaned and related children in their home.[116] The site of the Shivers's family farm is identifiable, but nothing remains of the round barn or farmstead. Shivers was an integral part of the local rural community and notably, during his life, the color of skin, his family's racial identity, was rarely mentioned.[117] In fact, the Cheyenne Valley was the location of one of two significant African American Wisconsin settlements in the late nineteenth century, the other located at Pleasant Ridge in Grant County. Both were fully and successfully integrated with the farmers who settled in the communities at approximately the same time. Something of a local legend,

[115] Zachary Cooper, *Black Settlers in Rural Wisconsin* (Madison, WI: The State Historical Society of Wisconsin Press, 1977), 7-20; and Historical Marker Database, "African American Settlers of Cheyenne Valley." hmdb.org. Lat modified October 02, 2010. https://www.hmdb.org/marker.asp?marker=36398.
[116] "Alga Shivers (obituary);" and "Alga Shivers and His Round Barns."
[117] "Alga Shivers (obituary)."

Shivers continued to live and work in the Cheyenne Valley in Vernon County, building rectilinear agricultural buildings to supplement farming, until his death in 1978.[118]

Shivers's building methods included harvesting woodlots on or near the farm properties where the barns were constructed. The necessary logs used in barn construction were cut on a specific farm property a year or two in advance, then they would be sawn and cut into dimensional lumber and boards and constructed as a balloon frame of 2x members on a concrete and rubble foundation. The roof of a round barn would always be built in the same way with a radial pattern of rafters from the central silo acting as a column for the otherwise self-supporting roof structure. These long rafters, built up of dimensional lumber, were braced as a truss, spanning the distance from the lower sill on the exterior wall to the high point above the central silo. Such trusses were utilized for every single rafter. Vertical boards sheathed the exterior walls, and shingles were overlapped and nailed to sets of boards on the roof. The central silo was typically built of the same materials and in the same manner as the rest of the barn as an integral piece of the round barn structure. Despite Shivers's detailed notes, calculations, and specifications to assist him in the design of these barns with every piece of lumber documented, no drawings of any plans exist. For a rare photograph of Shivers and his crew at work on a round barn (Figure 49).

Through the entire building process, Shivers and his small crew would stay on site, and during the final month or two of construction, they would often be assisted by neighboring farmers to raise the structure of a round barn. [119] It is likely that Alga Shivers, his crew, and his

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[118] *Map of Vernon County* (Milwaukee, WI: Briggs & Falconer Publishers, 1878); *Plat Book of Vernon County* (Minneapolis, MN: C.M. Foote & Company, 1896); *Atlas and Farm Directory of Vernon County* (St. Paul, MN: Webb Publishing Company, 1915); *Plat Book of Vernon County* (Rockford, IL: W.W. Hixson & Company, 1931); *Farm Plat Book of Vernon County* (Rockford, IL: Rockford Map Publishers, 1955); and Vernon County Rural Directories, 1909 and 1955.

[119] "Alga Shivers and His Round Barns;" and "Alga Shivers (obituary)."

father, were familiar with all the barn building clients. They were not only neighbors, but shared a similar story of settlement, clearance, and dairy farming. Vernon County seemed to initially attract a rugged set of settlers in the mid- to late nineteenth century, perhaps because of its early logging history. Unlike other parts of Wisconsin during the period, many of these settlers were from the eastern and southern United States, rather than immigrants from continental Europe. They also, based on what little evidence is available, did not seem to care much about identity in regard to race or ethnicity.

The George and Mayville Harris barn was constructed by Alga Shivers and his crew, possibly with the assistance of George Harris, in 1906 on land already owned for a couple of generations by the Harris family. Thomas Harris, George's father, and his family settled in Vernon County from Virginia after the end of the Civil War as white tobacco farmers and by the turn of the century, the Harris brothers farmed more than 720 acres in the Cheyenne Valley in the Town of Forest. George Thomas Harris was born in Vernon County in 1882 and married Mayville in 1904. George and Mayville Harris began dairy farming on 240 acres along South Billings Creek. Both George Harris, and his son Burl after George's death in 1964, used the barn as a dairy barn for milking Jersey cows. A historic photograph of the barn, dating from the 1970s, when the dairy farm and the barn were still in operation (Figure 50).[120]

In an otherwise white rural Wisconsin, it is hard to avoid contemplating issues of identity when discussing Shivers's barn designs. However, clearly defining a link between racial identity and formal architecture is difficult. Perhaps the variation inherent in the centric barn building type could allow some reading of the shallow inventive trusses, simple wood framing, dedication to the round plan, or use of the highly local materials as reflecting the

[120] Gail Fish, Wava G. Haney, and June Zalewski, *Round Barns of Vernon County, Wisconsin: A Circle Tour* (Viroqua, WI: Vernon County Historical Society, 1996), 4-5.

racial identity of the builder, but it is doubtful. Instead, it can be argued that Shivers's barns, built for his neighbors, friends, and family, reflect a shared identity, one that is defined more by who and where than skin color or origin. Like the Ozaukee County barns constructed by Ernst Clausing, Shivers's barns are specific to their place; unlike the Clausing examples, his barns are not associated with a distinct or previously defined group of people like a German-American identity, or an African American one, even in hindsight. The interest and focus on Shivers's race in more recent biographical work, suggest such associations have been acquired since his lifetime. Instead, the round barns of Vernon County, many designed by Shivers, have a lot in common with one another that is tied to the environment and people of their setting. There is a shared cultural and socio-economic core identity among the farmers of this area of Vernon County. This kind of identity actively is not defined solely by race because, by all accounts, race was not an important feature of individual identity in rural Vernon County at the turn of the twentieth century. The chief protagonist, in this case, is not the Harris family, who owned and operated the round barn, but is instead Alga Shivers who constructed it. Shivers's role as the builder is the primary subject of this chapter, which then can rely on other sources beyond fieldwork and analysis and include the evidence of the other round barns in Vernon County constructed by Shivers.

Eastern Vernon County, with its deep wooded valleys, feels isolated and distinct within twenty-first-century Wisconsin and felt even more that way a century ago. Its settlement history generally began with logging and resource extraction, with many of the settled farms coming afterward, making the most out of the shaded, remote, and rocky soil. It is not ideal cropland or dairy pasture land. Because of the difficulty in making a living from such a landscape, and the lack of easy access to the outside world, the people who settled in the area

have a reputation as a close-knit and somewhat unconventional group.[121] It follows that vernacular architectural design habits then would flourish, and the round barns were no exception. Like elsewhere, such centric barns were inspired by elite sources such as agricultural magazines and publications; however, their application, such as Shivers's designs, could propagate themselves in a process of adaptation, drawing as much from tradition as the professional centric barn plans.[122] The potential lack of extensive outside contact and the familiarity of the people in the area created a setting for a single type of round barn, largely developed by farmers and local builders themselves, to be repeated with variations dictated more by the specifics of each farm landscape and farmer's needs.[123] Shivers's barns do not follow a standardized model; they do not come from a predictable elite source of standardization, but rather from a somewhat isolated modern building tradition limited to the rural conditions of Vernon County.

Zachary Cooper, in his short book *Black Settlers in Rural Wisconsin*, points to two settlement locations populated by former slaves from southern states and free men from the eastern Midwest in the 1870s: the Pleasant Ridge settlement in Grant County, and the Cheyenne Valley in Vernon County. In both cases, the community became successfully integrated with the white majority. According to Cooper, black pioneers were primarily attracted to these parts of Wisconsin because of the prospect of cheap arable land. They inevitably established farms, some quite successfully, and flourished. Notably, they integrated to such an extent that little historical record or evidence can be found that makes any

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[121] Alderson and Alderson, *Barns without Corners,* 3-6.
[122] Hubka, "Just Folks Designing," 27-29.
[123] Alderson and Alderson, *Barns without Corners,* 3-6 and Richard V. Francaviglia, "Western American Barns: Architectural Form and Climatic Considerations," *Association of Pacific Coast Geographers Yearbook* 34 (1972): 153-60.

distinction between the black and white settlers in places like Vernon County with the exception of U.S. census records. Their farms, houses, and architecture do not reflect any particular architectural style or precedent that can be identified as distinct from their neighbors. The Cheyenne Valley African American community grew from an initial group of sixty-two people in eleven families that had settled there by 1870. The Shivers were relatively late arrivals in Vernon County. Economic and social integration led to intermarriage in the wider community as race increasingly became irrelevant. The Harris family, for example, was at least in part, descended from African American immigrants to Vernon County.[124] However, later in the twentieth century many of the descendants of the Vernon County African American community left for jobs and other opportunities in more urban settings in Madison, Beloit, Milwaukee, and other states.

A vernacular, specifically local, model of building true round barns developed along with the professional designer/builder model. Some round barns were built in a similar fashion to most agricultural buildings of the nineteenth and early twentieth centuries, by farmers themselves with the help of skilled carpenters and neighbors.[125] While it was possible that many of these designs were inspired by, or direct imitations of, the published designs and those of builders, very few of them were exactly alike. Most were of the true round barn variety, while a few others took on complex multi-sided plans and were comparable in scale and scope to the more professional designs. They also appeared slightly later on the scene, perhaps due to the increasing popularity and acceptance of the form, as almost all were built during the twentieth century and most of them after 1910. True round barns of a more vernacular nature, those not designed or built by professionals and not finding their source in trade magazines and

[124] Cooper, *Black Settlers in Rural Wisconsin*, 7-20.
[125] Wyatt, ed., *Cultural Resource Management in Wisconsin*: Vol. 2, Agriculture, 1-1 to 11-1.

other published work, began to appear in the early twentieth century. No doubt these types were inspired by the professional models, but they did not clearly follow the prescribed designs. As a result, have a wide range of variation often responding to the specifics of the place where they were built. One such model is that of the roving builder who traveled across Wisconsin and the Midwest finding commissions and settling down for some months on a farm to construct a round barn using their specific carpentry skills and building methods, often distinct from others. As more common approach was the traditional one of farmers joining together to raise a neighbor's dairy barn. However, because of the complicated carpentry and framing of round barn roofs, there was often a foreman figure involved that had experience and previous knowledge of the building type.[126] The case of Alga Shivers in Vernon County is one such example.

Despite exhibiting characteristics similar to other barns in Vernon County designed by Shivers, the Harris barn stands out in some respects. Variation in design is one of the defining features of the building type as can be seen the example of the centric barns of Vernon County. Shivers's barns, intended for his neighbors, family, and friends, respond to the specifics of their site and owner while following basic design guidelines that he had arrived at early on in his career of constructing round barns.[127] This variation is another case of why the building type is understood as being derived from vernacular, rather than elite, sources. Most of these round barns were constructed with the assistance and supervision of local carpenters and builders. Often local builders or farmers themselves, these figures would proceed to work on several such projects, one every few years. The variation of the barns produced, even within the work of a single builder, is pronounced. Local farmers who worked as builders, traveling

[126] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."
[127] Alderson and Alderson, *Barns without Corners*, 36-40.

crews who demonstrated familiarity with the building type, or individuals who constructed their own barn, usually based on a rendering, drawing, or kit they acquired from published material, all consistently failed to construct the same barn twice.

An explanation of this is one put forth on behalf of vernacular architecture regularly, namely a type a regionalism. Climactic determinism has previously been popular in discussions of vernacular architectural form, though more recently these arguments have been debunked and have fallen out of favor. However, the plans reproduced professionally in trade magazines and agricultural colleges existed in a vacuum on the page; when put into practice barns had to respond to the specifics of soil, terrain, use, resources, local material, and the needs and wants of the those who commissioned the barn in the first place. Adaptations to such barn buildings since their construction also follow similar constraints. Shivers's barns are not identical to one another because one farm is in a valley, the other on a ridge, one was exclusively for dairy cattle, another for a number of farm uses, one had plentiful fieldstone on site, and the other was near a railway line with prefabricated masonry more readily available. These adaptations, similar to the way technology was applied in centric barn construction, indicate that the way Shivers's round barns were constructed had far more to do with contextual constraints than a personal concern for some ideal. The identity related to the round barns of Vernon County has far more to do with the shared and progressive experience of rural life locally than it did with racial identity.

Conclusion

This chapter has explored the role of personal and group identities in centric barn buildings. The octagonal barns of Ozaukee County do not have their architectural origins in

German-American vernacular architecture but have become associated with a German-American identity over time. German heritage is common in Ozaukee County and eastern Wisconsin generally, often taken as a matter of pride. While the Clausings were constructing octagonal barns a majority of the neighbors were of German ancestry as indicated by tax rolls and plat maps from the period.[128] Likewise, encouragement of the octagonal and centric building forms was likely available and consulted by builders such as the Clausings, though they arguably only used these as suggestions and inspiration rather than a specific set of prescribed rules and models based on arguments about efficiency and ideal forms. Furthermore, the chapter also demonstrates the role builders, rather than owners, play in a barn's architectural development and cultural associations. Given the existing information available on the Clausings they take on a central role the history of the building type regionally in their part of Wisconsin. Previous studies have been compelled, like this one, to explore the possibility of some distant European precedent for the unusual barn type. Locally, it is assumed that, because of the ethnicity of the area at the turn of the twentieth century, the barns' design must flow from the same source. If the octagonal barns, such as Vocke's barn, were not purely German-American to begin with they are now.

Likewise, the round barns constructed by Alga Shivers must have been relatively popular in Vernon County during the early twentieth century to allow him to construct fifteen such structures in addition to another half-dozen other ones locally. Furthermore, the character of Shivers as a young man and any associated identity that he carried with him must have not only been acceptable, but well received by others. The point that his, and his relatives, race was largely irrelevant has been subsequently made in local Vernon County histories such as the

[128] Nina Jo Look, *The Clausing 13-Sides of Ozaukee County.*

Alderson's *Barns without Corners: Round Barns of Vernon County* and Gail Fish and June Zalewski's *Round Barns of Vernon County*, and secondary sources on the subject of race in rural Wisconsin such as Zachary Cooper's *Black Settlers in Rural Wisconsin*. The argument follows that at the turn of the twentieth century, race, as it is often understood in modern America and as a part of the American experience of slavery, was largely irrelevant in rural western Wisconsin.[129] Though differences were still recognized and often related closely to economic status, family structure, and education instead. However, it is possible that the role that the Shivers family played locally as community leaders perhaps had a part to play in the acceptance of Shivers's role. Furthermore, it must be noted that Alga Shivers was an unusual figure in more ways than simply constructing many centric barns; he also happened to be a college educated, mathematical savant, baseball playing black man who adopted many children and lived a long and respected life in a community that had a significant African American minority. All of this begs the question of what role race may have had in his work, and if it can be related at all to the round barns of Vernon County. If not, then what other identities possibly play a role in the histories of the centric barn? The earlier example of the Clausing octagonal barns of Ozaukee County illustrates that an ethnic identity can be associated with the building form, but only after the fact, looking back through time in order to build a narrative that explains the otherwise confounding structures. Personal identities of the builders and owners of these barns, such as factors like education, virtuoso engineering and experimentation, eccentricity, and explicit physical needs play a larger role in the adoption of centric barns than a broader category of identity.

[129] Cooper, *Black Settlers in Rural Wisconsin*, 7-20.

The Harris family round barn, designed and constructed in 1906, was one of the first-round barns that Shivers, and his crew worked on in a productive career of erecting such agricultural buildings over the following two decades. While the barn has many similarities to the subsequent Shivers's barns in Vernon County, it is physically distinctive. This variation is largely due to the geographical, personal, and material specific to its site. The barn, like all other centric barns in Wisconsin, has its specific place to serve as context. Likewise, the identity of the owners and builders of these barns play a role in their construction and use, but not necessarily as a part of a broader category such as race, gender, ethnicity, or class. The specifics of place also dictated the design of centric barns and their adaptation from prescribed models, not so much in terms of immediate natural environment, but in reference to the social context in the location of the individuals who built and owned the buildings in contrast to the dictated models of elite design sources.

CHAPTER 4: PLACE
The Lindstrom Round Barn and the Cunningham Round Barn

Place, defined both spatially and in terms of temporal and human setting, is central to the ways in which a vernacular building type, such as a centric barn, is adapted from its elite and prescribed architectural origins to a specific context. This is particularly evident at the turn of the twentieth century when architectural change was rapid. This dissertation, in keeping with the tradition of human geography, defines place as a specific quality with human elements in addition to physical ones, as opposed to space, which is used as a term for more general and geographic meaning. Yi-Fu Tuan, in his seminal text, "Space and Place: The Perspective of Experience," argues for a similar definition in support of what he termed a humanistic-perspective in Geography. Space, Tuan argues, is a construction that we use to define how our bodies relate to the environment. It has scale and location and can be defined in scientific terms. Place differs from space in that its concept is as tied to a social meaning as much as a physical one. It does need to have a scale or a specific location. These are the human elements associated with geographic and physical terminology.[130] Place, in this chapter, is a combination of these two categories of location and human context. Likewise, the work of geographer Richard Schein goes a step further in his synthesis of many of the ideas present in the study of human geography in his article, "The Place of Landscape: A Conceptual Framework for Interpreting an American Scene." Schein examines the landscape of a commonplace American residential suburb and interprets its material identity as demonstrating social, historical, and physical constraints on the individuals that inhabit the suburban landscape.[131] Similarly, this

[130] Yi-Fu Tuan, *Space and Place: The Perspective of Experience* (Minneapolis, MN: University of Minnesota Press, 1977).
[131] Richard H. Schein, "The Place of Landscape: A Conceptual Framework for Interpreting an American Scene," *Annals of the Association of American Geographers*, 87, No. 4 (December 1997): 660-80.

dissertation looks at a couple of barns and the history of their owners at a micro level in order to read larger themes made apparent by the constraints imposed on them. This chapter discusses the role that place played, in the form of both geographic location and human context, in the development of centric barns and their adaptation from professional sources.

The example of the Lindstrom barn, located in Polk County in western Wisconsin, demonstrates a round barn that relates closely to its site as it blends modern building methods and materials with local craft practices. Like the Vernon County barns discussed in the previous chapter, the barn was likely constructed by a regional traveling builder who specialized in round barns. During the first two decades of the twentieth century, many traveling builders, often specializing in rural building types, spread out across the Midwest. These itinerant specialists included carpenters, businessmen, and designers, who widely advertised and published their work in newspapers and agricultural journals to promote their work. Several of them, such as both Benton Steele and Horace Duncan, worked on round barns. In both cases, these men organized teams of builders that would move from one job to the next in a matter of months from Indiana to Kansas and from Missouri to northern Wisconsin. However, most worked on a smaller scale within a narrower range of only a few counties. Each developed their own set of designs and methods and it is not uncommon to find the same barn, rectilinear or centric, constructed identically within a few miles of one another from this period. Some sold prefabricated kits for barns, such as the Chicago Wrecking House Company from 1910 to 1914, but most constructed their products using more traditional methods. They actively incorporated more modern building techniques such as cast-in-place

concrete and dimensional standardized lumber. Similar roving builders, many unidentified, were responsible for the construction of round barns in the western half of Wisconsin.[132]

Likewise, the Cunningham barn, constructed in 1915 just outside the town of Viroqua in Vernon County, is a fascinating example largely because a significant amount of information has been gathered on the subject in relation to its specific context in Vernon County and the Cunningham family. Mentioned in the introduction to this dissertation, the motivations for the round barn's construction and the origins of the methods of construction are known and combine many of the conclusions already laid out in previous chapters. Bert Cunningham and his family were farmers who had moved to the western part of the state looking for new land to farm. A serious accident left the successful dairy farmer partly crippled yet still able to work. The need for the round barn was due to Bert's lack of mobility and was explicitly influenced by numerous agricultural magazines and catalogs that the family had acquired; Bert and his family had a reputation as a forward-thinking group. His previous injury and reduced mobility probably inspired the distinctive barn. It was a design response to specific individual needs and the construction of the round barn was in some ways dictated primarily by practical concerns like any other utilitarian agricultural building. The singularities of its place, time, and people combined to make it. Its place, an accumulation of environmental and cultural forces similar to how Michael Conzen defines his and others' study of the American landscape in *The Making of the American Landscape*, shapes its physical form and its history. Many of these influences that define place can be expanded to a larger scale with technological, spatial, and social parallels through American history at the turn of the century.[133]

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[132] Price and Sculle, "The Failed Round Barn Experiment," 1-7.
[133] Michael Conzen, *The Making of the American Landscape* (New York, N.Y.: HarperCollins Academic, 1990).

While fieldwork features prominently as the chief method of inquiry in this chapter, the cases of the Lindstrom barn and the Cunningham barn also focus on the original owners and their relationship to the barn building. In support of this, a considerable amount of family history is included and much of this comes from the current owners in addition to archival public records such as census data, rural directories, and plat maps. The goal, as it is for much of this dissertation, is a common one in vernacular architecture studies, namely to combine physical architectural analysis with the human element and the relationship with the building. Such methods apply easily to the history of these two barns. Both of these examples demonstrate the role that place--spatial, temporal, and personal--holds in relation to the history of centric barns, reflecting the transitional historical and architectural period during which they were produced.

