Place-bo-burbi-agri-culture to Place-ive-ianure Methods for place making: Increasing value with representation

Clark Andrew Colby

Iowa State University

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Place to Place of culture to Place

Methods for place making: Increasing value with representation

by

Clark Colby

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE
Major: Architecture

Program of Study Committee:
Cameron Campbell, Major Professor
Nadia Anderson
Christine Carr

Iowa State University
Ames, Iowa
2016

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DEDICATION

I dedicate this work to light; light shapes our perceptions as we shape light. I would also like to dedicate this work to the supporters of the arts. Thank you first to mom and dad for supporting my crazy ideas. Thank you to Ray Andrews for encouraging my love for darkroom photography when I was 14 years old. Thank you to Mrs. Harris and Mr. Dinsdale for letting me spend hours in the arts studios in high school. Thank you to Mike Draper, of Raygun, for hosting my first photography exhibition. Thank you to CORE magazine for highlighting me as an upcoming Des Moines entrepreneur in 2006. This gave me the drive to keep practicing photography. Thank you to ArtFest Midwest and the Des Moines Arts Festival for offering free booths to emerging artists. These opportunities help us realize it is possible to make a living pursuing our passions. Thank you to Nancy Briggs and the Des Moines Art Center for offering classes to the public and for allowing me to teach and give back. Thank you to Michelle Bolton King for leading the After School Arts program and letting me teach classes to a group of talented students that will be the next generation of artists. Thank you to Letitia Kenemer for always being a supportive and smiling face. Having artwork hang in the exhibitions at the Memorial Union is a boost of confidence every time. And, of course, thank you to Kristen Greteman for putting up with me and supporting my ideas day in, day out over the last few years! It has been a great start to what is going to be a great life.
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Zdorkowski for allowing me to take sustainable agriculture courses. It was eye-opening and has jumpstarted my passion for the many ways the agricultural system needs improvement in Iowa. Thank you to Pete Brue for hiring me to help students in the model shop. I hope to always have this kind of hands-on teaching and learning in my career. Thank you to Emma Powell for teaching me the old-school chemical processes of photography. Thank you to Ingrid Lilligren for being a great mentor within the ceramics studio. Thank you to Joe Muench for reawakening my passion for materials and old things. It will be sad to not meet you regularly at the dumpster, salvaging art supplies.
This thesis examines how to turn space into place. In the digital age, place is more important than ever before. Around the world communities are dealing with the issue of placelessness. The food system has become standardized and suburbia has become a monotonous repetition in cities across the country. As people search for a sense of place in their communities, creation of place can be a tool for exploring these issues. Through experience, individuals can begin to understand and become aware of the place they call home. This thesis discusses three methods for the comprehension of place. They are narrative writing, deep mapping, and photography. These methods provide a catalyst to investigate how a person’s personal experiences, the history of a place, and visual representations of a place can help create a sense of place that can carry into the future.
CHAPTER 1
INTRODUCTION

As an architect, shaping the environment requires an understanding of the value of space and place. An “undifferentiated space becomes place as we get to know it better and endow it with value” (Tuan, 1977). The more valuable a place becomes the more motivated people are to cherish, protect, and improve that place (Pink, 2009). Places gain value through memory, the senses, and recollection. Memories shape spaces into places by increasing the value of the place. In a place without a connection to memories, one can only create new memories. Places are experienced fully with all the senses: sight, sound, touch, taste, and smell. The senses help to create vivid memories that can be easily recollected (Foer, 2011). Once recollected, these memories are the foundation blocks for future experiences and unconscious decision-making (Gladwell, 2005).

There are three types of place. They are the physical place itself, the represented place, and the experienced place that is recollected in the mind of the experiencer. American philosopher Edward Casey uses the terms place at, place of, and place for to describe these three types of place (2002). These types of place address the issue of placelessness in spaces within the built environment. Whether through the construction of industrial agriculture or the repetition of urban and suburban spaces, placelessness is a problem in today’s society. If having a sense of place equates to being valuable, then placelessness equates
to the lack of value. This thesis asks the question: Can placelessness be addressed by methods that are developed and utilized to understand and engage with the place?

Throughout my life, I have traveled far and often. I noted the many differences in each place and culture, but most importantly, became aware of the subtleties of my own place and culture. Traveling made me aware of things I had taken for granted in Iowa; for example, the geological and human history of Iowa and the unique way Iowans use the land and the relationships Iowans have with the natural environment. Through travel, I have realized what Iowa is doing successfully and where it could improve. This vivid sense of awareness from travel came from the memories made in each location. These memories include sights of history, sounds of language, smells of environments, tastes of foods,
the ever-changing cobblestones beneath my feet, and bumps in the road. (Figure 1) These memories were full of social interaction, love, and compassion but also moments of solitary reflection. There were also memories of place that concern me; those of placelessness during my travels.