The John and Eva Lindstrom Round Barn as a Regional Building Type

The John and Eva Lindstrom Round barn is closely tied to its place. It physically and visibly matches the materials and palate of its immediate surroundings with fieldstone walls and weathered pine wood. The Lindstrom barn sits amongst the dense woods and lakes of the Northwest Wisconsin region. Scandinavian immigrants, Norwegian and Swedish in particular, settled in this area of the state. Its rough terrain, initial isolation, and low-quality soil left this part of the state as the last area to be widely cultivated until the turn of the twentieth century. Such a pastoral setting is ideal for the development of regional vernacular round barns, which supported the growth of dairy farming in the area. In the first two decades of the twentieth

century, dozens of round barns were constructed across the western part of the state as Scandinavian immigrants, Norwegian and Swedish in particular, settled here.[134]

Large numbers of truly round barns, usually small and of a vernacular nature, were built by and for farmers in Vernon, Monroe, Pepin, St. Croix, and Polk counties. Such barns also appear in equal number across the Mississippi River in neighboring Iowa and Minnesota. Mostly these were completed in the 1910s and 1920s when the round barn design was falling into disfavor elsewhere. These dairy barns across the western and northern halves of the state also exhibit the greatest variation in building materials and methods and continued to be used for agricultural purposes well into the twentieth century. The John Lindstrom Round barn is an example of this phase of development amongst centric barns in Wisconsin.[135]

The barn is situated close to the road, among a few other farm buildings with the surrounding woods beyond. The true circular plan of the barn is fifty feet in diameter, relatively small for a true round barn plan (Figures 51 and 52). From the lowest point of the foundation to the top of the roof is roughly forty-six feet, and the barn contains two floors. It sits on a rubble fieldstone foundation and is built into a slope gently rising to the northwest. The lower walls of the Lindstrom barn are constructed of rough, uncut fieldstone and a light-colored cement. The stone varies considerably in size and some in a state of crumbling and separating. The lower walls are roughly twenty inches thick and extend up the entire eight-foot height of the lower level. The use of fieldstone in the foundation and lower portions of vernacular round barns in Wisconsin is common; however, it is worth noting that almost all the

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[134] Andrews Boss, "Minnesota," *Farms, Cyclopedia of American Agriculture, Vol. 1* (London: Macmillan, 1912) and Orin Crooker, "The Circular Dairy Barn – Some Samples," *Jersey Bulletin and Dairy World* 40 (1921): 1599.
[135] "A Daunting Project," *The Country Today – Eau Claire*, June 26, 1996; George H. Dacy, "Why I Like A Round Barn," *Country Gentlemen* 81 (1916): 7; Erika Janik, "Made-to-Order Farms: Benjamin Faast's Vision for Northern Wisconsin," *Wisconsin Magazine of History* 90, No. 4 (2007): 40-49; Lampard, *The Rise of the Dairy Industry in Wisconsin*, 244-351*;* and Schafer, *A History of Agriculture in Wisconsin*.

round barns in the western and northern regions of the state utilize such building methods combined with cast-in-place concrete.

The south side of the barn, facing 120th Avenue, consists of a clearly identifiable lower level with a fieldstone wall measuring roughly eight feet in height and extending around both sides of the barn. Above this section of the wall is a timber frame structure resting on a timber plate along the curved stone wall. The barn is sheathed in vertical wood siding and is unpainted, untreated, and left completely bare to the elements. The wood siding consists of sawn lumber and varies in length and width, as many of the boards stretch the entire sixteen-foot height of the vertical wall while others are much shorter, perhaps due to accumulated repairs during the life of the building. The boards also appear to be 2x dimensional lumber but vary in width. All the boards are nailed directly to the wood structure underneath. The weathered gray appearance of this vertical wood siding contributes to the rustic appearance of the round barn. Fixed windows, typical of those around the lower level of the Lindstrom barn, are two feet in width and four and a half feet in height with two equal sashes. There are a total of six of them the lower level of the barn; along with two doors, these eight openings face in the cardinal directions and at forty-five-degree angles to them. The wood frame wall terminates with a wood plate for the attachment of the roof above, with radiating rafters that extend to an open eave and narrow fascia as can be seen in recent photographs of the building's exterior (Figures 53 and 54).

A large barn door, at the top of a graded drive, dominates the view of the north side of the barn. The lower fieldstone wall level of the barn in this area is largely covered by sloped earth. The barn door, two large and heavy wooden doors hung on hinges, has been added recently, though the frame of the door is original. Repairs to the building and replacement

windows and doors were undertaken because, at some point in the barn's history, the large opening at this location was expanded, probably to accommodate larger farm equipment and machinery in the haymow on the upper level. However, when the opening was widened it was simply cut out of the existing wood frame and the wall, leaving the structure above largely unsupported. In the last few decades, the roof structure above began to sag and show signs of distress in this location, requiring repairs to the barn door opening. The roof above, the plate attachment, and rafters are the same on all sides of the round barn.

The roof sits on a double top plate that extends around the entire circumference of the barn. Rafters, arranged in a radial pattern from the center, are simply extended and exposed with a narrow fascia board. The roof initially slopes sharply and then adjusts in a slight gambrel shape to a lower pitch at two-thirds of its total twenty-foot height. The overall effect is extremely conical in shape and is taller and narrower than the roofs commonly seen on round barns. The roof is currently sheathed in three different materials. Towards the top of the roof and all sides is an old, multi-colored diamond shape asphalt shingle roof. This material was installed in 1947 according to the present owner. A subsequent layer of asphalt shingles covers much of the lower portion of the roof on the north half of the building. A layer of cedar shake shingles, added recently by the present owner, covers the lower portion on the south side of the barn. The roof terminates in the high center point, where a large, four-foot-high, cupola sits directly above the central interior silo. The cupola has eight equal sides, each one with a louvered panel for ventilation, and is capped with a conical round roof matching the rest of the round barn's roof construction and materials. Details of the exterior showing the fenestration and materials can be seen in recent photographs (Figures 55 and 56).

The silo in the center of the barn is completely hidden from the exterior and is constructed in a similar way to the barn itself. A twelve-foot diameter concrete base extends down below grade approximately ten feet and above grade roughly twenty feet. At the top of the concrete base, about twelve feet off the floor of the haymow, a wood frame structure rests on the concrete and extends the rest of the way up to the underside of the peak of the roof. The silo sits directly in the center of the round barn. Occasional openings are punctured in the masonry silo to permit access and ventilation at the top and bottom. A series of metal ladder wrungs are embedded along one long slit opening facing south to create a continuous integral ladder for the silo. The silo extends vertically and serves as the bearing wall for beams of the haymow floor and rafters of the barn roof. The roof of the silo is constructed of radial wood lumber with an opening in the central high point directly under the roof cupola. The date: "Sept. 21, 1913" is set in the concrete of the silo in the lower level. However, the date: "1918" is also written on the silo in the upper level. While it is common for the silos of centric barns to be constructed first and the barn built around them, the reverse, where the barn is built and then the silo subsequently is unheard of and would be difficult. It is possible that the 1913 date set in the concrete applies to the silo and the 1918 date applies to the barn, though this cannot be confirmed. The 1913 date for the Lindstrom Round barn's construction, assumed in other documents, is given because of this ambiguity. To add to the confusion, the name: "R.L. Lindstrom" appears on the concrete of the silo in the lower level and the initials: "R.L." appear painted in multiple locations on original materials in the upper-level haymow. However, Polk County records clearly indicate that the owner of the property during the 1900s, 1910s, and

1920s was John Lindstrom.[136] One hypothesis could be that R. L. Lindstrom was the builder and a relative of John Lindstrom.

Cow milking and feeding stanchions occupied the first floor of the Lindstrom Round barn, which is currently used for storage and recreation. The floor is bare concrete cast in place to allow for curbs, troughs, and drains, and the floor plan is arranged in centric rings based on use in the feeding of cows. Along the perimeter, adjacent to a bare fieldstone exterior wall on the interior are between fifteen and twenty cow stanchions all the way around the central silo. There is a narrow walkway to provide access to the central silo and various equipment. The stanchions are arranged so that cows face inwards for milking and feeding with their backs to the windows. A gutter runs along the entire circumference of the barn in the floor directly below the stalls. A manger is the next concentric ring for feeding and holding hay followed by a feed alley adjacent to the silo and much of the original equipment still exists. The width of this working ring of space is approximately twenty-two feet. The ceiling is the exposed wood structure, mostly 2x dimensional lumber, of the haymow floor above, and this floor structure is arranged with members radiating out from the central silo. There is one circular row of rough-hewn timber columns, near the mid-point of the span, to support and transition the joists from the silo to the exterior wall. These joists are roughly one foot on center bearing on the silo masonry wall, and two feet on center bearing on the exterior wall. Some of these joists have been replaced since construction, and the concrete floor is cracking and heaving in several locations. Generally, this configuration is completely common in round barns across the state

[136] *Plat Book of Polk County* (Minneapolis, MN: C.M. Foote & Company, 1887); *Standard Atlas of Polk County, Wisconsin* (Chicago, IL: George A. Ogle & Company, 1914); *Plat Book of Polk County* (St. Paul, MN: Webb Publishing Company, 1924); *Plat Book of Polk County* (Rockford, IL: W.W. Hixson & Company, 1925); *Plat Book of Polk County* (St. Croix Falls, MN: David Hammergren, 1938); *Farm Plat Book of Polk County* (Rockford, IL: Rockford Map Publishers, 1958); and Polk County Rural Directory, 1891, 1901, 1924, and 1963.

and the interior of the Lindstrom is typical, despite its slightly smaller size and unusual material choices (Figure 57).

The haymow second level is a large open space intended to hold and store hay and feed. The floor is constructed from the form boards used to build the concrete silo and foundation, nailed down on the floor structure below. The walls are the exposed wood frame of the second level with the back side of the vertical wood boards seen on the exterior and are reinforced and braced with V-shaped members parallel to the curving wall for lateral stability. There are no windows, a single large barn door, and a couple of rough cut hinged openings in the haymow space. The roof structure is a series of rafters resting at a low point on the top of the exterior frame walls and at a high point on the upper wood frame walls of the silo. The rafters rest at only a few inches on center on the high silo end and approximately three feet on center at the low exterior wall. Large red elm horizontal boards span two rafters at a time, spiraling up in a continuous line. This unusual construction serves as the roof decking for the various shingle types above. A set of six pulleys, spaced equally, hang from the roof at its hip to assist in the movement of hay bales around the interior along a non-extant circular track in the haymow interior (Figure 58).

Region and Standardized Building Practices

The description of the Lindstrom barn shows an agricultural building specific to its physical place. Likely constructed by traveling builders who were also responsible for a half-dozen similar barns in the region, the building also makes sense in the context of the Swedish immigrant farmers who built and used it on a small dairy farm for decades. The barn's scale,

materials, and construction methods were relatively popular in the area due to their expense and availability and the small-scale of the local farms.

John Lindstrom's barn can be understood in the context of the later stages of round barn design and development as well as relative to the needs of immigrant farmers who often lived on the edge of financial insolvency. The scale and details of such barns were small, and spare compared to earlier round barn buildings. Despite this, the case of the Lindstrom barn, and others nearby, reflect a captivating blend of modern building technologies, materials, and methods with a decidedly rustic appearance and vernacular form. This blending, seen in the combination of reinforced cast-in-place concrete, asphalt diamond shingles, shallow trusses constructed of dimensional 2x lumber, and pre-made standardized double-hung windows with rough-hewn pine lumber and board siding harvested from the site of the farm and cut unevenly, fieldstone walls, also drawn from the site, and a distinctive high conical roof, is tied to the barn's place.[137]

Little is known about John Lindstrom and his family other than that they owned forty acres and constructed this barn. Lindstrom himself was a Swedish immigrant to Wisconsin. The first Swedish settlers in western Wisconsin arrived relatively early in the 1840s and worked primarily in logging and mining industries. The main wave of immigration happened in the late nineteenth century, and included the Lindstrom family. These Swedish settlers, along with neighboring Norwegians and Finns, farmed small lots on previously forested and rocky soil. Some their traditional building methods and designs accompanied them and the vernacular materials and forms such as vertical log construction, exposed and expressive wood

[137] Francaviglia, "Western American Barns: Architectural Form and Climatic Considerations," 153-60 and Legacy Architecture, Inc., "Lindstrom, John, Round Barn," National Register of Historic Places Inventory/Nomination Form, Madison: Wisconsin Historical Society, 2016. Reference #16000741.

finishes, and narrowly vertical designs can be seen in the late nineteenth- and early twentieth-century houses and farm buildings in this part of the state. Some of these methods were adapted to their new homeland and the rapidly changing realm of building technologies to incorporate milled pine, concrete, and standardized fenestration.[138]

John Lindstrom was born in Sweden in 1855 and immigrated, settling near Amery in Polk County, in 1874, along with his extended family including his parents and cousins. He married Eva Katherine Nelson, another Swedish immigrant, in 1884. The couple had eight children, and relatives lived in the vicinity, including a brother who also may have constructed a round barn three miles away. The same year, Lindstrom purchased a 40-acre farm at the site of the round barn. By 1914, the farm had grown to 160-acres in size with a number of improvements on it including the Lindstrom Round barn.[139] John Lindstrom died in 1920. By the 1950s his son, David Lindstrom owned the property, which still functioned as a dairy farm, and sold it to the Swagger family, who continued to operate the farm at the end of the twentieth century.[140]

The Lindstrom barn appears to be one of many similar dairy barns in Polk County and the surrounding region. Most of these share some clear physical characteristics of the Lindstrom barn including double-layered horizontal planking, two-hip roofs, interlocking diamond shingles, vertical unfinished siding, cupolas, concrete silos, and the characteristic vertical wood board siding. As many as a dozen such barns were built, though only six can be confirmed to still exist; furthermore, only three of the specific type stand in Polk County in

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[138] Allen G. Noble, ed., *To Build in a New Land: Ethnic Landscapes in North America* (Baltimore, MD: Johns Hopkins University Press, 1992), 3-25, 226-42 and Jim Heinlen and Larry Kirch, *The Round Barns of Minnesota, and Environs* (Winona, Minn.: Sugar Loaf Press, 1998).
[139] *Plat Book of Polk County*, 1887; *Standard Atlas of Polk County*, 1914; *Plat Book of Polk County*, 1924; *Plat Book of Polk County*, 1925; *Plat Book of Polk County*, 1938; *Farm Plat Book of Polk County*, 1958; and Polk County Rural Directory, 1891, 1901, 1924, and 1963.
[140] Interviews/Conversations with property owners, May 24, 2014.

Wisconsin. One record indicated that such a round barn, completed two years earlier and also located in Polk County, cost approximately $6,000 to construct at the time. All of these barns not only resemble each other in their materials and scale, but were also built between 1908 and 1918.[141]

Despite little being known about the Lindstrom family, or the specific history of their barn, the building fits into a narrower regional typology of the centric barn building type. This type is tied to a more pastoral, frontier aesthetic appropriate to the western and northern parts of Wisconsin and common amongst the immigrants who settled there. The barns themselves reflect this in their humble scale and blending of both distinctly twentieth-century modern building techniques and methods with the use of local rustic materials.[142] Beyond studying the building specifically, some information is known about the round barns of Polk County and the surrounding region, specifically the role of traveling builders and standardized methods applied to agricultural building during the early twentieth century. Trade magazines, pamphlets, newspaper articles and advertisements, and public records in addition to already completed academic research were used as source material to elaborate on this building process. Unlike other chapters, the Lindstrom barn introduces a discussion that crosses state borders.

In the case of the Lindstrom barn the place, or region, of the barn is equally reflected in the materials used to construct it. Cynthia Falk, in her book *Barns of New York: Rural Architecture of the Empire State*, studies the variety of barns in New York, but also reveals the effects of technology and building materials on the development of barn building types and

[141] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing;" *Plat Book of Polk County*, 1887; *Standard Atlas of Polk County*, 1914; *Plat Book of Polk County*, 1924; *Plat Book of Polk County*, 1925; *Plat Book of Polk County*, 1938; *Farm Plat Book of Polk County*, 1958; and Polk County Rural Directory, 1891, 1901, 1924, and 1963.
[142] "A Daunting Project."

uses. Falk addresses the material variety and technological change inherent in barns as a rural building type. She looks at how closely the built environment of farms has responded to the influences of changes in technology, whether that is reaping equipment and storage, milking apparatus, or prefabricated construction strategies. This interest in change is appropriate in the study of rural vernacular architecture and is reflected clearly in the development, short-lived popularity, eccentricities, and decline of centric barns. The Lindstrom barn's blending of modern building methods with seemingly antiquated materials and rustic appearance serves to place the barn in its context; the barn could only exist as it does in its place and time.[143]

Keith Sculle and H. Wayne Price make a similar case about the effects of technology in defining architectural and social change in rural Wisconsin at the turn of the twentieth century in their work "The Failed Round Barn Experiment: Horace Duncan's Experience as Carpenter," from 1983. Horace Duncan, much like Benton Steele, was a rural builder from Indiana responsible for the construction of numerous agricultural buildings for farm clients, including round barns.[144] The development of standardized building materials such as cheap and readily available lumber, clay and concrete block, cast-in-place concrete, and metal hardware and fasteners made building significantly easier and quicker while the rapid expansion of rail networks and roads made travel and transportation equally more convenient. These efficiencies countered the increasing economic conundrum facing farmers all over the United States at the time of cost squeezes, indicated by farmers paying more for their crops, land, supplies, and machinery than they could earn from selling their products. A race for technology in the early twentieth century ensued. The growth and appeal of round barns,

[143] Falk, *Barns of New York*, 51-58.
[144] Price and Sculle, "The Failed Round Barn Experiment," 1-7 and Benton Steele, "A Modern Farm Building," *Dakota Farmer* 35 (1915): 230-33.

including those built by the subject of their article, Horace Duncan, can be partly explained by these developments. The promise of efficiency and affordability offered by proponents of the centric building type was appealing for these reasons. A small family farm in fairly rough country, like the Lindstrom property, needed every advantage they could find to stay afloat in a newly developed remote area in the 1910s.[145]

Richard Francaviglia, in an article in the 1972 issue of the *Association of Pacific Coast Geographers Yearbook*, discusses climatological considerations in the design of barns during the westward expansion of the nineteenth century. He briefly mentions round barn types and the assumed environmental advantages of the centric shape in resisting wind loads and the ease of use for manual labor. A certain degree of environmental determinism can be detected in such work, which is not uncommon in architectural history scholarship on vernacular subjects from the post-World War II period. However, it is notable that, even during the period of decline in popularity of the building type, the round barn form was carried westward in the 1910s into increased prevalence in Iowa, Minnesota, the Dakotas, Canada, and even further west. Like in Wisconsin, these centric barns were generally intended for dairy barns or horse barns. However, they were often located in relatively remote areas, were small in scale, and drew their erstwhile modern building materials from their immediate surroundings. Many of these were also built professionally given the lack of manpower available in the area around the newly settled farming and ranch land.[146]

Benton Steele, mentioned earlier, actively engaged in self-promotion for his traveling building business, publishing articles in a wide range of local newspapers and agricultural

[145] Price and Sculle, “The Failed Round Barn Experiment,” 1-7.
[146] Francaviglia, "Western American Barns: Architectural Form and Climatic Considerations,” 153-60 and Schafer, *A History of Agriculture in Wisconsin*.

journals from Michigan to Iowa. Such published materials are often shameless and bombastic in their willingness to pass essentially business advertisements off as well-researched, technical descriptions of a fundamental component of the farm's constructed environment. However, the information contained within to be accurate often completed with photographs, renderings, and detailed drawings of construction methods and materials. Steele's business, which lasted from 1901 to 1918, was not directly responsible for the construction of the Lindstrom barn, but constructed many similar types in western Wisconsin and neighboring Iowa. Often small in scale and revealing a variety based on the tastes and needs of specific farmers and the availability and expense of certain building materials, these round barns consistently followed a set of design guidelines: roof trusses, structural spacing, diameter, and concrete foundations remained consistent across dozens of examples in the Midwest. There were several such traveling building crews, such as the Louden Machinery Company in Iowa, and Steele is only one of the more successful and well-publicized examples.[147] It is likely, given the proximity of nearly identical round barns, that the Lindstrom Round barn was designed and built in a similar manner. Traveling builders continued well into the twentieth century; however, the construction of centric barns waned, and the local builders came under increased competition from national and regional building businesses such as Sears Roebuck. The Sears catalog, a common tool of rural life in early twentieth-century America, included the design and kit of parts for both a round and octagonal cattle barn in their "Modern Homes" publication from 1914 to 1918. [148] For a similar example, refer to the 1911 published advertisement for the Louden Machinery Company of Fairfield, Iowa (Figure 59).

[147] Janik, "Made-to-Order Farms," 40-49.
[148] Francaviglia, "Western American Barns: Architectural Form and Climatic Considerations," 153-60; Benton Steele, "Many Silos to be Built," *Indiana Farmer* 58 (1903): 9; Benton Steele, "A Circular Barn," *Indiana Farmer* 59 (1904): 1-3; Benton Steele, "Circular Barn for Forty to Eighty Acre Farm," *Indiana Farmer* 60 (1905): 1;

By the mid- to late 1910s the centric barn form was already in decline. Fewer and fewer were constructed and the building type, as already discussed, was criticized in agricultural magazines and newspaper articles across the country. However, in some places the building type remained popular enough to continue to be constructed, especially by traveling building crews in the Midwest. The Lindstrom barn is one example. There are also extremely similar examples in neighboring St. Croix and Burnett counties and across the St. Croix River in Minnesota.[149] These barns similarities appear to be caused by a shared provenance of builder and region since their lack of identical designs reveals that they were not built from the same plans or a kit-of-parts; rather they are derived from building guidelines instead that intentionally draw on both modern building materials and methods as well as unusual vernacular influences and local rustic materials.

These barns also possess an unusual aesthetic combining fieldstone walls and unpainted weathered vertical boards with diamond asphalt shingles and cast-in-place ground concrete. The result is an unusual and striking combination of the traditional and modern. Again, these architectural choices seem most likely derived out of economic necessity, which in turn promotes a limited degree of regionalism in the round barn's design. Moreover, the setting of the barn--remote, secluded, and small in scale--indicates that this barn is not a vanity project or a progressive experiment as some other preceding centric barns might have been. The motives are then assumed to have been practical, in keeping with the economically modest position of the barn's original owners. Perhaps one reason for the continued popularity of the unusual round barn building type in remote Polk County was simply that it was known; the local barn

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Benton Steele, "Two Barns Compared," *Indiana Farmer* 61 (1906): 5; Benton Steele, "A Round Barn," *Indiana Farmer* 63 (1908): 7; and Benton Steele, "A Modern Farm Building," 230-33; and Rebecca Hunter and Dale Patrick Wolicki, *Sears, Roebuck Book of Barns: A Reprint of the 1919 Catalog* (Elgin, IL: R. L. Hunter, 2005).

[149] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing;" and "A Daunting Project."

builders were familiar with the type and encouraged settling dairy farmers to build in that form. The form suited the place in Polk County and with immigrant Swedish farmers in part because of its isolation.

Despite its professional and formal origins, the round barn became a limited regional building type for a short period of time during the 1910s. It appears that centric barns were often constructed in clusters in Wisconsin, focused in small regions and often relate to specific criteria such as experienced builders, like Alga Shivers in Vernon County, traveling builders in western Wisconsin, or the Clausing brothers in Ozaukee County, and therefore share tell-tale similarities. These characteristics could spread beyond the influence of a single builder as in the case of the Cunningham barn in Vernon County, which has a lot in common with the close Shiver's barns, but does not appear to be one of his design projects. Instead, the Cunningham barn is specific to its place because of its owner rather than its builder.

The Bert and Mary Cunningham Round Barn as a Set of Specific Design Choices

The Bert and Mary Cunningham Round barn likely could not exist in any other time or place than Vernon County, near a town with a rail line, and for a farmer with an interest in a small, compact and efficient dairy barn. The building sits in the unglaciated driftless region of Vernon County in west-central Wisconsin. The area's deep valleys have served to insulate and isolate many of the settlers who arrived in the area from the mid- to late nineteenth century. Such a pastoral setting is ideal for the development of regional vernacular round barns to complement the growth of dairy farming in the area at the turn of the century. However, unlike the example of the Harris Round barn, the Cunningham barn was not remote. Instead, it was located less than a mile from the small city of Viroqua, the largest settlement in the county in

the early twentieth century. Not set in a deep valley far from a road, the Cunningham barn rests a couple dozen feet from a major road leading out from the city to the east.[150]

The Cunningham barn is slightly smaller than many of its type and period. For instance, in comparison to other true round barns in Vernon County, especially those built by Alga Shivers, the Cunningham barn's fifty-five-foot diameter is less than the average of sixty feet. The lower level is occupied by fifteen cow stanchions, a manger, and stalls for horses and calves. The area adjacent to the silo is open for access to the silage and the inward facing livestock, the silo sits in the middle with a ladder and the roof slopes up to a peak directly over the silo. The haymow floor above is accessed from a large barn door facing the rest of the farmstead and a track hangs from the framed roof's trusses. The barn's scale and the use of hollow clay tile for the construction of load-bearing walls are unusual in Wisconsin. Clay tile was a popular building material from the 1870s to the 1940s because of its bearing strength, lightweight, and relative affordability, and as a masonry form of construction, it was good for pest control, durability, and fireproofing. Historic photographs show that the barn has changed little since its last use as dairy barn four decades ago (Figures 60 and 61).

The barn itself is constructed from prefabricated modern materials produced in the region around Vernon County. The hollow clay tile masonry walls are more commonly found on silos in Wisconsin but are frequently found in barn construction in neighboring Iowa, where the tiles were produced and often used in round barns by roving construction teams. A railway had just been completed a few years earlier linking Viroqua with the small cities of eastern

[150] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing;" *Map of Vernon County* (Milwaukee, WI: Briggs & Falconer Publishers, 1878); *Plat Book of Vernon County* (Minneapolis, MN: C.M. Foote & Company, 1896); *Atlas and Farm Directory of Vernon County* (St. Paul, MN: Webb Publishing Company, 1915); *Plat Book of Vernon County* (Rockford, IL: W.W. Hixson & Company, 1931); *Farm Plat Book of Vernon County* (Rockford, IL: Rockford Map Publishers, 1955); and Vernon County Rural Directory, 1909 and 1955.

Iowa along the Mississippi River valley. The concrete foundation, silo, and flooring were common by this time. The shallow, long, arched trusses that make up the large centric roof of the barn can be found in only one place in Wisconsin: the round barns constructed by Alga Shivers discussed in the previous chapter. The windows, doors, and trim are standardized and probably milled locally in Viroqua, which was part of a region known for its lumbering and saw mills at the turn of the century (Figures 62 and 63). Contemporary round barn designs found in experiment station publications and agricultural magazines share similar plans with the Cunningham barn, while not being exact replicas.[151]

From the lowest point of the barn foundation to the top of the roof is roughly thirty-six feet and the barn contains two floors (Figures 64 and 65). The lowest floor serves as stalls, pens, and feeding alley for livestock and measures only eight feet clear in height. Above is the haymow floor that extends up to the roof structure. A large twelve-foot diameter silo occupies the center of the barn penetrating the interior floor and terminating at the high point of the roof while being contained under the cover of the roof structure. The barn sits on a concrete and stone rubble foundation and is built into a slope gently rising to the west as a bank barn. The walls of the Cunningham barn are constructed of red clay tiles, roughly eight by twelve inches on a face, and eight inches in depth. They are stacked in an inexact common bond. Variation in the firing of the clay tiles results in a gradation of red colors, randomly seen on the exterior of the barn, and a light gray mortar was initially used in construction. Each clay tile has a series of horizontal dove-tail grooves, intended for holding plaster effectively, though there is no

[151] White and Griffith, "Barns for Wisconsin Dairy Farms," 1-37; Richard T. Farrell, "Advice to Farmers: The Content of Agricultural Newspapers, 1860-1910," *Agricultural History* 51, No. 1 (1977): 209-17; and Janik, "Made-to-Order Farms," 40-49.

evidence to suggest that the barn was ever plastered above the lower level. Subsequent cement patches can be seen across the barn's exterior.

The south side of the barn, facing Upper Maple Dale Road, consists of a twenty-two-foot-high clay tile wall punctuated at the first floor by eleven windows spaced equally between a steep slope on the west side and an entry door on the east side of the barn. These windows are roughly four feet high and two feet wide and are spaced three feet apart equally. The windows are double hung with equal sashes consisting of four equal square panes each (Figure 66). The wood windows are painted white and rest on four-inch-high concrete sills protruding from the clay tile wall. Historical photographs show a mesh wire screen on the exterior of the windows. The window frame farthest west has been removed and subsequently replaced with a white corrugated metal sheet for weatherizing purposes. Directly above this window on the western side of the barn is another window on the second floor. A large barn door, and the sloped ground leading to it, dominates the west side of the barn (Figure 67). The lower level in this area is largely covered by sloped earth. The lower level to the north of the barn door reveals the exposed concrete foundation, and the side to the south of the barn door consists of the row of fenestration mentioned earlier. The pair of wood barn doors and frame, extending from grade to the underside of the roof eave, are roughly eleven feet tall and fourteen feet wide. The two wood doors, painted white and consisting of vertical dimensional lumber, are hooked on metal runners from above and run along tracks to both the north and south side, exposing a large opening into the second level haymow.

To the south of the barn door, there is evidence of a possible milk house addition, which no longer exists. At grade level, there is evidence of a large opening subsequently filled with hollow clay tile and concrete block and patched. This area is now largely below the grade

of the slope leading to the barn door above. This location may imply that the slope to the barn door entrance was considerably steeper at one time, or that the slope did not exist and a bridge to the barn door was initially used. There is also exposed flashing remaining along sixteen feet of horizontal mortar in the clay tile wall roughly three and a half feet below the eave. However, dated photographs from 1919 indicate that the barn's arrangement on the west side was essentially the same as the present condition. Perhaps there existed the intent of an addition to the barn that never materialized. The east side of the barn has the lowest exterior grade level. Both sets of windows, wrapping around from the south and north sides of the barn, meet and terminate at a centrally located door. This door, about three feet in width and six and a half feet high with a header aligning with the tops of the adjacent windows, is of simple wood construction and painted white to match the windows and barn doors.

The roof above sits on a double plate that extends around the entire circumference of the round barn. Rafters, arranged in a radial pattern from the center, are simply extended and exposed in an upturned angle at the end with a narrow fascia making an upturned lip at the edge. The roof initially slopes sharply, and then adjusts in a gambrel shape to a lower pitch at two-thirds of its total fourteen-foot height, and is currently sheathed in asphalt shingles, laid simply in an overlapping pattern and cut individually when needed to fit the centric shape of the roof. It terminates in the high center point, where a metal ventilator sits directly above the central interior silo. The central circular silo, completely hidden from the outside, is constructed from similar structural hollow clay tiles as the exterior walls of the round barn. However, these tiles have smooth faces as opposed to the dove-tail grooves present on the exterior. The twelve-foot diameter silo, only eleven-foot diameter on its interior, sits directly in the center of the round barn penetrating both floors with its own concrete foundation. The clay

tile is stacked in a rough common bond with light gray mortar. Smaller, brick-shaped clay tile is used for the first eight feet of the silo (Figure 68). These smaller masonry units correspond with the construction of the first floor and continue up to the supporting members of the second floor. The clay tile has the same red color, scale, and size as the rest of the barn structure but has a different finish. The silo extends vertically past thirty feet and serves as the bearing wall for beams in the interior haymow floor and rafters in the barn roof. The roof of the silo is constructed of radial wood lumber with an opening in the central high point. In many ways the silo's form is the same as the entire round barn itself. Given the use of a different clay tile, it has been suggested that the silo was built first, and the rest of the round barn was subsequently built around the silo within a few years.

The floor of the first floor of the barn is bare concrete like the foundation, and the floor plan is arranged in centric rings based on use. Adjacent to the exterior wall, unfinished with the hollow clay tile wall exposed, are fifteen cow stanchions and four or five more stalls for horses and calves. The side of the stable level below grade, directly under the main barn doors on the exterior, is occupied by the other stalls and pens. A gutter runs along the entire circumference of the barn in the floor directly below the stalls and a manger is the next concentric ring for feeding and holding hay followed by a feed alley adjacent to the silo. The width of this working ring of space is twenty-one feet. The ceiling is the exposed wood structure, mostly 2x dimensional lumber, of the haymow floor above. This floor structure is arranged with members radiating out from the central silo. There is one circular row of columns, near the mid-point of the span, to support and transition the joists from the silo to the exterior wall. These joists are roughly one foot on center bearing on the silo masonry wall, and two feet on center bearing on the exterior wall (Figure 69).

The walls are the exposed back face of the structural hollow clay tile seen on the exterior. Two windows, one currently covered, and the large barn doors are the only openings. The central silo sits in the center of the circular space and rises to near the peak of the roof. There is an opening at the top of the silo to fill the silo and access and ventilation to the exterior. Two ladders rest against the silo for access in the haymow interior (Figure 70). The roof structure is a series of trusses resting at a low point on the top of the exterior masonry walls and at a high point on the walls of the silo. The barn utilizes a total truss, a relatively rare approach that is common in the work of builder Alga Shivers, that spans the entire length of the roof structure from support to support. This shallow truss was site-built from dimensional lumber as is the rest of the wood roof structure and gives the roof the distinctive gambrel shape. The trusses rest at only six inches on center on the high silo end and two feet on center at the low exterior wall. Horizontal boards, in consistent sets around the circumference of the roof structure, are nailed to the top side of the structure as decking. Currently, there is a layer of plywood between these boards and asphalt shingles. Above the silo is an extension of the roof structure pitched to a central point with a ventilator capping the roof. A set of six pulleys hang from the roof truss at its hip to assist in the moving of bales around the interior along a circular track, also attached to the underside of the roof truss (Figure 71).

Specificity and Materials

The previous description of the Cunningham barn revealed a building precisely tailored in its design to the wants and needs of its owners. While the basic form was likely inspired by formal ideas promoted and distributed by elite sources, it is particular to its Vernon County context. This is further supported by the personal history of the Cunningham family

and the material choices made in the design of the barn. A possible explanation of the preference for a round barn, and a smaller farm, might have been focused on limiting physical work by centralizing the location of labor. This can be further explained by the common practice of constructing a silo first and then building the round barn around it. The Cunningham farm was small and diverse, growing a range of crops and maintaining a small herd of dairy cows, which spent the winter months at the round barn.

The Bert and Mary Cunningham barn was built a year after the Cunningham family purchased the forty-acre farm of A.W. Green on the outskirts of Viroqua in Vernon County. The Green farm had been in operation since the 1870s or earlier and a farmstead was already established on the site. Bert Cunningham was born in 1872 near the town of Woodstock in Richland County, Wisconsin. His family, who had previously farmed in Illinois and Iowa, originated from Virginia. He married Mary Clement, another native of Richland County, in 1906 and the couple had three children. As mentioned in the introduction, Bert Cunningham was seriously injured, hindering his range of motion and ability to walk. [152] Bert and Mary then moved to Viroqua in Vernon County to stay with his older brother George Cunningham for a short time. In 1914, the Cunninghams purchased a small 40-acre farm on the outskirts of Viroqua from A.W. Green. The following year, a round barn was completed on the property. Bert passed away in 1945, and Mary in 1966. They had three children: Pearl, Mearl, and Helen. Her husband Kenneth Vance, inherited the farm in the 1960s. In turn, Helen, and her husband Annunciato (Nunce) Cina, inherited it from Mearl in 1989. Their daughter, Angela Cina, has

[152] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing;" and Interviews/Conversations with property owners, September 6, 2013.

been the owner of the property since 2001. The barn ceased to be used for milking in 1978 and has been used for storage and recreation since.[153]

The majority of Vernon County's centric barns were constructed under the supervision of Alga Shivers, the notable local builder of the Harris round barn. Shivers's recognized barn designs are, without known exception, constructed entirely of wood. Locally, the building type is well-known and a matter of parochial pride. There were at least twenty such barns in the county in the early twentieth century, perhaps more, and eleven are still standing. Many of these barns were erected by Alga Shivers. The Cunningham barn in particular, due to its location on the edge of the city of Viroqua and its distinctive and attractive red tile walls, is familiar. There are a series of published discussions on the centric barns of Vernon County in addition to local articles including Gail Fish, Wava G. Haney, and June Zalewski's *Round Barns of Vernon County, Wisconsin: A Circle Tour,* and Kevin and Patsy Alderson's *Barns without Corners: Round Barns of Vernon County, Wisconsin*.[154] Much of the specific history of the barn and the Cunningham family given here is derived, as it is in other chapters, from discussions with the family's descendants, who still own the property.[155] The roof construction of the Cunningham barn, emphasizing the efficient pattern of roofing boards and the utilization of a full-length truss spanning from the sill to the central peak creating a gambrel shaped roof, resembles that of other local round barns known to have been constructed by Shivers. While it cannot be substantiated if Alga Shivers designed and built the Cunningham Round barn, it remains a distinct possibility.[156]

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[153] Alderson and Alderson, *Barns without Corners*, 3-6, 36-40.
[154] Alderson and Alderson, *Barns without Corners*, 36-40 and Fish, Haney, and Zalewski, *Round Barns of Vernon County, Wisconsin*, 4-5.
[155] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing;" and Interviews/Conversations with property owners, September 6, 2013.
[156] Alderson and Alderson, *Barns without Corners*, 36-40; Interviews/Conversations with property owners, September 6, 2013; and Legacy Architecture, Inc., "Cunningham, Bert and Mary, Round Barn," National Register

The example of the Cunningham barn also demonstrates the causal relationship of the adoption of the design and material and technical features to the specific needs and circumstances of the builders and owners. This relationship is also related to claims of functionality for centric barn building. Perhaps the round barn really was a better, more efficient barn in certain cases based on individuals involved. The barn is specific to its physical context as a vernacular building often in demonstrating the materials, local habits, and design inherent to a certain location. It is also an object that echoes the history of the people who created it, even out of necessity.

Both the use of hollow clay tiles and shallow roof truss construction are relatively rare in round barn designs in Wisconsin. While both could be categorized as technically advanced, though standardized, building methods they are also definitely twentieth-century approaches to building that have little to do with the design of nineteenth-century vernacular agricultural buildings. Indeed, such methods have most often been used in modern industrial building types.[157] In the case of the Cunningham barn, they are specifically used to solve certain problems that would otherwise not exist for the needs of a dairy farmer. The light-weight long trusses allow for more clearance underneath them in the haymow, but also probably make the construction take longer to complete and require some engineering ability to produce. The hollow clay tiles, essentially a form of structural masonry, were probably produced in Iowa and transported via train to Viroqua, a short distance from the barn. This would not be possible for more remote or rural settings and probably added additional cost to construction as well. The added cost of the structural clay tiles and truss system were also mitigated by the relatively

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of Historic Places Inventory/Nomination Form, Madison: Wisconsin Historical Society, 2014. Reference # 14000503.

[157] Janik, "Made-to-Order Farms," 40-49.

small scale of the barn itself, which in turn was dictated by the small scale of the dairy farm and the limited mobility of the primary worker and patriarch. The Cunningham barn has a specific niche design and is a calculated response to its physical location and the personal characteristics of its original owner. It would simply take on a different form in other circumstances.

Iowa State University developed hollow clay tiles and the state supplied the production of clay tiles for much of the Midwest region, while the associated Iowa Experiment Station pioneered the use of clay tile in silo design in 1908. The proximity of the Cunningham property to Viroqua and the railroad partially explains the use of clay tile on the barn. Not as inexpensive as wood, especially lumber taken from local farmland, clay tile would come from another location. A variety of producers such as the National Fireproofing Company and Pioneer Fireproof Construction Company of Chicago, and the Denison Fireproofing Company and the Johnston Brothers Clay Works in Iowa, were producing large quantities and a variety of hollow clay tile for construction purposes. Unfortunately, the exact source of the building material for the Cunningham barn is not known as upon inspecting a loose tile example, no identifying marks or stamps could be discerned. Such clay tile was often not meant to be seen as a finished material, but rather as a structural material. The dovetail grooves on the clay tiles of the Cunningham barn were intended to be covered with plaster or cement. Structural hollow clay tile was an advanced building material at the turn of the century, well suited to barn building due to its ease of construction and fireproof attributes, similar in its role to concrete block. While the variegated pattern on the clay tiles used in the Cunningham barn implies an application along with a coat of plaster or cement, other examples of agricultural buildings constructed with clay tile are most often left bare. However, the use of the dovetail patterned

tiles such as in the Cunningham barn is rare. In fact, the Cunningham barn is believed to be one of the only round barns in Wisconsin constructed with the material.[158]

Likewise, the roof structure of the Cunningham barn is distinctive in its use of nearly total trusses to support each rafter. Truss systems are typical in the support of wood barn roofs; however, few examples are as shallow or as long as the truss systems of Vernon County round barns. The entire roof structure is constructed with dimensional wood lumber for a stick-built frame.[159] This structural system is found in all of the barns constructed by Alga Shivers in Vernon County. While the basic form is common to many true round barns, the pattern of roof boards and the nearly total truss are distinctive. The idiosyncratic nature of the round barn examples of Vernon County is derived from the vernacular building methods that correspond to later building patterns of the true round barn type. Most of these barns were constructed with the assistance and supervision of local carpenters and builders. Raised by local farmers, such barns would be designed and organized by figures who would proceed to work on a number of such projects, one every few years. One such builder was Alga Shivers, who led the building of as many as fifteen round barns in Vernon County, including the Harris barn already discussed; though this association with the Cunningham barn cannot be confirmed. Like the case of the hollow structural clay tiles, the design of the roof trusses used in the Cunningham barn link the building to the specifics of its time and place within the context of other centric barns in the state.[160]

[158] Jeremy C. Wells, "The History of Structural Hollow Clay Tile in the United States," *Construction History* 22 (2007): 27-46.
[159] Legacy Architecture, Inc., "Wisconsin Centric Barns Multiple Property Listing."
[160] Alderson and Alderson, *Barns without Corners*, 3-6.

Conclusion

The Lindstrom barn seems far removed from the more professional origins of the centric barn designs. It can be argued that the Lindstrom barn, and others in Polk County, is not the result of professional or trade magazine sources or of academic and progressive inclinations, but rather the result of a narrowly focused group of builders who developed a successful building type appropriate for its region and continued to build in that way despite outside influences. In this sense, the Lindstrom barn is another example of a vernacular adaptation of an elite architectural form. The Lindstrom barn assists in revealing the immediate influence of location in the design of centric barns and further complicates the unusual dichotomy of the modern and vernacular, in architectural terms, that frequently inhabit the same centric barn structure. While very little is actually known about the owner or builders of the barn its distinctive form and materials, shared with only neighboring round barns in the same county, stress the specificity of place, a trope often addressed in the study of vernacular architecture. However, the barn was constructed by an experienced and professional band of barn builders who worked regionally adopting some advanced building techniques and materials that only found widespread use during the twentieth century. The Lindstrom barn is a blending of assumptions about the old and the new in barn architecture.

The Cunningham barn's location in Vernon County near a small city in western Wisconsin along with the physical needs of its owner ties it to its contextual place. The barn's design specifically addressed this issue and certain design features like the high and clear haymow, limited diameter, proximity to other farm buildings and the road, and low-maintenance masonry construction all hint at this being a concern in the design of the barn. Similarly, the location of the barn and its use contributed to design choices that would not have

been made in another location, even one elsewhere in Vernon County. The specifics of the Cunningham barn appear to be guided by utilitarian thinking rather than whimsical concerns for progressive efficiency, allegiance to an ethnic and pastoral past, or exuberant displays of agricultural advancement and wealth. Perhaps the centric barn form, like that of the Cunningham barn, can be understood as a design response that is well tailored to specific individuals rather than the entirety of dairy farming in turn-of-the-century Wisconsin. Such a building as an object may be eccentric, but it can also be an appropriate reflection of individuals and their histories. Jacqueline Jackson's book, *The Round Barn: A Biography of an American Farm,* retells her family's history on a dairy farm outside Beloit, Wisconsin, over the course of the twentieth century. The farm she was raised on was notable locally for its prominent round barn, though the building no longer exists. Interestingly, the barn does not necessarily feature prominently in every anecdote about the farm's history, but still receives pride of place in the title, introduction, and many photos included in the biography. The round barn was not only a defining characteristic of the place and the people locally, it also was a symbol of Jackson's family in their own view. The eminence of the building type, often produced to serve a specific utilitarian function, in turn became a reflection of the people who owned, used, and occupied the barn as a distinct space.[161]

Centric barns were first posited as an improved design of a traditional building type in favor of increased efficiency. While it appears that these promises never truly materialized, there are unusual examples such as the Cunningham barn where it is entirely likely that real improvements to agricultural life were achieved precisely because of the round barn. The distillation of pragmatic improvement that academics and progressive boosters initially worked

[161] Jackson, *The Round Barn: A Biography of an American Farm*, Vol.1, 29-33, 36-42.

towards may have been briefly realized for a select family in a specific condition through a building largely designed in terms of its immediate context. While the centric barn did not become a popular form for dairy farmers, it reached its greatest success and popularity in locations where it was carefully adapted in vernacular ways from its elite sources to suit its personal, spatial, and temporal context. This is in keeping with the adaptive process seen in earlier chapters addressing technology and identity as well.