I found many places in my travels that were void of cultural identity, and instead, had adopted a generic international style. By being everything and everywhere at once, these places became valueless. Most noticeable were the standardized hotels and food chains that started dominating each new destination. McClay discusses the negative aspects of placelessness. He states

Could it be the case that the global-scale interconnectedness of things may be coming at too high a price? Could it be the case that the variety and spontaneous diversity of the world as we have known it for all the prior centuries of human history is being gradually leveled and effaced, and insensibly transformed into something standardized, artificial, rootless, pastless, and bland — a world of interchangeable airport terminals and franchise hotels and restaurants, a world of smooth surfaces designed to facilitate perpetual movement rather than rooted flourishing? A world of space rather than place, in which there are no “theres” there?

(2011)

In an attempt to appeal to international travelers and bring a sense of familiarity, the large chains were removing the cultural experience of travel. The ability to learn new things outside of one’s comfort zone was becoming more difficult. The restaurants offered meals that were identical around the world without considering the local culture. Why travel if not to learn something from a new place?
This thesis will address issues of placelessness in Iowa, specifically the Walnut Creek Watershed, which is currently being shaped by industrial agricultural and suburban systems. The Walnut Creek Watershed is located in the heart of Iowa in the Midwestern United States. This location was chosen for two reasons. First, it is the location of my family homestead. It was necessary to choose a location that held personal memories for me to adequately test the methods. As the researcher, my history is important because the place I chose to study is the place I know most intimately; the land where I grew up in central Iowa. The methods I apply within this research project incorporate my own experiences. Second, the area was accessible. The Walnut Creek Watershed also represents a place in transition, as suburbia around the capitol of Des Moines continues to sprawl into the space of the industrial agriculture system that has been the most important feature on the Iowa landscape for the last century.

The two primary forces shaping the space in Iowa today are industrial agriculture and suburban sprawl. Humans have altered over 99.9% of the prairie landscape in Iowa. As Cohen says, “Of the 30 million acres of prairie that covered Iowa at the time of European settlement, less than one-tenth of one percent remains” (Cohen, 2001). Of Iowa’s 35,748,544 acres, 30,800,000 acres, or 86% of all land in Iowa, consists of farmland (United States. Economics and Statistics Administration. & U.S. Census Bureau., 2012). Edwards says, “It is often said that we don’t value things until they are rare. We now live in the rarest state in North America — the most biologically altered” (Edwards, 2013). While
concerning, this fact can be a motivator to begin to revalue and reestablish place within Iowa.

The second force shaping Iowa is suburban sprawl. The suburbs in central Iowa have drastically expanded over the last two decades. Similarities can be drawn when comparing the new subdivisions in the suburbs to the developing international placeless places. If one concern of the suburbs is the repetition of houses then what is it that makes each place unique and valuable? Why should the occupant care about place if the knowledge of place value is missing? Why plant roots in a community if you do not feel it is special or unique? Humans innately describe themselves as from a place. Of equal concern, growing up in placeless places makes it more difficult to establish one’s ‘sense of place’ (Tuan, 1977). A placeless place is created when it is denied history. A chain restaurant is not a planted seed that was nourished over time by a community. A chain is also not influenced by its location because its menu and appearance are franchised.

To address issues of placelessness in the Walnut Creek Watershed, this thesis will use three methods to revalue the space and create a sense of place. The three methods are narrative writing, deep mapping, and photography. Narrative writing as a method has three important components that create a sense of place. They are memory, distribution and vividness. Narrative writing relies on memory. Memory is where the meaning of place lives. Memories are dynamic. They are re-shaped every time we recollect them. The narrator needs
to share the story through his or her own memories, and the listener needs to clearly connect with and understand the story.

The second method used to create a sense of place is deep mapping. A traditional map is a drawing that represents space. A deep map is a collection of different types of data, such as oral history, topography, and historic documents that represents space and a sense of place (Ingold, 2011). Deep mapping is a way of showing relationships between various kinds of data. Humans remember mental maps, draw representational maps at various scales, and build and define boundaries to show the transition from one place to another.

The third method used to create a sense of place is photography. Photography, as fine art, is a valuable tool to communicate place. A sense of place is multifaceted and unique to each individual, as is fine art photography and the interpretation of the photograph. Tuan says,

People tend to suppress that which they cannot express. If an experience resists ready communication, a common response - is to deem it private-even idiosyncratic-and hence unimportant. Yet it is possible to articulate subtle human experiences. Artists have tried-often with success. (Tuan, 1977, pp. 6-7)

Digital and traditional equipment, framing and cropping, and presentation to the viewer are aspects of photography that the photographer can employ to convey and alter the sense of place. Photographers can determine boundaries for a place, and each viewer fills in the rest of the story with their own memories and personal experiences. Photography, traditionally, is a two-dimensional representation of place. This research develops a new method of photography
using a three-dimensional form to capture an image in three dimensions. Other methods of capturing 360-degree views will be explored and the success of each will be measured by how well it captures meaning and value in space to create place.