CONCLUSION

The centric barns of Wisconsin offer a narrative of architectural adaptation. The design of these barns, considered both remarkable landmarks on the rural landscape and simple utilitarian buildings, were inspired by elite sources and then modified to suit the needs and skills of their owners and builders. The designs originated in the work of professional designers, university faculty, progressive farmers, and magazine and periodical publishers at the turn of the twentieth century. However, most of the centric barns constructed in Wisconsin and elsewhere took on forms and carried associations that responded just as much to the lives of the builders, owners, and users of these buildings. This process can be seen in individual barns. Using the larger themes of technology, identity, and place, this dissertation has provided model to understand these barns and their relationship to their professional design origins. The variety of the building type, largely produced by this process of adaptation and transformation, reveals the lines between professional and vernacular design is not clear; round barns fall into both categories--a condition shared by many commonplace buildings produced during the late nineteenth and early twentieth centuries. The variety is impressive and no two centric barns in Wisconsin, whether octagonal, polygonal, or round, are identical despite their origins in professional, published sources.

Each of the six barns discussed in this dissertation tells a distinct story as the ideas which shaped their design, form, and use were tied closely to the individuals that constructed or used them as well as the specific regional and socio-cultural contexts in which they were created. An in-depth look at the other 116 existing centric barns in the state would result in similar stories that reveal the specific needs, adaptations, and contexts of the people whose

lives were closely tied to these buildings. As an architectural subject, such barns serve as an excellent example of adaptive vernacular design.

The chapters collectively show this narrative of adaptation, but they do so around different themes. The examples of the Ten Eyck Round barn and Lueder 13-Sided barn serve as discussions of a technology theme through the application of pre-conceived elite agricultural ideals and the demonstration of eccentricity and technological prowess. The Vocke Octagonal barn and the Harris Round barn explore concepts of identity in relation to the centric barn building type through associations with ethnicity and race. The Lindstrom Round barn and Cunningham Round barn are studied through the lens of place, where location and context define the combinations of traditional and modern building methods and human scale specificity. These case studies support the thesis about the complex relationship between elite sources and the barns themselves.

This narrative helps us better understand the period in which the barns were constructed. Frequently referred to as the progressive period in the United States, approximately from 1880 to 1920, were marked by rapid change and transitions in society and technology. Architecture, whether high design or vernacular, underwent changes in popular styles, new materials and methods, and the beginnings of what would later be called modern architecture, whether this denotes a set of aesthetic design choices or the mass-production and standardization of building. Centric barns can be understood as one manifestation of architecture during the progressive period. In this case, the centric barn reflects the consciously progressive spirit of agricultural reform and improvement commonly supported and published by state agronomy departments and agricultural research stations. Round, octagonal, and multi-sided barns were initially conceived as a more efficient use of space designed to improve the

lives and productivity of farmers. Likewise, at the local and specific level, these vernacular buildings were also chosen by individual builders and owners for similar reasons, although these reasons have more to do with personal expression and specific needs tied to choices made about technology, identity, or place.

Centric barns exist across much of the country. The arguments made here about technology, identity, and place can certainly apply to other cases outside the confines of Wisconsin. While there have been detailed studies and catalogs of centric barns in other states, most notably the neighboring and nearby work in Iowa and Indiana in addition to work in New York, this dissertation can serve as a model for discussing buildings elsewhere. Barns are the most recognized building type in rural American life besides houses, and centric barns are a distinctive variant of the broader barn type. The methods and implications of vernacular adaptation used here could be applied to almost any structure or object that straddles the imprecise boundary between the professional and vernacular and discussion of architectural adaptation at the turn of the twentieth century.

FIGURES

Figure 1: Cunningham Round Barn exterior, photo taken from the west. August 2013. By Author.

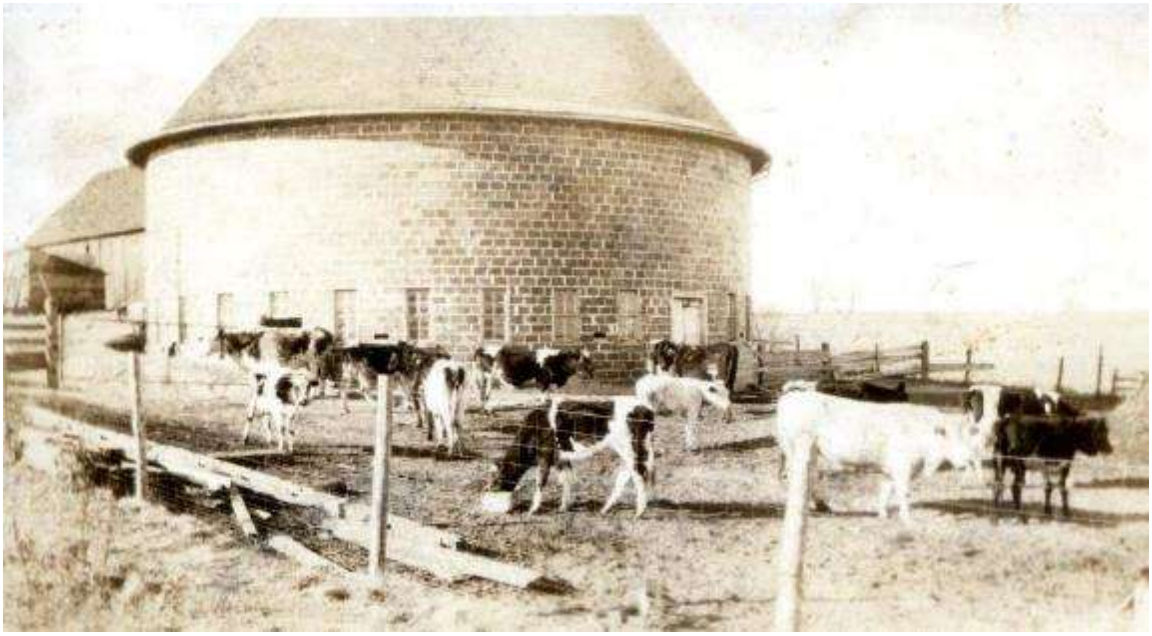
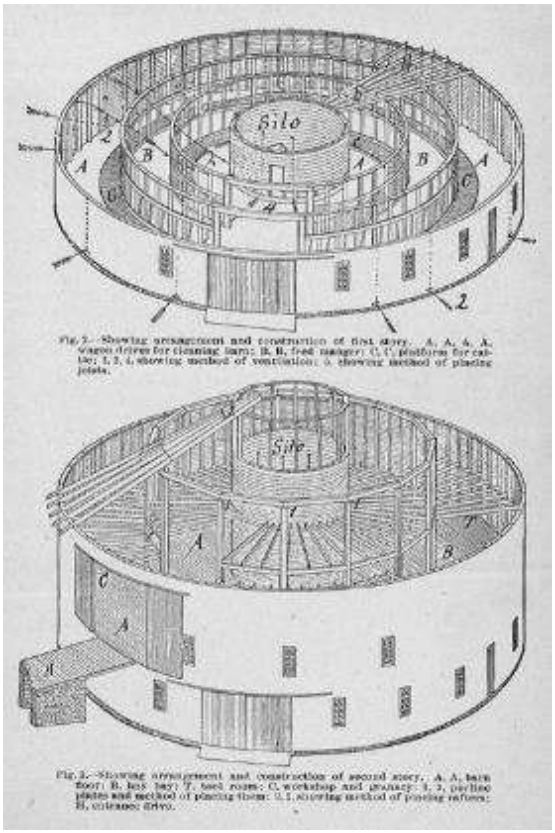
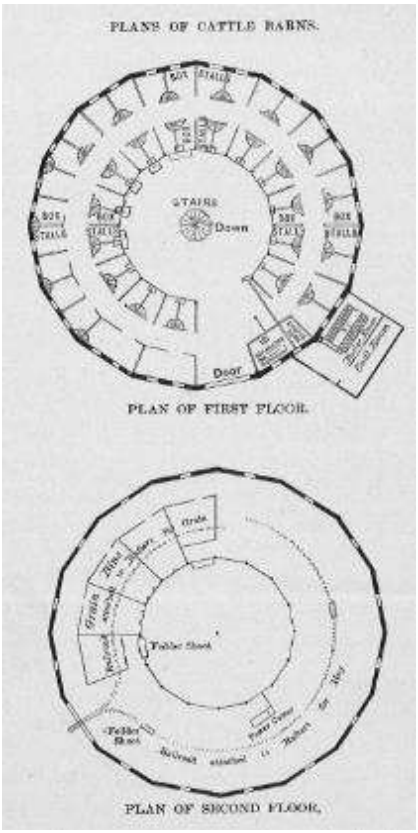


Figure 2: Photo: Cunningham Round Barn, c.1930. Courtesy of Angie Cina, property owner's private collection.

Figure 3: Drawing: C.E. King's Round Dairy Barn, 1889. From "Plan of a Barn for a Dairy Farm," in *Seventh Annual Report of the Agricultural Experiment Station at the University of Wisconsin*.





Figures 4 and 5: Drawing: Generic Round Barn design, 1889. From "Plan of a Barn for a Dairy Farm," in *Seventh Annual Report of the Agricultural Experiment Station at the University of Wisconsin*; and Drawing: Generic Round Barn plans, 1893. From *Practical Hints about Barn Building*.

Figure 6: Distribution of centric barns across the State of Wisconsin showing three types: octagonal plan forms, polygonal forms (anything not round or octagonal), and round plan forms, and their approximate geographic location taken from the "Wisconsin Centric Barns Multiple Property Listing." The map also shows whether the centric barn is existing or has been demolished or destroyed. By Author.

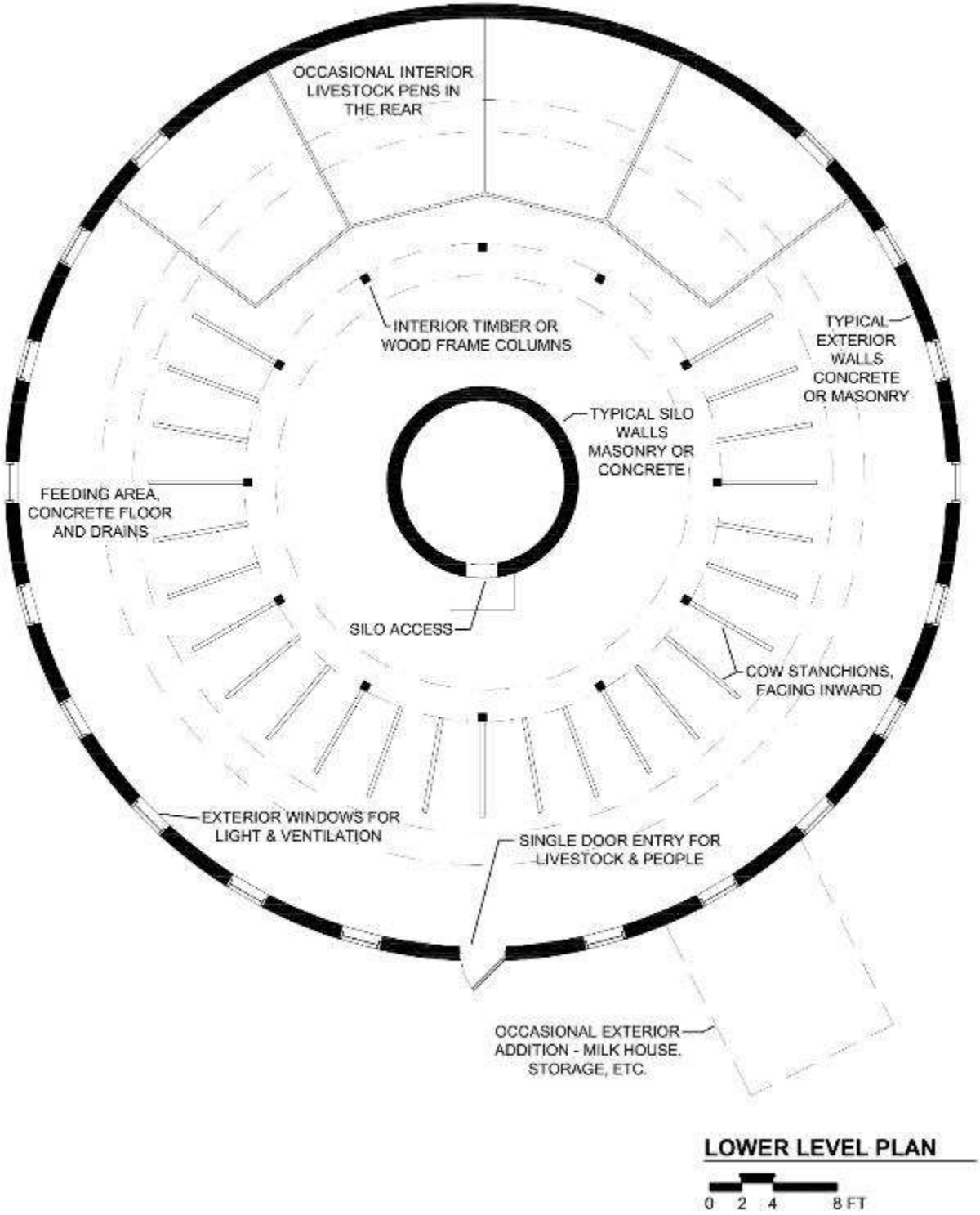


Figure 7: Generic round and centric barn plan, lower level. By Author. This plan, and the following one, are not specific to any centric barn and are instead generalized views demonstrating common, but not universal, elements of the building type. Indeed, centric barns are rare and are defined partly by their relative variety, unusual in the descriptions of a utilitarian and vernacular building type.

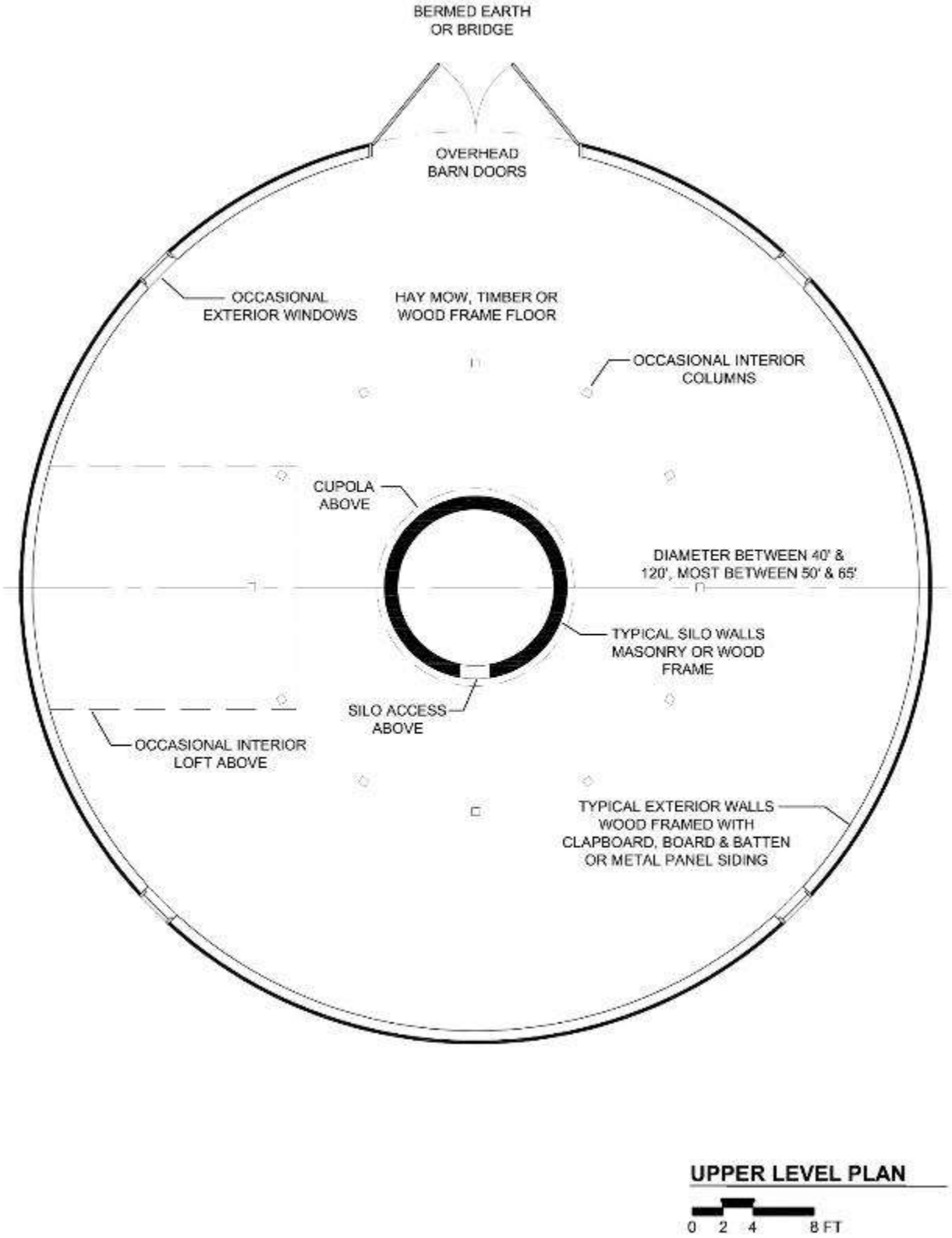


Figure 8: Generic round and centric barn plan, upper level. By Author.

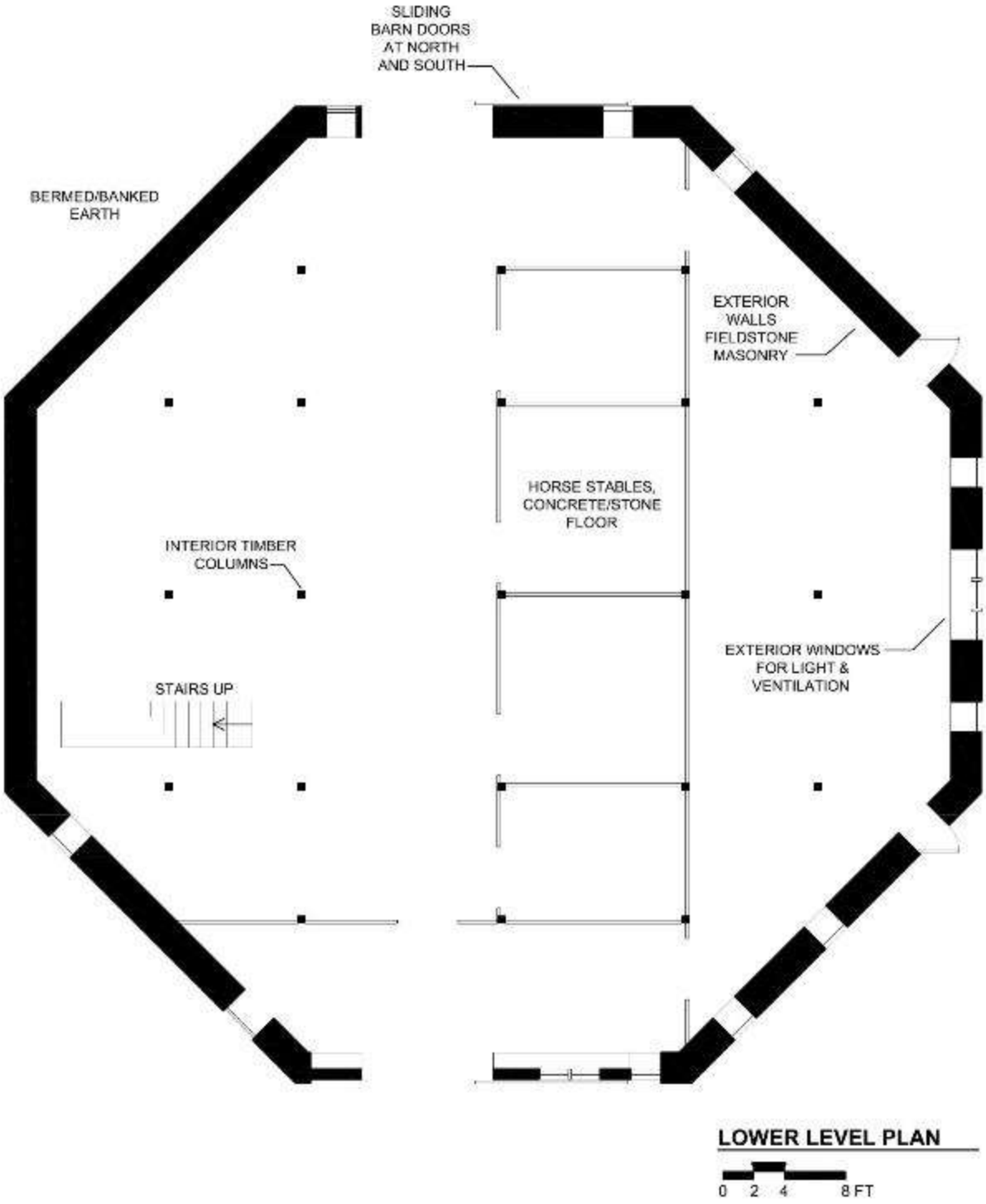


Figure 9: Frank Vocke Octagonal Barn Plan, Lower Level. By Author.

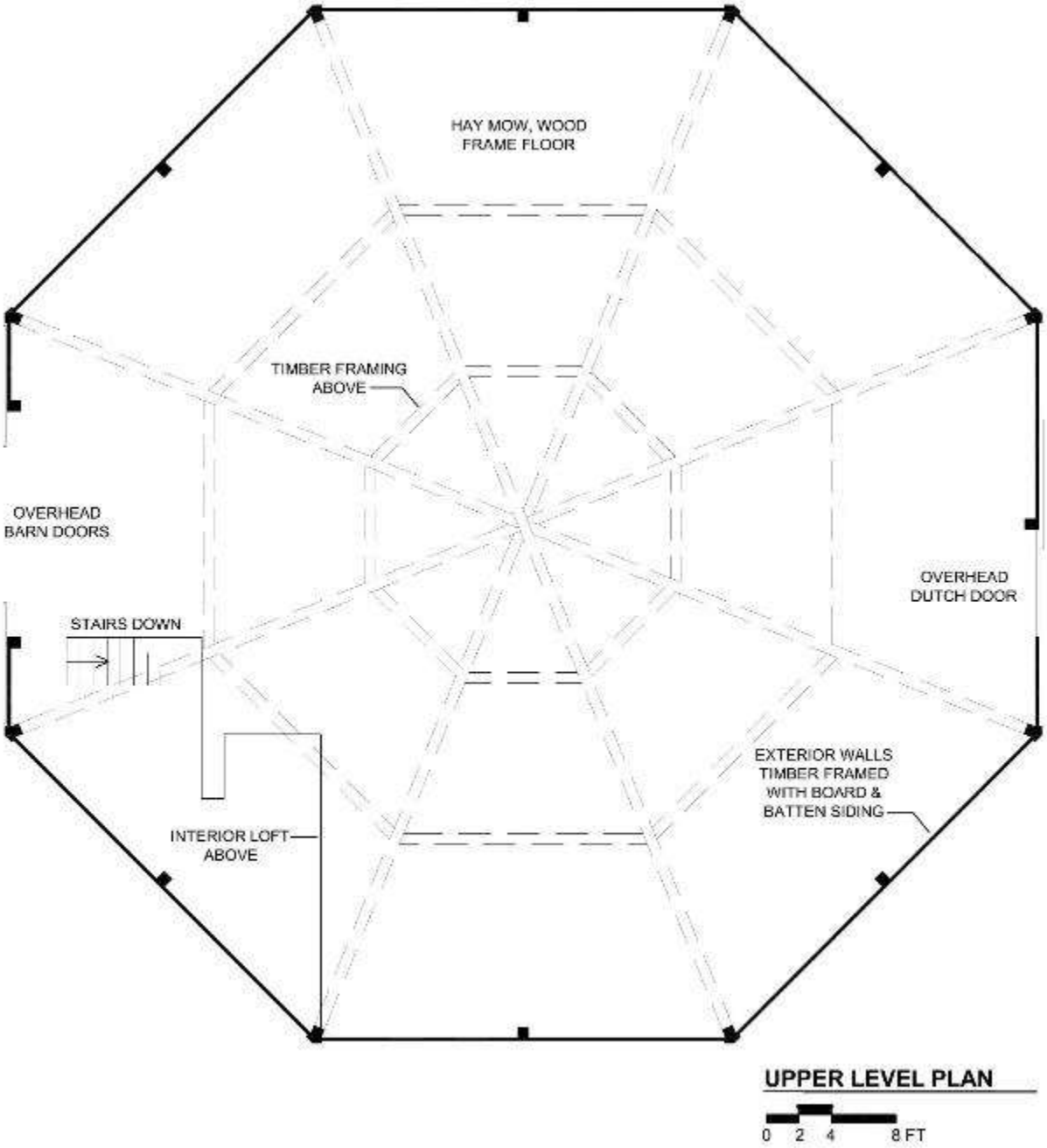


Figure 10: Frank Vocke Octagonal Barn Plan, Upper Level. By Author.

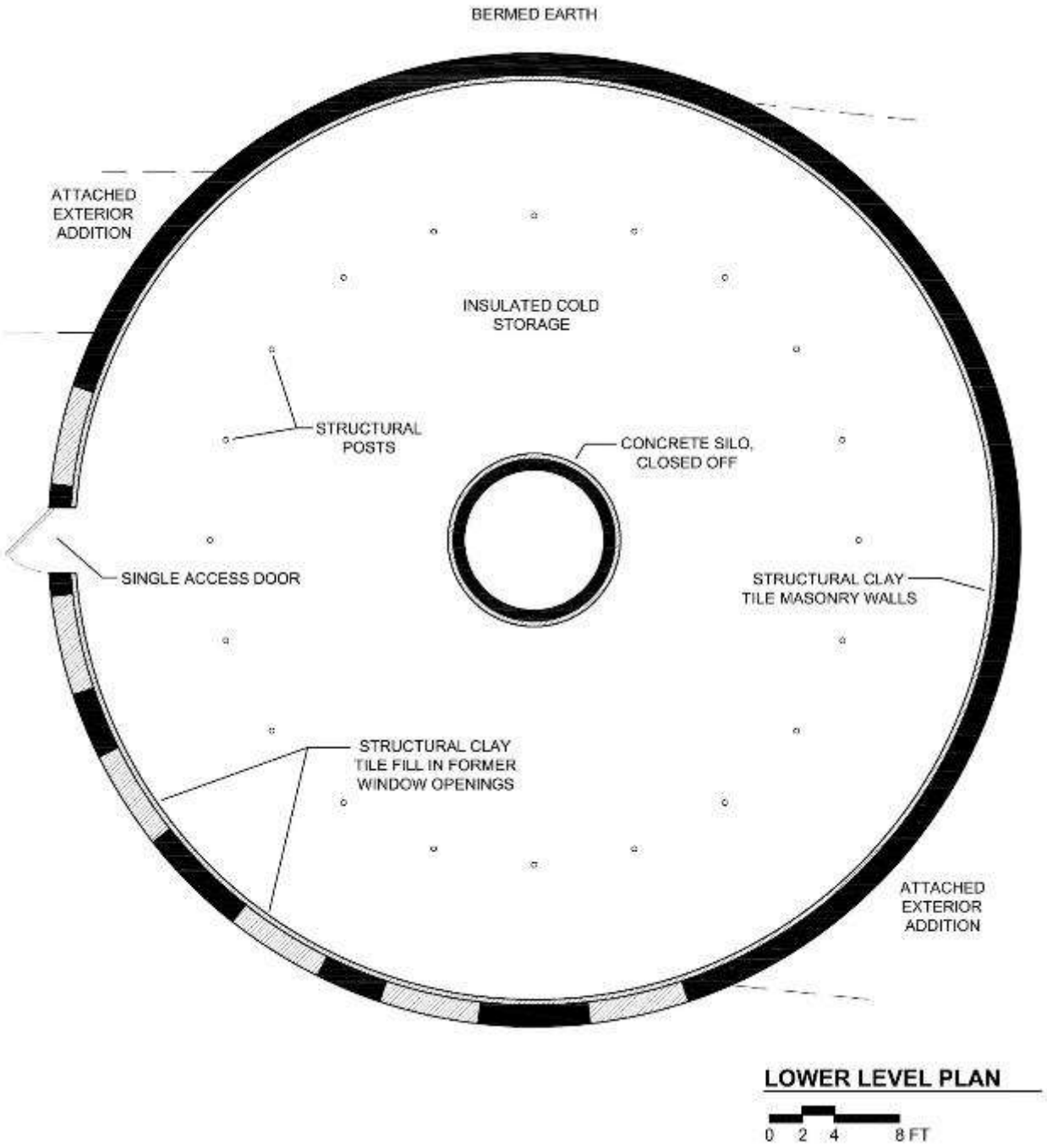


Figure 11: Ten Eyck Round Barn Plan, Lower Level. By Author.

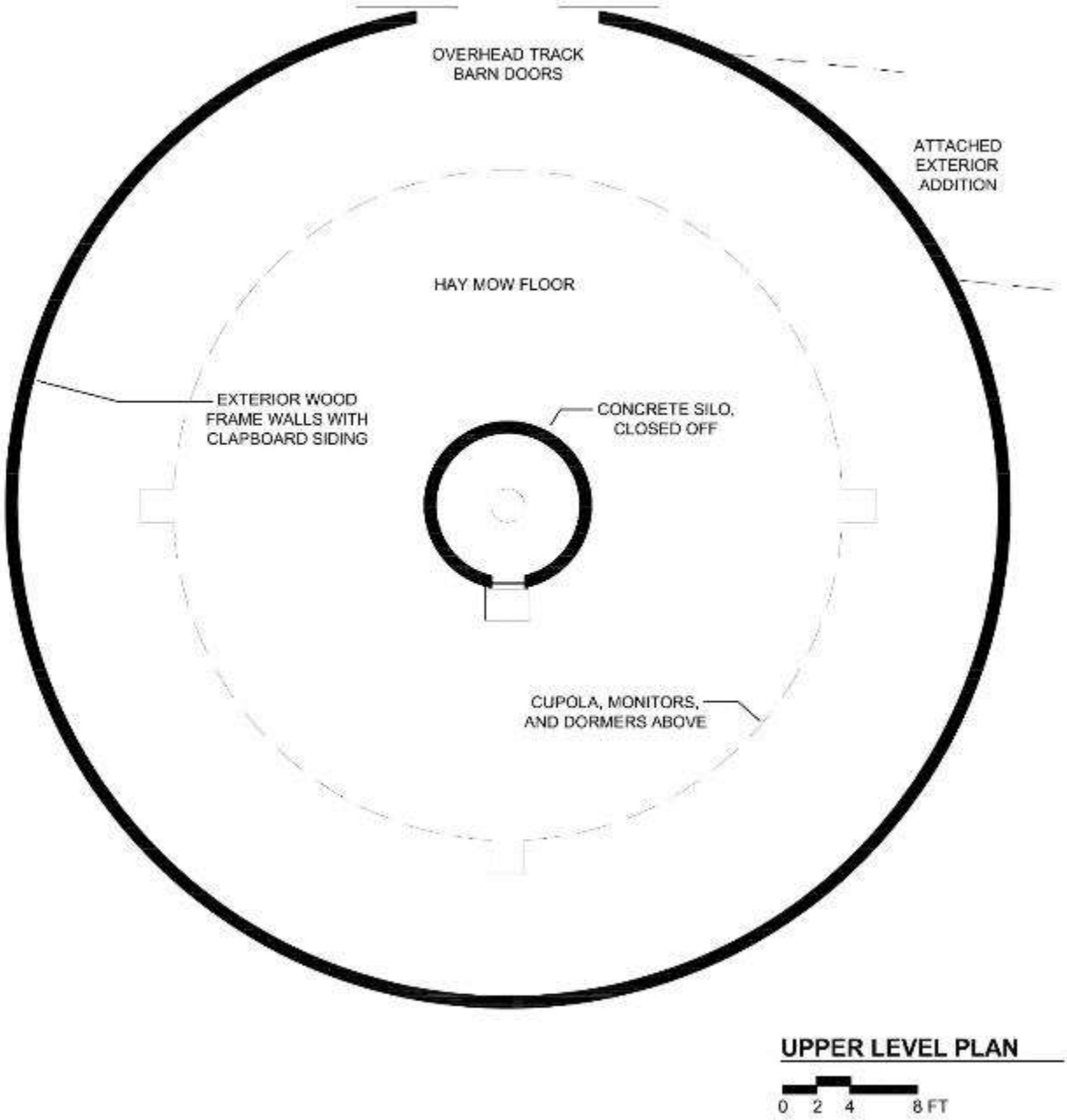


Figure 12: Ten Eyck Round Barn Plan, Upper Level. By Author.

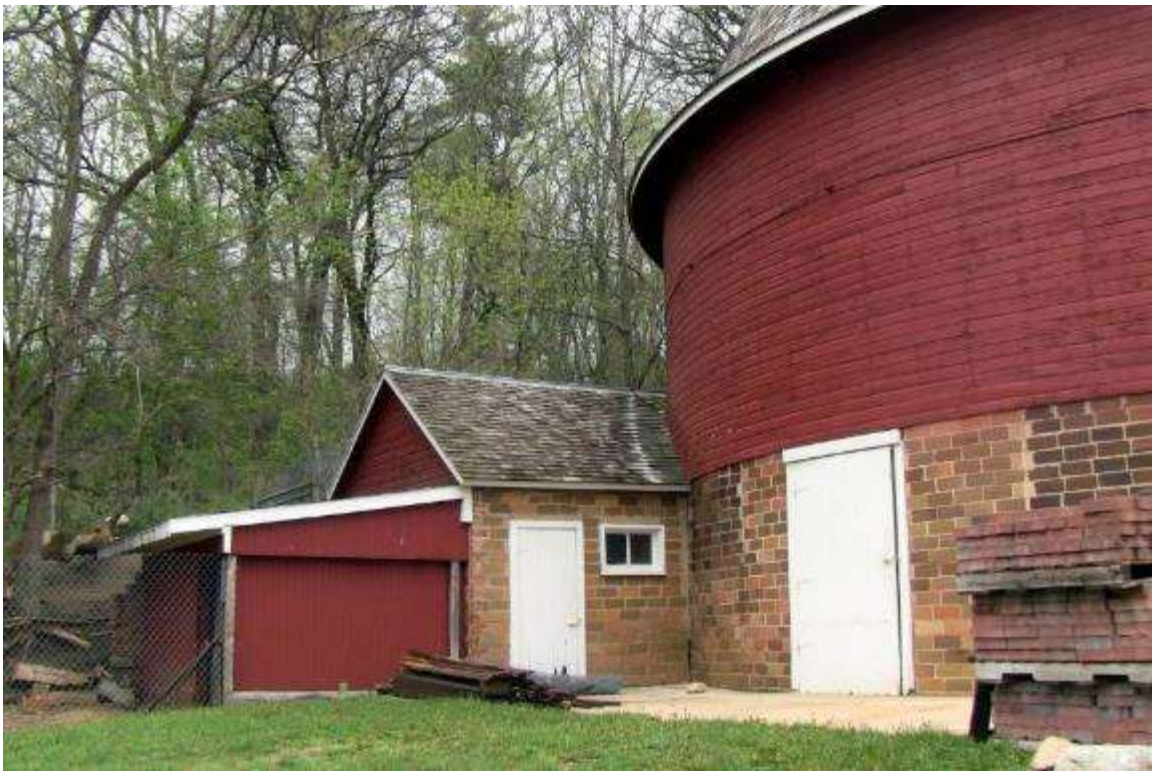


Figure 13: Ten Eyck Round Barn exterior, photo taken from the southwest. June 2014. By Author.

Figure 14: Photo: Ten Eyck barn construction, 1919. Courtesy of Robert Ten Eyck, property owner's private collection.

Figure 15: Ten Eyck Round Barn exterior, photo taken from the south. June 2014. By Author.

Figure 16: Ten Eyck Round Barn exterior, photo taken from the north. June 2014. By Author.

Figure 17: Ten Eyck Round Barn exterior, photo taken from the southwest. June 2014. By Author.

Figure 18: Ten Eyck Round Barn exterior, photo taken from the south. June 2014. By Author.

Figure 19: Ten Eyck Round Barn exterior, photo taken from the south. June 2014. By Author.

Figure 20: Photo: Kansas Round Horse Barn, 1911 (A.M. Ten Eyck). From "Efficiency of the Round Barn." *Kansas State Board of Agriculture, Eighteenth Biennial Report*.

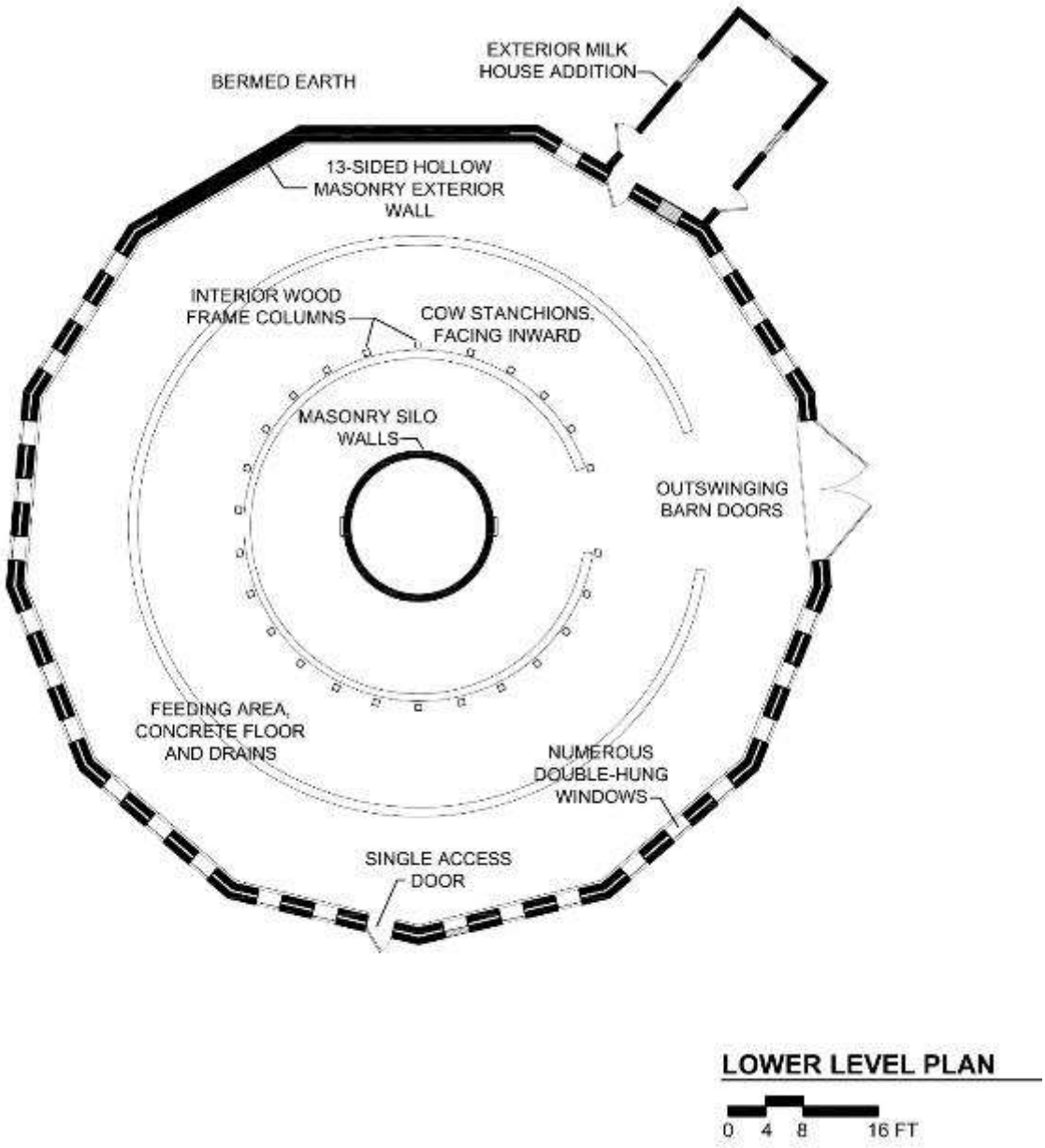


Figure 21: Lueder 13-Sided Barn Plan, Lower Level. By Author. Note the scale is half that of other barn plans.

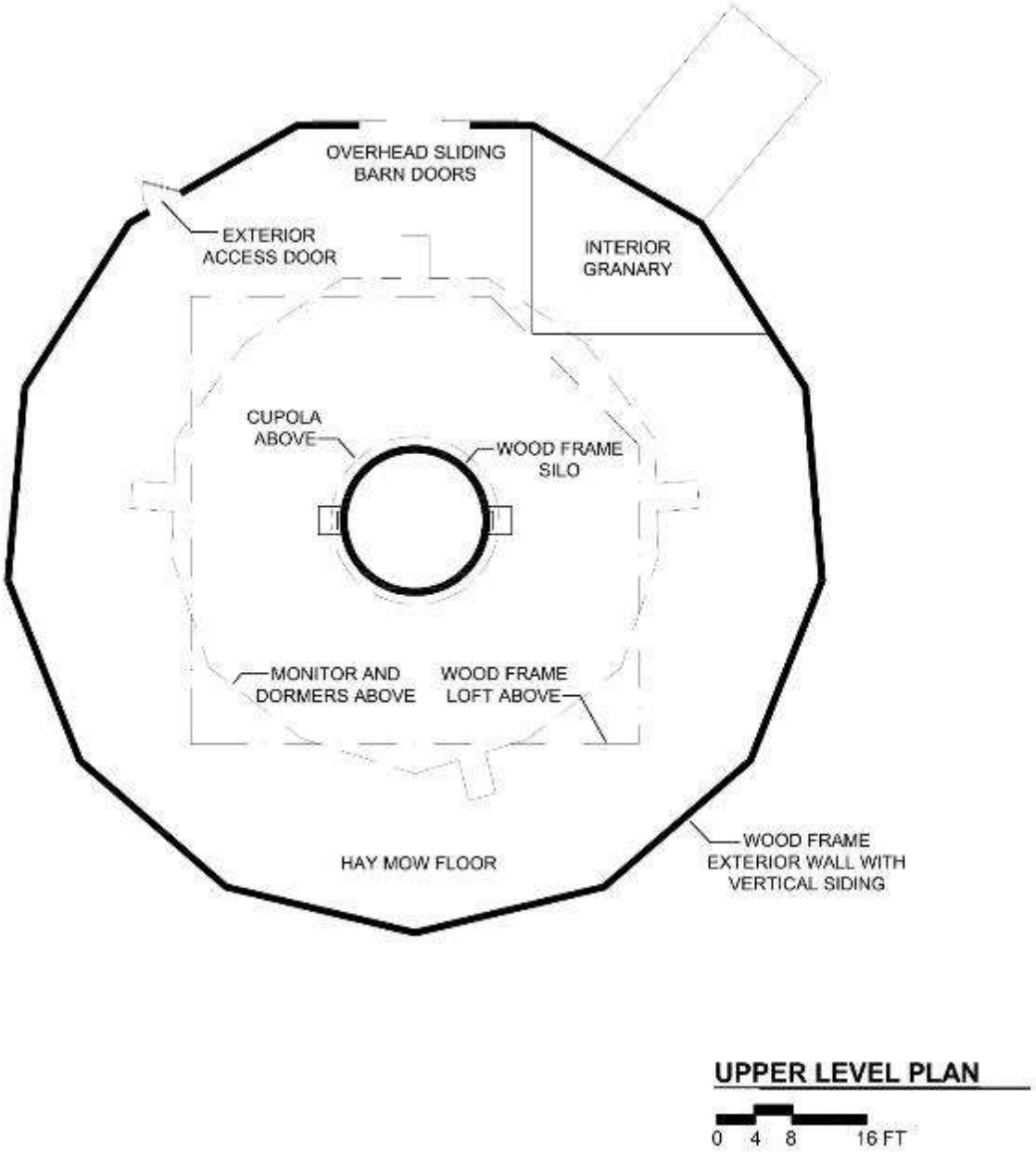


Figure 22: Lueder 13-Sided Barn Plan, Upper Level. By Author. Note the scale is half that of other barn plans.

Figure 23: Lueder 13-Sided Barn exterior, photo taken from the southeast. May 2014. By Author.

Figure 24: Lueder 13-Sided Barn exterior, photo taken from the east. May 2014. By Author.

Figure 25: Lueder 13-Sided Barn exterior, photo taken from the northeast. May 2014. By Author.

Figure 26: Lueder 13-Sided Barn exterior, photo taken from the north. May 2014. By Author.

Figure 27: Lueder 13-Sided Barn exterior, photo taken from the north. May 2014. By Author.

Figure 28: Lueder 13-Sided Barn interior, photo taken from the northwest. May 2014. By Author.

Figure 29: Lueder 13-Sided Barn interior, photo taken from the northwest. May 2014. By Author.

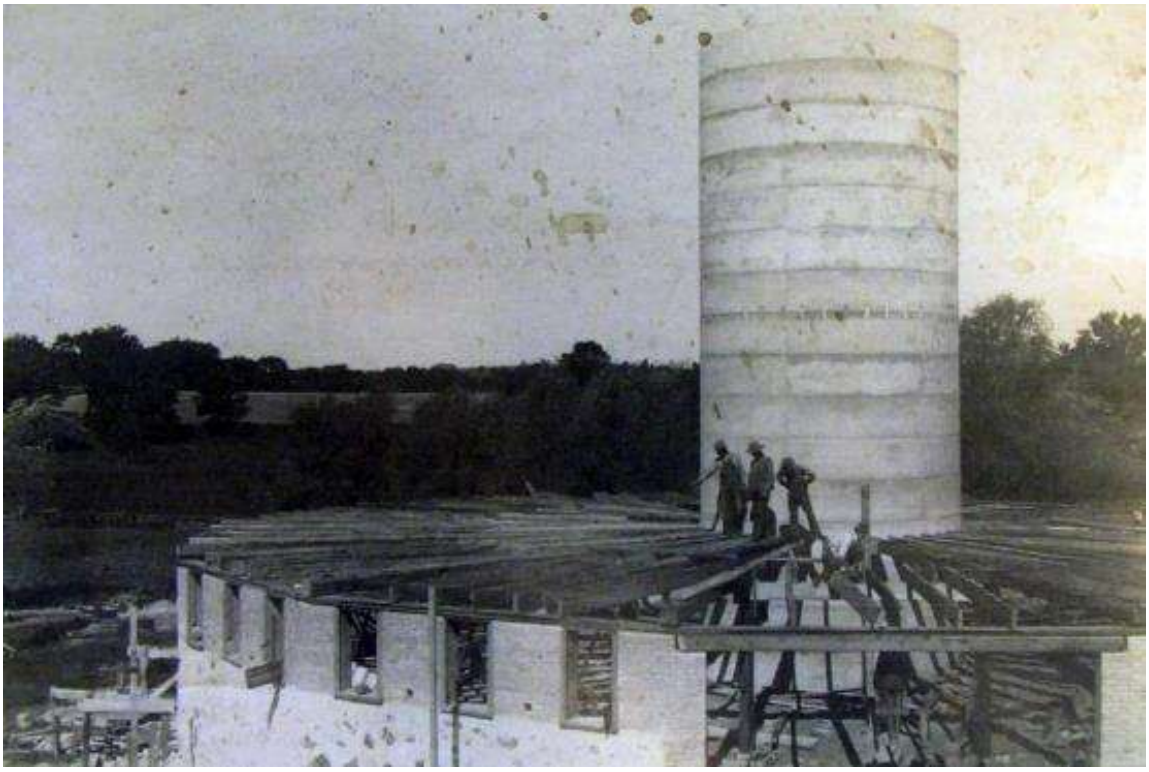


Figure 30: Photograph of the Lueder 13-Sided Barn under construction from the east; 1916. Courtesy of Daniel and Janelle Irwin, property owner's private collection.

Figure 31: Photograph of the Lueder 13-Sided Barn from the south; circa 1919. Courtesy of Daniel and Janelle Irwin, property owner's private collection.

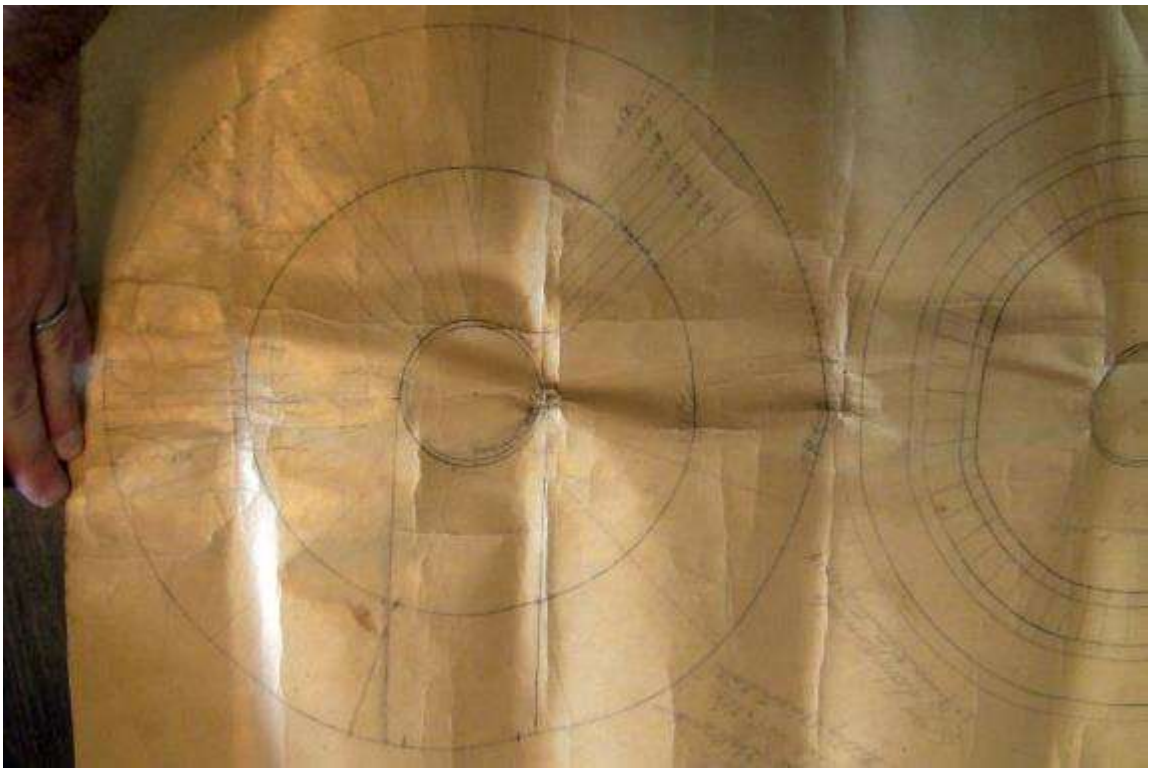


Figure 32: Photograph of the drawings and plans for the Lueder 13-Sided Barn; circa 1915. Courtesy of Daniel and Janelle Irwin, property owner's private collection.

Figure 33: Frank Vocke Octagonal Barn exterior, photo taken from the southeast. May 2014. By Author.

Figure 34: Frank Vocke Octagonal Barn exterior, photo taken from the east. May 2014. By Author.

Figure 35: Frank Vocke Octagonal Barn interior lower stables, photo taken from the south. May 2014. By Author.

Figure 36: Frank Vocke Octagonal Barn exterior, photo taken from the north. May 2014. By Author.

Figure 37: Frank Vocke Octagonal Barn interior hayloft, photo taken from the west. May 2014. By Author.

Figure 38: Frank Vocke Octagonal Barn exterior, photo taken from the east. c. 1975. Wisconsin Historical Society.

Figure 39: Frank Vocke Octagonal Barn exterior, photo taken from the north. c. 1975. Wisconsin Historical Society.

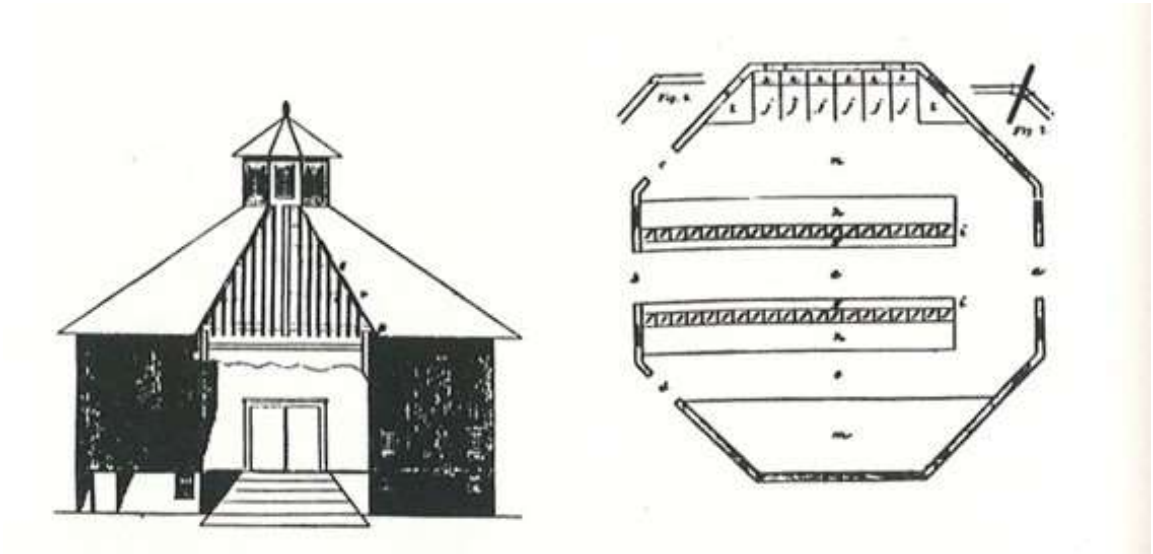


Figure 40: Drawing. Stewart, Elliot W. "An Octagon Barn," in *Cultivator and Country Gentleman 41* (1876): 554.

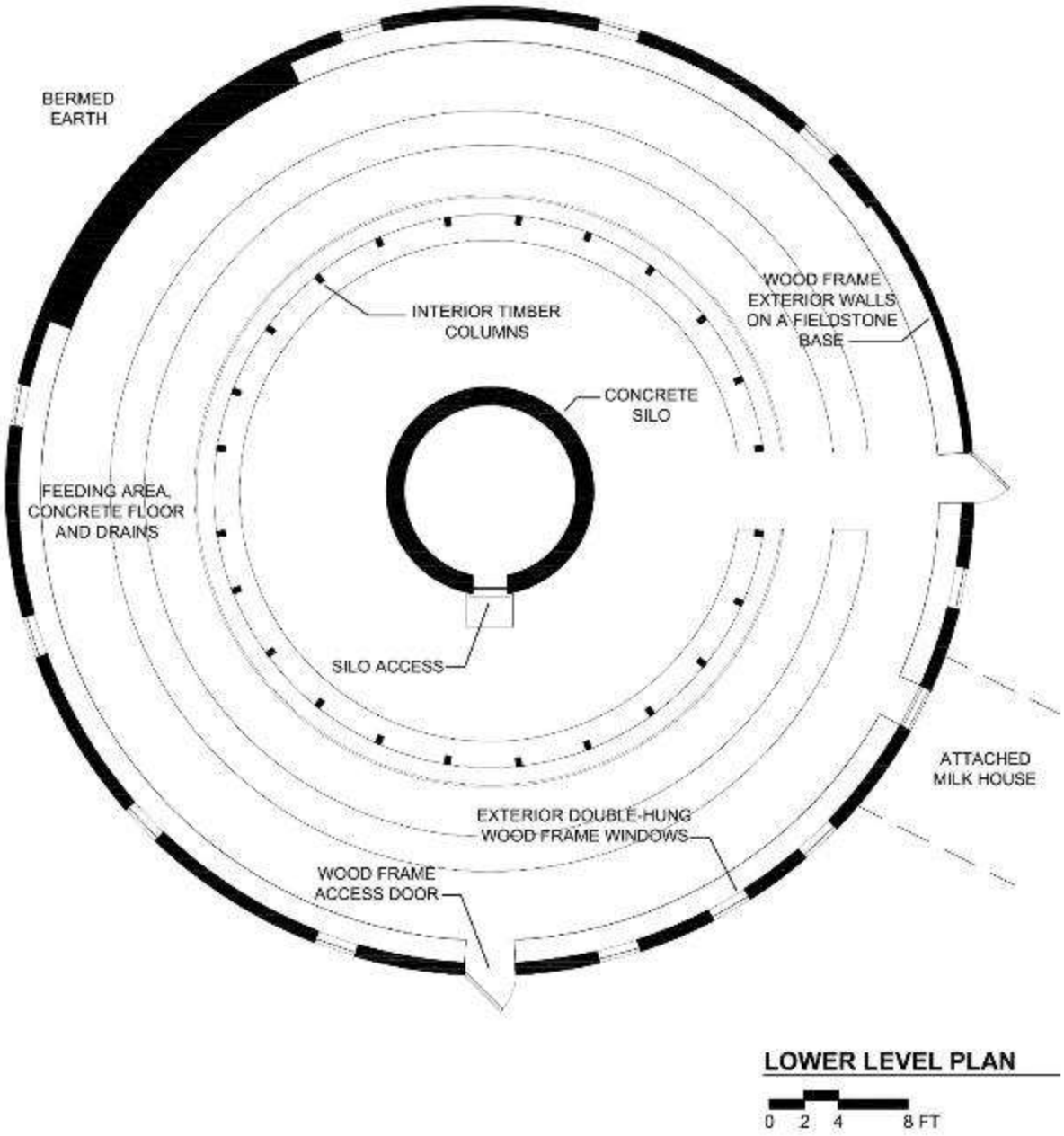


Figure 41: Harris Round Barn Plan, Lower Level. By Author.

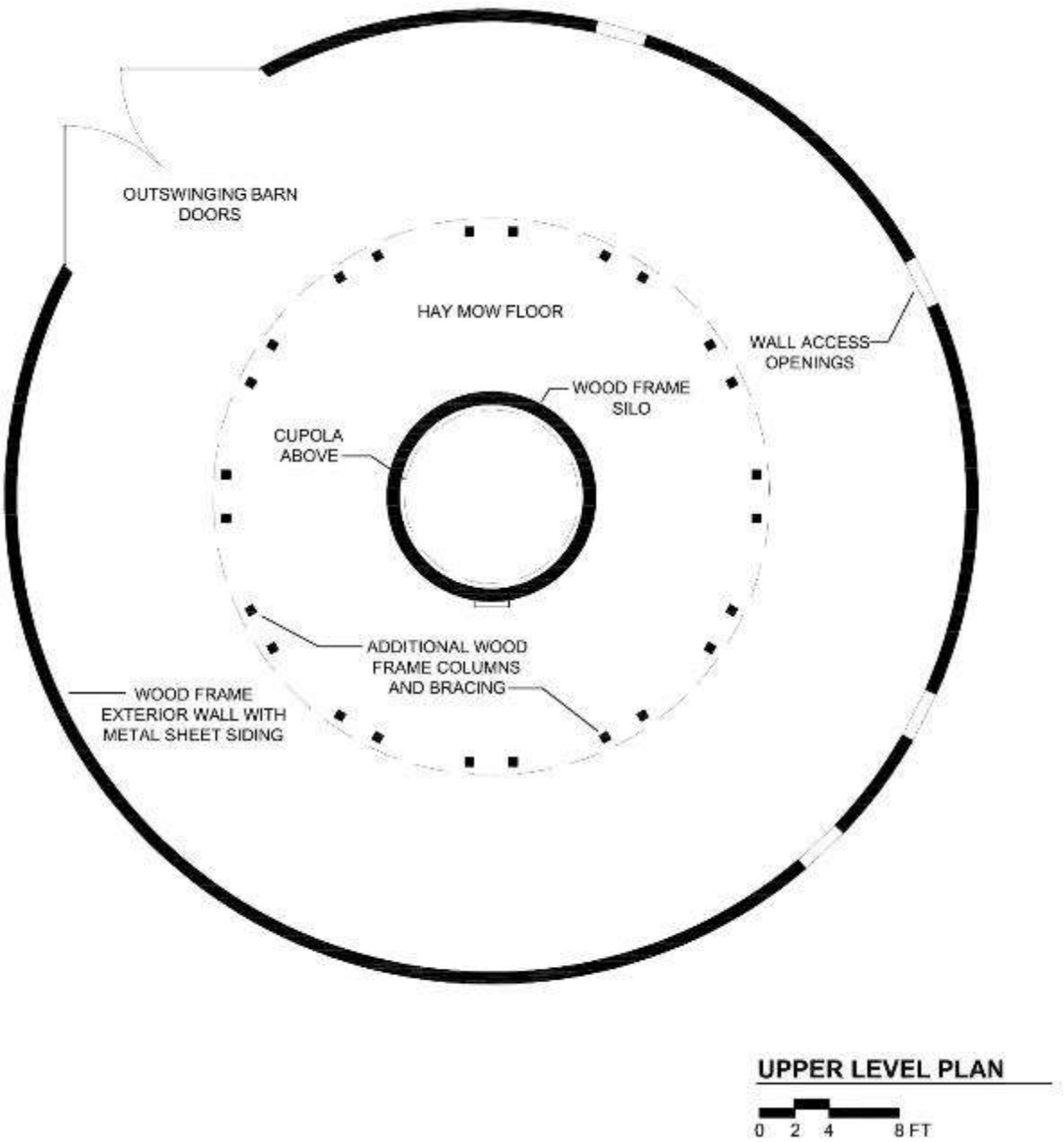


Figure 42: Harris Round Barn Plan, Upper Level. By Author.

Figure 43: Harris Round Barn exterior, photo taken from the northeast. June 2014. By Author.

Figure 44: Harris Round Barn exterior, photo taken from the southeast. June 2014. By Author.

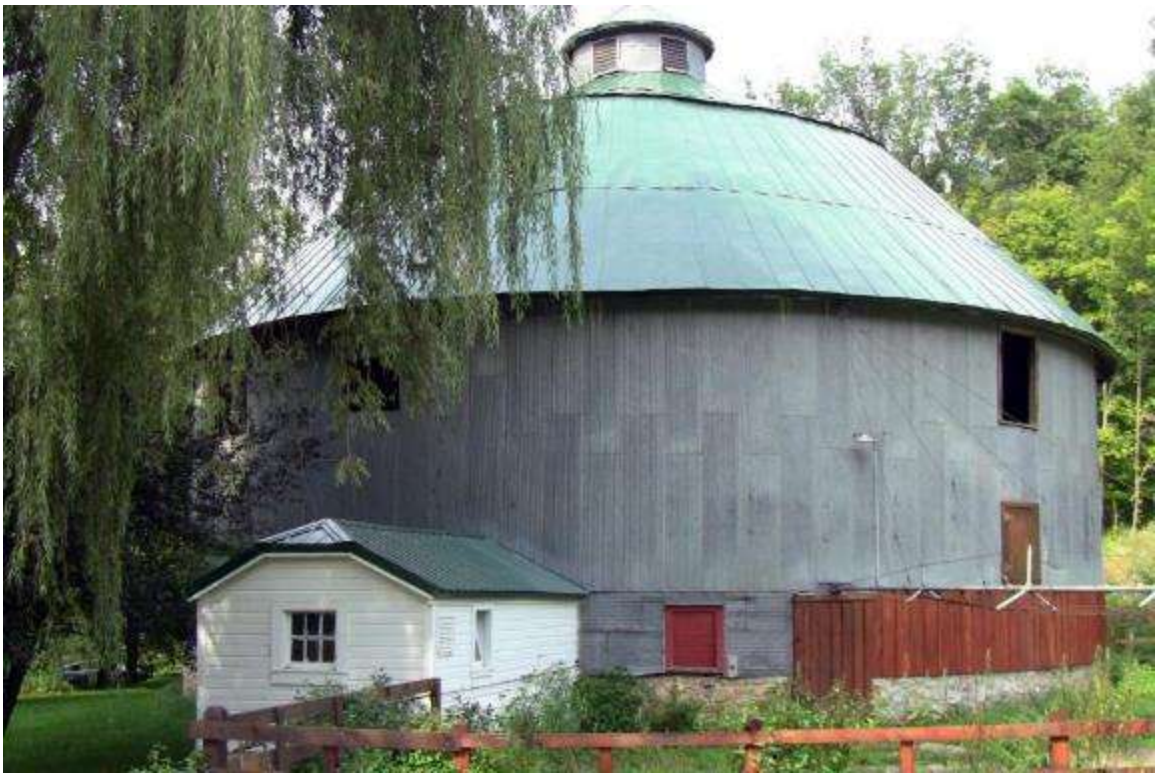


Figure 45: Harris Round Barn exterior, photo taken from the east. June 2014. By Author.

Figure 46: Harris Round Barn exterior, photo taken from the southwest. June 2014. By Author.

Figure 47: Harris Round Barn interior, photo taken from the west. June 2014. By Author.

Figure 48: Harris Round Barn interior, photo taken from the north. June 2014. By Author.

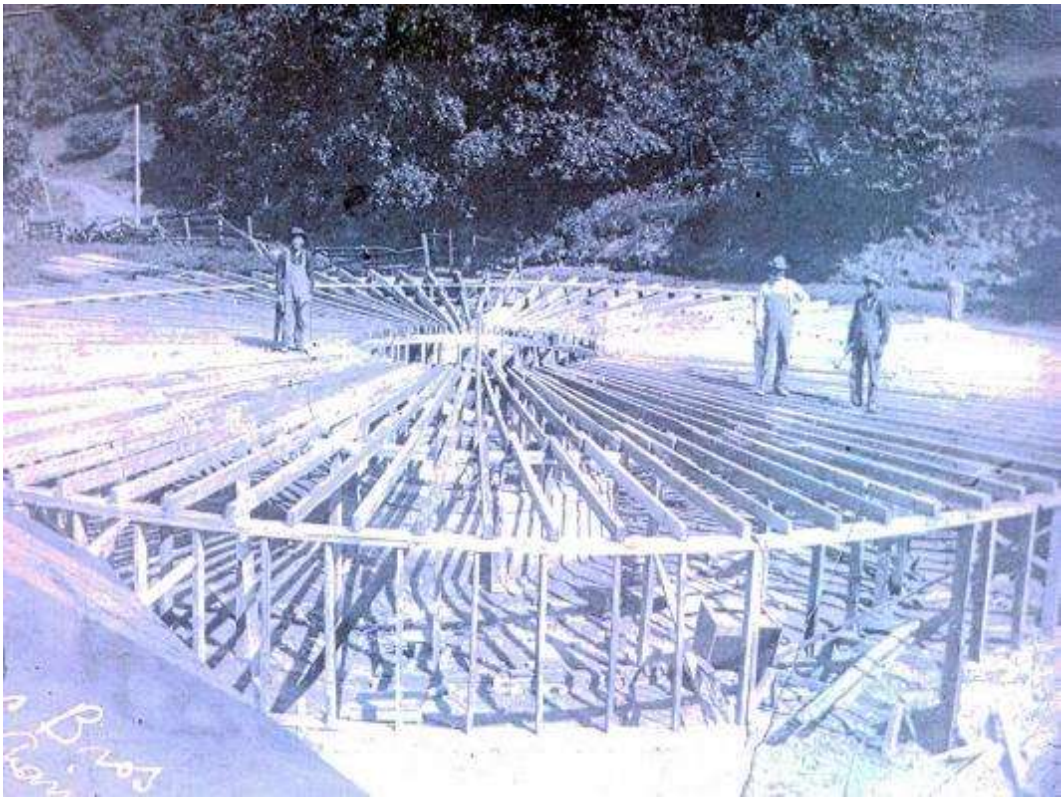


Figure 49: Alga Shivers and his crew at an unidentified round barn under construction, Vernon County, c. 1910. Courtesy of the Vernon County Historical Society and Museum.

Figure 50: Harris Round Barn exterior, photo taken from the northeast. 1975. Photographer unknown. Courtesy of the Vernon County Historical Society and Museum.

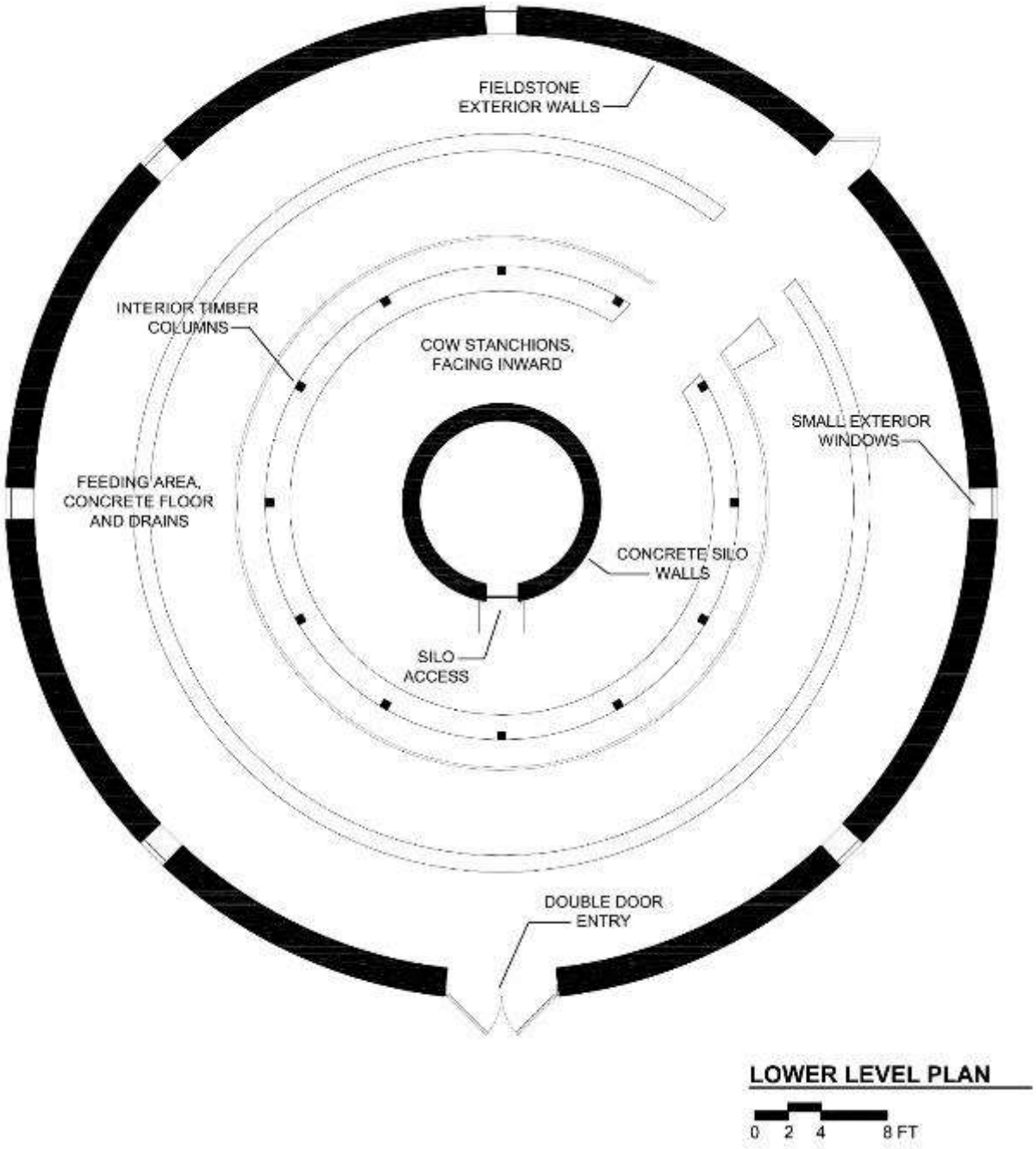


Figure 51: Lindstrom Round Barn Plan, Lower Level. By Author.

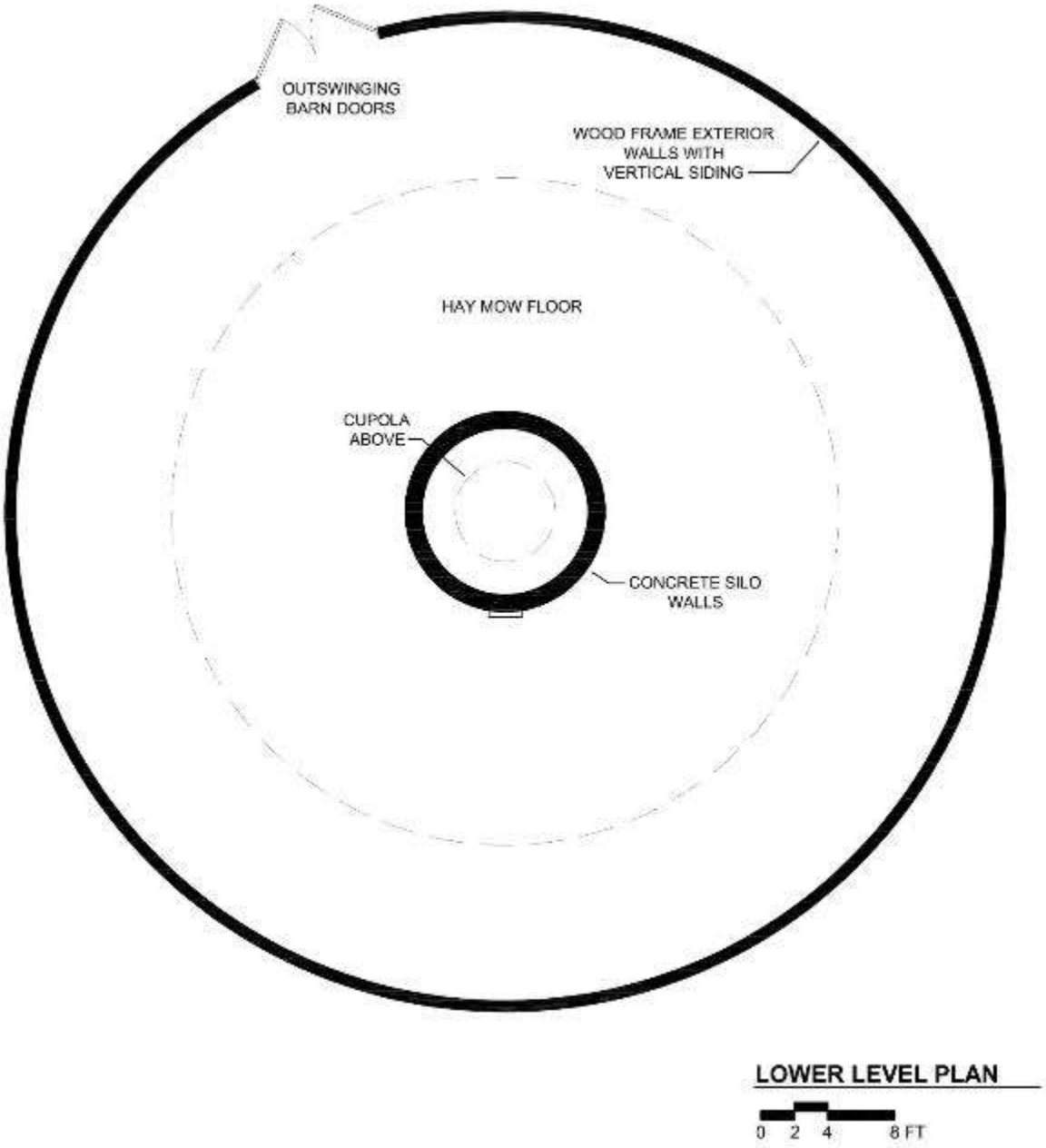


Figure 52: Lindstrom Round Barn Plan, Upper Level. By Author.

Figure 53: Lindstrom Round Barn exterior, photo taken from south. June 2014. By Author.

Figure 54: Lindstrom Round Barn exterior, photo taken from northeast. June 2014. By Author.

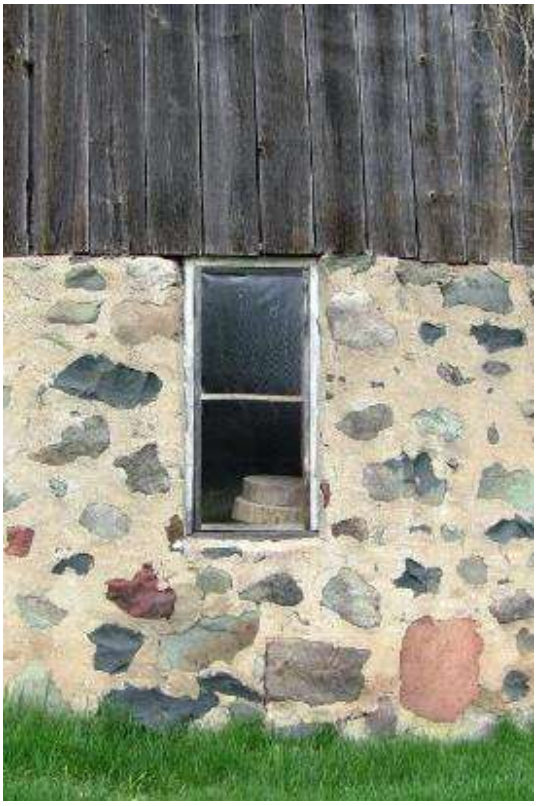


Figure 55 and 56: Lindstrom Round Barn exterior, photo taken from east, and Lindstrom Round Barn exterior, photo taken from the north. June 2014. By Author.

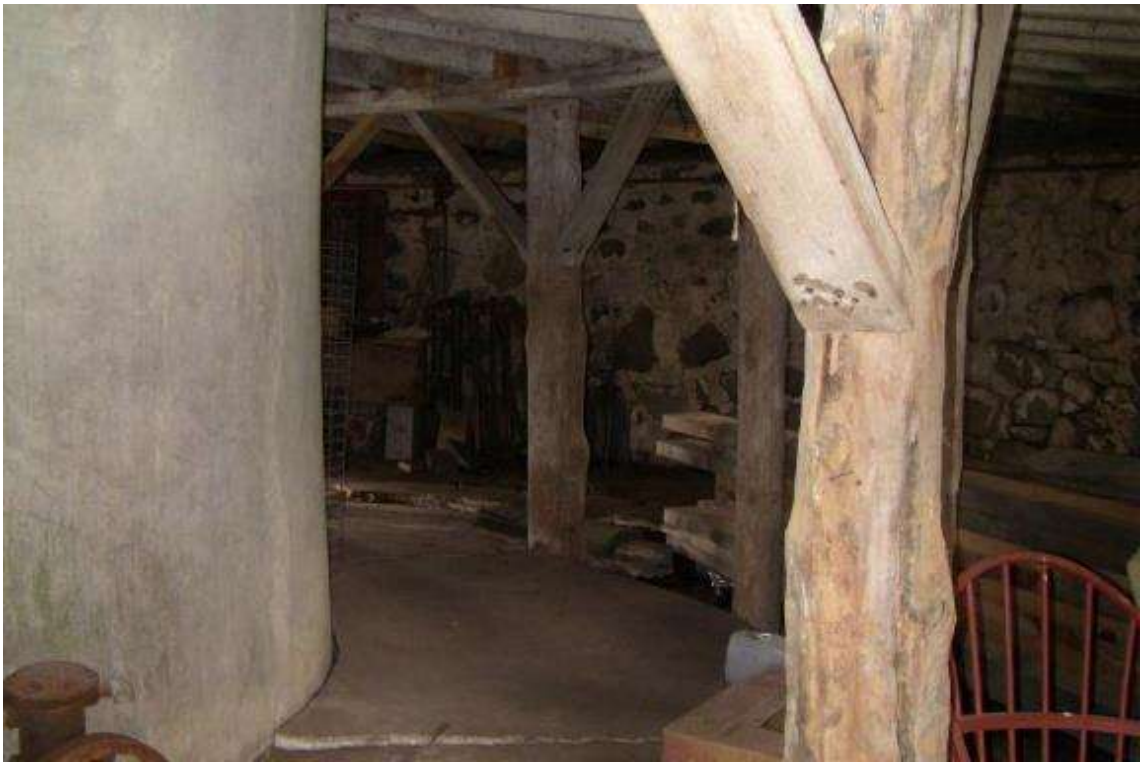


Figure 57: Lindstrom Round Barn interior, photo taken from north. June 2014. By Author.

Figure 58: Lindstrom Round Barn interior, photo taken from north. June 2014. By Author.

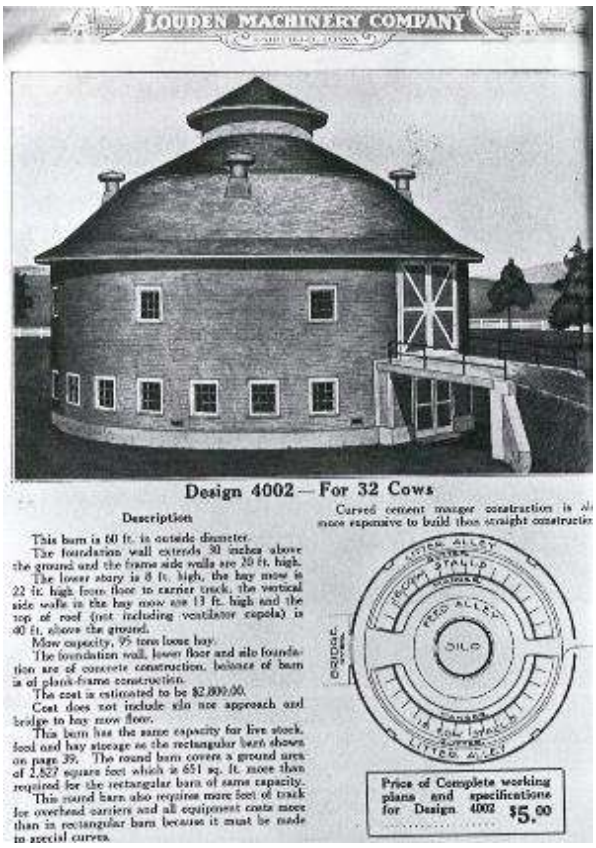


Figure 59: Louden Machinery Company, Fairfield, Iowa; Design 4002, 1911. Model plans for sale.

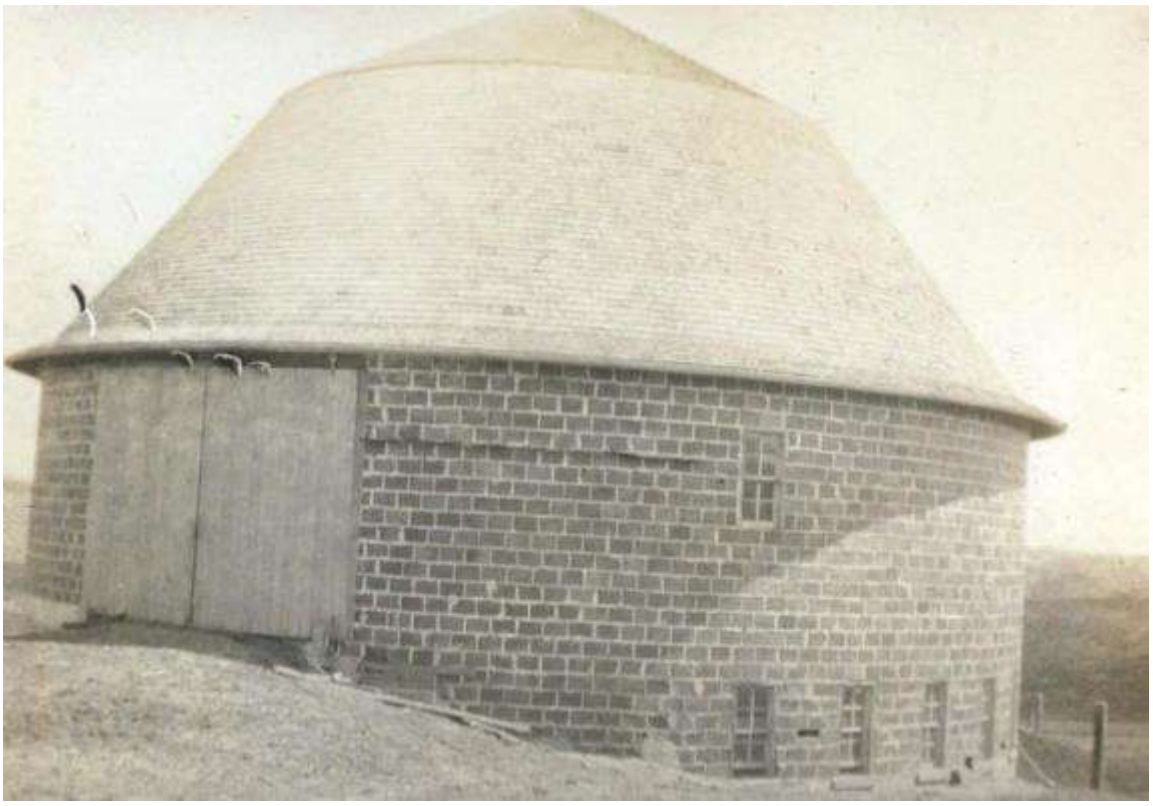


Figure 60: Photo: Cunningham Round Barn exterior, photo taken from the southwest, c.1930. Courtesy of Angie Cina, property owner's private collection.

Figure 61: Photo: Child (possibly Mearl Cunningham) on pony outside east side of Cunningham Round Barn, c.1930. Courtesy of Angie Cina, property owner's private collection.

Figure 62: Cunningham Round Barn exterior, photo taken from the northwest. August 2013. By Author.

Figure 63: Cunningham Round Barn exterior, photo taken from the south. August 2013. By Author.

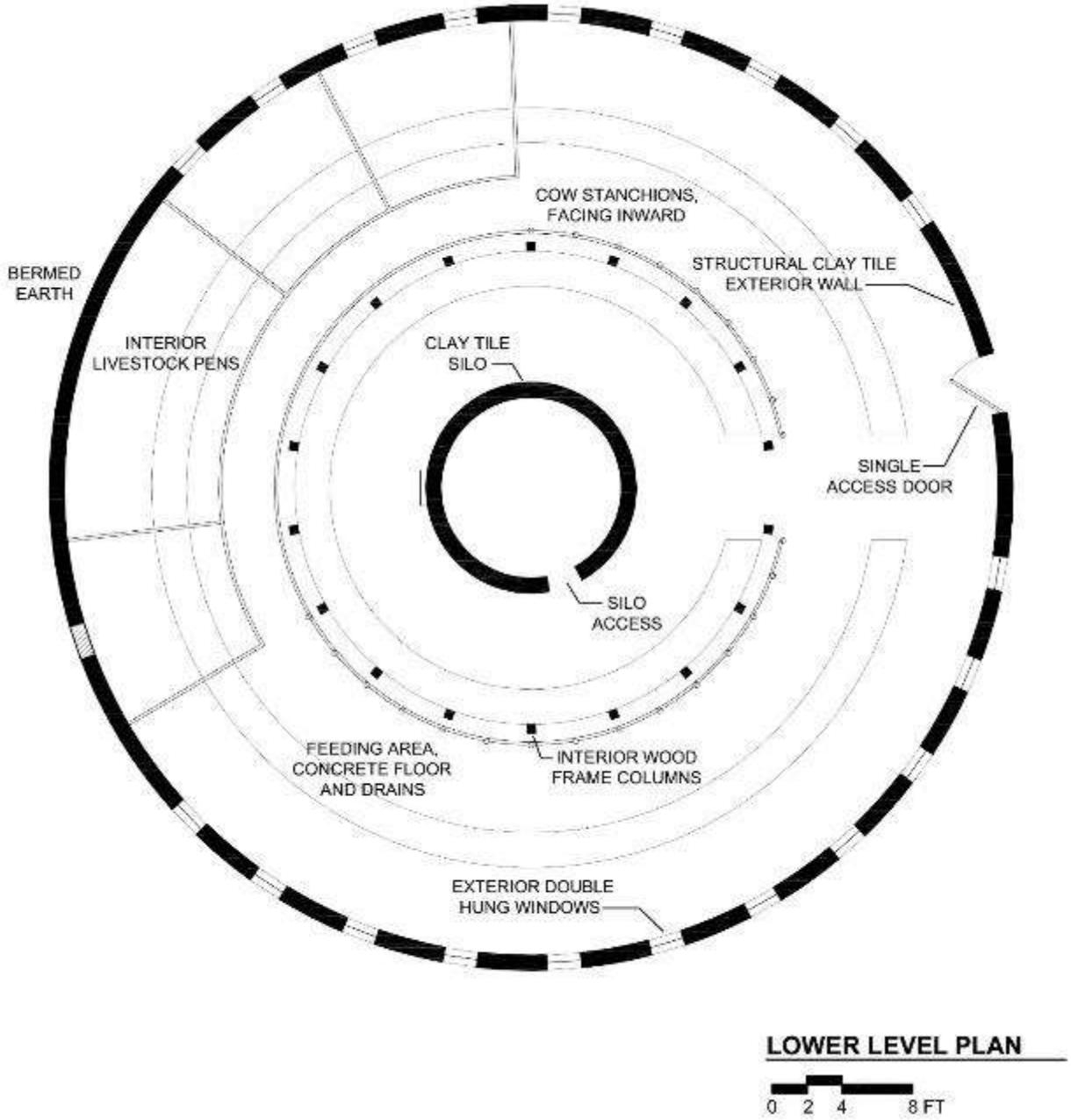


Figure 64: Cunningham Round Barn Plan, Lower Level. By Author.

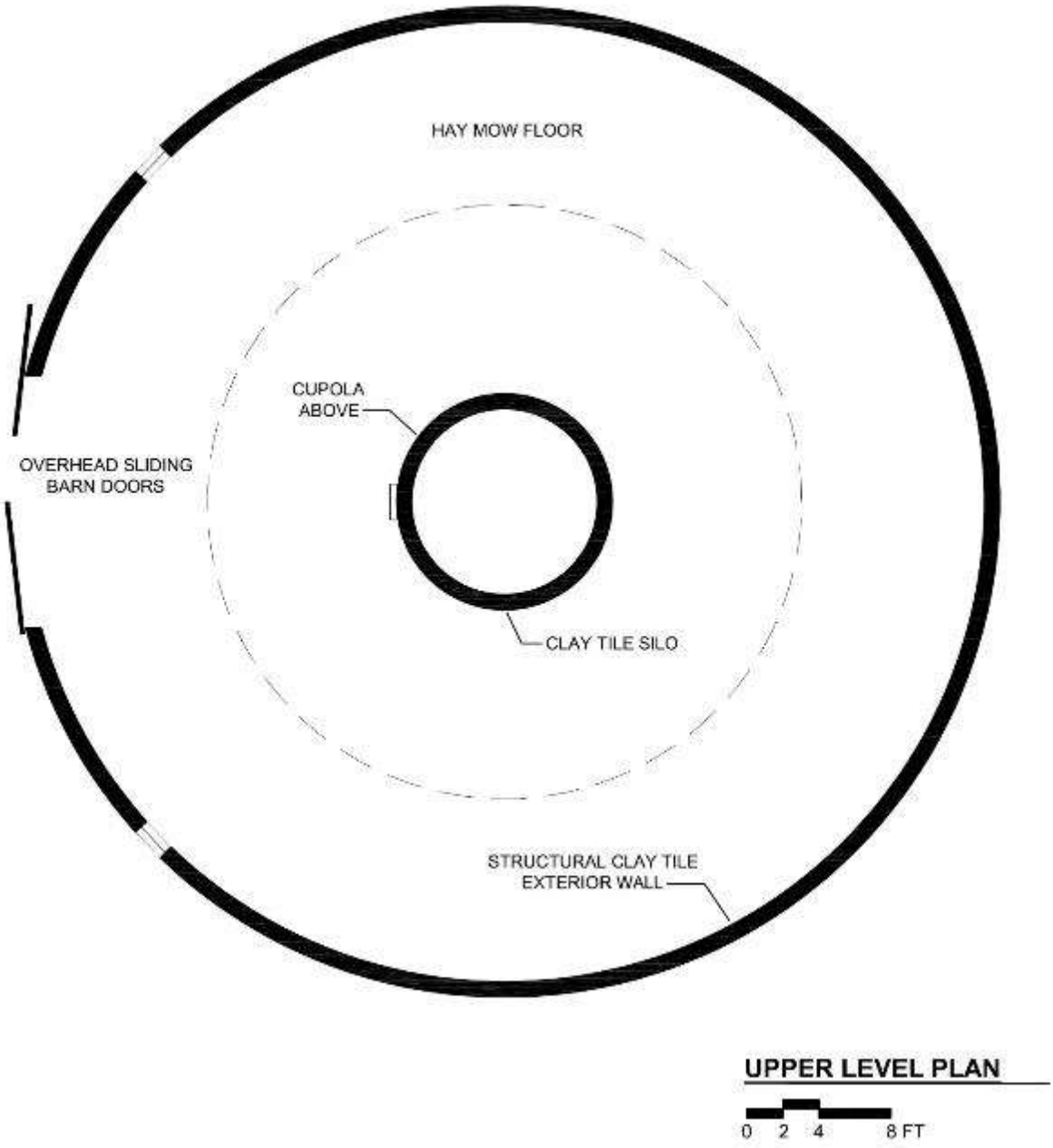


Figure 65: Cunningham Round Barn Plan, Upper Level. By Author.

Figures 66 and 67: Cunningham Round Barn interior,
photo taken from the north; and exterior, photo taken from the north. August 2013. By Author.

Figure 68: Cunningham Round Barn interior, photo taken from the south. August 2013. By Author.

Figure 69: Cunningham Round Barn interior, photo taken from the northeast. August 2013. By Author.

Figure 70: Cunningham Round Barn interior, photo taken from the west. August 2013. By Author.

Figure 71: Cunningham Round Barn interior, photo taken from the west. August 2013. By Author.

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Daniel and Janelle Irwin (owners of the Lueder 13-Sided barn in Sheboygan County) on May 21, 2014; Marcus Kaplan (owner of the Harris Round barn in Vernon County) on May 23, 2014; Michael Tibbetts (owner of the Lindstrom Round Barn in Polk County) on May 24, 2014.

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APPENDIX: Existing Centric Barns in Wisconsin

The following is a list of known existing centric barns in the State of Wisconsin. Each entry includes a name, location, and date of construction. Much the information is taken from other sources, which produced most of the catalog of centric barns in the state and the rest of the country. These sources include Larry Jost's *The Round and Five-or-More Equal Sided Barns of Wisconsin,* the "Wisconsin Centric Barns Multiple Property Listing," produced by Legacy Architecture, Inc. on behalf of the Wisconsin Historical Society for the National Register of Historic Places, Dale Travis' exhaustive website, *www.dalejtravis.com,* on round barns and covered bridges across the country, and local, county-level, resources. Similar lists exist for some neighboring Midwestern states including Iowa, Michigan, and Indiana. While the list is thorough and exhaustive, it may not give a complete picture of the centric barn building type in Wisconsin since some barns may have been missed or not included. While helpful in writing this dissertation, much of this information is also potentially useful for further research.

Name	Address	Town/City	County	Date
William Modersback Round Barn	171 19 1/2 Avenue	Crystal Lake	Barron	1908
James A. Hoglund Octagonal Barn	62183 US Highway 63	Mason	Bayfield	1900
August and Ida Fontaine 14-Sided Barn	4553 County Road N	Humboldt	Brown	1905
Adolph Brommer Round Barn	864 County Road F	Modena	Buffalo	1916
A.O. Albergston Round Barn	County Road HH	Naples	Buffalo	1913
Rudolph Fried Round Barn	2661 State Highway 95	Naples	Buffalo	1898
10-Sided Barn	1788 County Road KK	Nelson	Buffalo	c.1920
Octagonal Barn	1316 Menting Road	Modena	Buffalo	c.1915
Octagonal Barn	2006 County Road D	Nelson	Buffalo	1917
Loethar Octagonal Barn	30810 State Highway 27	L. Holcombe	Chippewa	1911
Nashold 20-Sided Barn	1744 County Road E	Fountain	Columbia	1911
Round Barn	56722 Duha Ridge Road	Seneca	Crawford	c.1910
Gangstad Round Barn	1326 US Highway 12/18	Deerfield	Dane	1903
Octagonal Barn	3109 Oak Street	Pleasant Sp.	Dane	c.1900
Octagonal Barn	8815 County Road G	Primrose	Dane	1889
Brenner Octagonal Barn	8971 Bennett Road	Bennett	Douglas	1905
Melvin Nelson Round Barn	225th Street	Sand Creek	Dunn	1914
Martin Wagnild 14-Sided Barn	9483 290th Street	Spring Brook	Dunn	c.1910
Round Barn	4900 Loews Creek Road	Washington	Eau Claire	c.1915
Hood and Doyle Round Barn	18491 County Road T	Waterstown	Grant	1903
Harry Andrew Round Barn	657 Rock Church Road	Clifton	Grant	1915
Gus Hesselman 13-Sided Barn	9802 Cemetery Road	Bloomington	Grant	1912
James Kluesner Octagonal Barn	11565 Holly Road	Bloomington	Grant	c.1905
Eisley Round Barn	657 Billings Road	Lima	Grant	1915
Round Barn	7965 County Road N	Lancaster	Grant	c.1910
Round Barn	County Road OK	Spring Grove	Green	1917
A.M. Ten Eyck Round Barn	W968 State Highway 11/81	Spring Grove	Green	1919
John Berkett Round Barn	3287 State Highway 80	Eden	Iowa	c.1910
Elmo Holt Octagonal Barn	7234 State Highway 191	Moscow	Iowa	1876
Llewellyn Jones Round Barn	6105 County Road K	Arena	Iowa	c.1910
6-Sided Barn	8950 Clay Hill Road	Brigham	Iowa	c.1890
Annala Round Barn	12248 Dupont Road	Oma	Iron	1917
Siekman Round Barn	8197 Farness Road	Curran	Jackson	1890
Irwin Eakins 13-Sided Barn	579 US Highway 12	Lyndon	Juneau	1916

Continued…

Name	Address	Town/City	County	Date
Wohlrab 12-Sided Barn	3163 County Road G	Lindina	Juneau	c.1920
Octagonal Barn	12338 Green Bay Road	Pleasant Pr.	Kenosha	c.1890
Edwin Albert Octagonal Barn	147 State Highway 42	Carlton	Kewaunee	c.1890
Octagonal Cattle Barn – Langlade County Fairgrounds	1633 Neva Road	Antigo	Langlade	1924
Octagonal Stock Pavilion – Lincoln County Fairgrounds	2001 2nd Street	Merrill	Lincoln	1928
Charles Tisch Round Barn	7125 60th Avenue	Maine	Marathon	1895
Octagonal Exhibition Building - Marathon County Fairgrounds	1201 Stewart Avenue	Wausau	Marathon	1924
Octagonal Judging Pavilion – Marathon County Fairgrounds	1201 Stewart Avenue	Wausau	Marathon	1924
Douglas Miles Round Barn	1647 State Highway 64	Peshtigo	Marinette	1900
Round Barn – Marquette County Fairgrounds	757 South Main Street	Westfield	Marquette	1922
Tom Tunks Round Barn	County Road P	Wellington	Monroe	1918
Stoddard Round Barn	30964 Oregano Road	Wellington	Monroe	c.1915
10-Sided Barn	19291 Mesa Avenue	Weldon	Monroe	c.1910
12-Sided Barn	County Road N	Clifton	Monroe	c.1910
John Krolsman Round Barn	21275 Karlsbad Road	Wells	Monroe	1915
Frank Broetzman 12-Sided Barn	9012 Hickory Cemetery Road	Maple Valley	Oconto	1916
William Tetzlaff Octagonal Barn	364 Lake Shore Road	Grafton	Ozaukee	1895
Gustav Timpel Octagonal Barn	13800 N. Port Washington Rd.	Mequon	Ozaukee	1892
Frank Vocke Octagonal Barn	1901 W. Pioneer Road	Mequon	Ozaukee	1888
George Hanser Octagonal Barn	11656 N. Port Washington Rd.	Mequon	Ozaukee	1896
Elmer Blomberg Round Barn	3494 State Highway 183	Stockholm	Pepin	1920
Octagonal Barn	Balsam Road	Pepin	Pepin	1908
Octagonal Barn	County Road D	Albany	Pepin	c.1910
Round Barn	Landfill Road	Ellsworth	Pierce	c.1920
Peter Huppert Round Barn	9298 480th Avenue	Trimbelle	Pierce	1915
Round Barn – Pierce County Fairgrounds	353 Grant Street	Ellsworth	Pierce	1921
Lindstrom Round Barn	1311 120th Avenue	Balsam Lake	Polk	1913
Peter Nelson Round Barn	1038 175th Avenue	Apple River	Polk	1913
Fuhs 14-Sided Barn	1401 County Road T	Beaver	Polk	c.1910
Round Barn	501 210th Avenue	Alden	Polk	c.1915
Round Barn	1426 350th Avenue	West Sweden	Polk	c.1915
Round Barn	3258 County Road J	Stockton	Portage	1898
Octagonal Barn – Price County Fairgrounds	9130 Forest Lane	Worcester	Price	1918
Round Barn	16131 Round Barn Lane	Eagle	Richland	c.1910
Round Barn	County Road N	Ithaca	Richland	1880
Round Barn	31390 Dog Hollow Road	Willow	Richland	c.1900
Gilley-Tofsland Octagonal Barn	8805 West Stebbinsville Road	Porter	Rock	1913
Carl Risum Round Barn	5600 Risum Road	Spring Valley	Rock	1892
Peter Tommcock Octagonal Barn	County Road F	Stubbs	Rusk	1912
Octagonal Barn – Rusk County Fairgrounds	Rusk County Fairgrounds Rd.	Ladysmith	Rusk	1930
Nicholas Lundgren Round Barn	1645 200th Street	Erin Prairie	St. Croix	1914
George Trumpf Octagonal Barn	S9692 County Road N	Franklin	Sauk	1893
Ewalt Andreas Round Barn	State Highway 14/60	Spring Green	Sauk	1914
Ivan Eshenbach 10-Sided Barn	4680 Rocky Point Road	Greenfield	Sauk	c.1900

Continued…

Name	Address	Town/City	County	Date
Joseph Feiner Octagonal Barn	4350 Horseshoe Road	Spring Green	Sauk	1898
Charles Ott Octagonal Barn	6864 Leland Road	Honey Creek	Sauk	1895
Bodendein Octagonal Barn	3575 Minicreek Road	La Valle	Sauk	c.1905
Mary Elandt Round Barn	4205 Malueg Road	Germania	Shawano	1913
Round Barn	5399 County Road M	Wittenberg	Shawano	c.1910
Rudolph Lueder 13-Sided Barn	W4651 County Highway J	Plymouth	Sheboygan	1916
Round Barn	Park Drive	Springfield	St. Croix	c.1915
Octagonal Barn	Park Road	Springfield	St. Croix	c.1910
Round Barn	County Road TT	Hammond	St. Croix	c.1920
Round Barn	2823 110th Avenue	Springfield	St. Croix	c.1920
Round Barn	1075 100th Avenue	Warren	St. Croix	c.1915
Round Barn	County Road M	Caledonia	Trempealeau	c.1900
Richard Bibby Round Barn	183364 Silver Creek Road	Gale	Trempealeau	1902
Martin and Mabel Laursen Round Barn	State Highway 53	Pigeon	Trempealeau	c.1910
Schultz Round Barn	21937 Wagner Road	Caledonia	Trempealeau	c.1915
George and Mayville Harris Round Barn	S1123 Harris Road	Forest	Vernon	1906
George and Ida Apfel Round Barn	11314 County Road P	Clinton	Vernon	1914
Matthew Donahue Round Barn	12686 Lower Ridge Road	Whitestown	Vernon	1915
Bert and Mary Cunningham Round Barn	7702 Upper Maple Dale Road	Viroqua	Vernon	1915
Frank Lisker Round Barn	County Road Q	Greenwood	Vernon	1910
Round Barn	County Road WW	Hillsboro	Vernon	c.1915
Ernest DeWitt Round Barn	County Road Z	Forest	Vernon	1912
Joseph Dank Round Barn	17517 Dank Lane	Hillsboro	Vernon	1921
George Pepper Round Barn	1122 County Road V	Forest	Vernon	1910
Mittie and Jake B. Markee Round Barn	Burr Salem Road	Forest	Vernon	c.1910
John Evenstad Round Barn	Pa's Road	Clinton	Vernon	1913
L.L. Bush Round Barn	4048 County Road O	Bashaw	Washburn	1918
Anna Hardy Octagonal Barn	2540 Western Avenue	Jackson	Washington	c.1895
Hans Christianson Round Barn	4789 Otto Road	Mukwa	Waupaca	1900
Round Barn – Central Wisconsin Fairgrounds	501 E. 17th Street	Marshfield	Wood	1915
Martin Reedle Round Barn	1801 County Road N	Sherry	Wood	1918

APPENDIX: No Longer existing (demolished/destroyed) Centric Barns in Wisconsin

The following is a list of 63 known no longer existing centric barns in the State of Wisconsin that have been destroyed. Each entry includes a name, location, and date of construction. Much the information is taken from the same sources as the previous list of existing centric barns.

Name	Address	Town/City	County	Date
Octagonal Barn	County Road O	Rice Lake	Barron	-
Otis Blyton Round Barn	1282 County Road A	Dallas	Barron	1914
Round Barn	1847 County Road P	Rice Lake	Barron	-
Round Barn	2661 State Highway 95	Cross	Buffalo	1890
Herold Round Barn	County Road E	Belvidere	Buffalo	1913
Charles and Axel Johnson 10-Sided Barn	County Road Z	Anderson	Burnett	1910
Henry Struve Round Barn	State Highway 178	Eagle Point	Chippewa	1906
Frank Mohr Round Barn	2893 County Road H	Edson	Chippewa	1915
14-Sided Barn	County Road N	Wauzeka	Crawford	-
William Witte Round Barn	County Road AB	Blooming Gr.	Dane	1901
10-Sided Barn	Remy Rd and Frenchtown Rd.	Montrose	Dane	-
Octagonal Barn	County Road A	Primrose	Dane	-
W.T. Calkins Octagonal Barn	5714 State Highway 19/78	Mazomanie	Dane	1915
Bradley 18-Sided Barn	County Road C	Westford	Dodge	-
Charles Oakes Round Barn	-	Amnicon	Douglas	1908
Stephen Miller Round Barn	State Highway 61	Liberty	Grant	-
Round Barn	US Highway 18	Fennimore	Grant	-
Octagonal Barn	Curran Road	Curran	Jackson	-
Patrick J. Walsh 15-Sided Barn	County Road K	Lemonweir	Juneau	1914
Round Barn	224th Avenue	Brighton	Kenosha	-
Powers Octagonal Horse Barn	County Road F	Randall	Kenosha	-
Joseph Nenning Octagonal Barn	Westview Road	Centerville	Manitowoc	-
Round Barn	Endicott Court	Sheldon	Monroe	-
Round Barn	State Highway 131	Wilton	Monroe	-
Round Barn	State Highway 71	Wilton	Monroe	-
John and Gloria Habheyger Round Barn	State Highway 27	Wells	Monroe	1911
Arnold Clausing Octagonal Barn	County Road W	Mequon	Ozaukee	1898
Henry Kiekhaefer Octagonal Barn	County Road M	Mequon	Ozaukee	1894
Emily Koopman Octagonal Barn	-	Lakefield	Ozaukee	c.1890
William Clausing Octagonal Barn	-	Mequon	Ozaukee	1897
George Penz Round Barn	-	Lakefield	Ozaukee	1909
Round Barn	East View Road	Ellsworth	Pierce	-
Round Barn	6650 690th Avenue	Martell	Pierce	-
Axel Johnson Round Barn	County Road V	Beaver	Polk	-
Chivok 14-Sided Barn	Airport Lane and Musser Rd.	Worcester	Price	1895
Trautwein Round Barn	1919 Newman Road	Mt. Pleasant	Racine	1904
Octagonal Barn	7241 Douglas Avenue	Caledonia	Racine	1909
Round Barn	Seely Ridge Road	Bloom	Richland	-
W.J. Dougan Round Barn	2605 Colley Road	Beloit	Rock	1911
Christopher Gempler Round Barn	Gempler Road	Spring Valley	Rock	1912
Dean-Armstrong Octagonal Barn	County Road N	Lima	Rock	1893
16-Sided Barn	Range Line Road Wood	Dewey	Rusk	1923
Townsend Brothers Round Barn	-	Reedsburg	Sauk	1910
Truman Stone Octagonal Barn	County Road N	Sumpter	Sauk	-

Continued…

Name	Address	Town/City	County	Date
A.K. Christiansen 12-Sided Barn	Happy Hill Road	Freedom	Sauk	-
Charles Borgen Round Barn	2466 County Road DD	Emerald	St. Croix	1914
Charlie Sheldon 14-Sided Barn	State Highway 64	Aurora	Taylor	1909
Octagonal Dairy Barn – Taylor County Fairgrounds	State Highway 13	Medford	Taylor	-
Round Barn	183 County Road F	Trempealeau	Trempealeau	1896
Albert Aldertson Round Barn	County Road Y	Albion	Trempealeau	1909
Round Barn	Muncie Lane	Union	Vernon	-
Thomas Mills Octagonal Barn	Ostrem Lane	Jefferson	Vernon	c.1915
Eva and Vern Stelting Round Barn	Stelting Ridge Road	Forest	Vernon	-
Frank Sterba Round Barn	Dank Road	Hillsboro	Vernon	1920
C.J. Miller Round Barn	County Road V	Forest	Vernon	c.1910
Round Barn	Grim Road	Forest	Vernon	-
Adam Mayenschein Round Barn	Fish Hollow Road	Forest	Vernon	1911
Round Barn	County Road P	Forest	Vernon	-
J.W. Appleman Round Barn	Ct. Rd D and McDaniel Rd.	Clinton	Vernon	c.1910
C.E. King Round Barn	-	Whitewater	Walworth	1889
Henry Schreiber Round Barn	4908 S. Calhoun Road	New Berlin	Waukesha	1905
Frank Hiles 10-Sided Barn	8103 Jackson Street	Pittsville	Wood	1912
Christian Matthews Octagonal Barn	-	Siegel	Wood	1904