In conclusion, this thesis explores narrative writing, deep mapping, and photography as methods to discover whether they can increase the value of a space to create a sense of place. These three methods offer valuable benefits, limitations, and often overlap. The more methods that are utilized for turning space into place, the more valuable a place can become. An increase in value is important for the sustainability of a place. It prides and empowers the people living in the place. Through these alternative methods I hope to deepen the understanding of the Walnut Creek Watershed, in Iowa, as a valuable space and place.
CHAPTER 2

TURNING SPACE INTO PLACE

Space and place are not the same. The words are often used interchangeably even though they have different meanings. Understanding the difference between the two is vital. Yi-Fu Tuan’s book, *Space and Place*, articulates a relational definition of space and place that serves as a foundation for this thesis. He stated

> In experience, the meaning of space often merges with that of place. ‘Space’ is more abstract than ‘place.’ What begins as undifferentiated space becomes place as we get to know it better and endow it with value. The ideas ‘space’ and ‘place’ require each other for definition. From the security and stability of place we are aware of the openness, freedom, and threat of space, and vice versa. Furthermore, if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place. (1977, p. 6)

Humans are not the sole creators of space or place but do have an influence over both. If a part of the landscape is cleared it creates space, and “space is something that has been made room for” (Heidegger, 1971). This separation of humans from nature sanctioned humans to view the natural environment as empty space, a blank slate onto which human culture could be applied. Thus, human constructs became progression, an improvement upon what had existed before the manipulation of the landscape took place.

Concerned with the erasure of nature and the role of humans’ influence upon the landscape, anthropologist Tim Ingold said, “Something, I felt, must be wrong
somewhere, if the only way to understand our own creative involvement in the world is by taking ourselves out of it” (Ingold, 2011, p. 173). Not in the replacement of but in collaboration with nature that the creation of place can continue. Ingold terms this definition as “dwelling perspective”\(^1\). He claims that humans are not building onto space but dwelling within space to create place.

Many factors influence the creation of place. Human geographer Tim Cresswell defines the creation of place as

Place is how we make the world meaningful and the way we experience the world. Place, at a basic level, is space invested with meaning in the context of power. This process of investing space with meaning happens across the globe at all scales, and has done throughout human history. (Cresswell, 2015)

Kant et. al. connects place to experience and knowledge. They state, "There can be no doubt that all our knowledge begins with experience" (Kant, Meiklejohn, Abbott, & Meredith, 1955). Local knowledge is built upon experiences within space. This local knowledge creates place. Feld and Basso link the importance of the human senses to place making. They stated, "As place is sensed, senses are placed; as places make sense, senses make place” (Feld & Basso, 1996). Without the use of the senses, a way to experience space and create local knowledge, place cannot be made. Casey identifies five ways that place “gather and hold”. He said,

1. Places hold together; it can allow for mixing of people and ideas.
2. Places hold in or hold out; this causes the inhabitants to display what makes them or does not make them an inhabitant of that place.

\(^1\) Tim Ingold, author of *The Perception of the Environment*, describes how dwelling
3. Place reflects the local landscape; this is explained as the physical form and how it connects to the things in it.
4. “Intrinsic to the holding operation of place is keeping. What is kept in place primarily are experiencing bodies.” A human is part of a place and the shaper of the place.
5. Places keep thoughts and memories. (Casey, 2009)

Different types of place exist. For example, sprawling residential subdivisions and agricultural commodity have become major forces shaping the landscape of Iowa. These forces display the uses of space driven by economic influences, as opposed to the psychological and physiological needs, or place, of the people of Iowa. A physiological place is defined as a place appropriate to an organism's healthy or normal functioning. A psychological place is defined as a place directed toward, influencing, arising in, or acting through the mind especially in its affective or cognitive functions (Merriam-Webster Inc., 2004).

The landscape of Iowa was transformed into a grid of townships, manipulated by humans, over 100 years ago, for settlement. The landscape is still being used in this way today. Another land transformation has been underway for over fifty years. The space of the Iowa landscape has been changed from a place with a geologic history and thriving ecosystem to human shaped place with densely planted agricultural commodities to sprawling residential subdivisions. This understanding informs perceptions of place and creates an opportunity for place making. A physical place can be built by a representation of place, which increases the cognition of the place-builder. This is often experienced in artwork that represents a place. If the place-builder is
actively thinking about the physiological and psychological needs of a place, that
place is more likely to incorporate those needs. This is true because humans
actively and constantly create place; it becomes what they believe and think it is
and should be.

Heidegger delves into the foundations of the words to ‘dwell’ and to ‘build’
as they have been defined in language over human history. The words dwell and
build are similar to that of place and space. He said, “We do not dwell because
we have built, but we build and have built because we dwell, that is because we
are dwellers” (Heidegger, 1971). To dwell also means to cherish and protect,
while the meaning of the word, dwelling, is sparing and preserving. Heidegger
talks about the evolitional shift in language from dwelling to building with
concern. To build without consideration for the dwelling is to separate the place
being built from the place it is being built in. It is building in a void, or space, and
places the dwelling out of context. The user of the house or the landscape forms
it. A passive user treats both as a static environment to deal with as it is. The
active user senses and experiences the house or the landscape, cherishing and
protecting the places. Through the protection of place, whether a house,
landscape, or something else, the user improves their condition. One result of
protection of place by an active built environment user is an increase in the value
of that place for the future generation. The protection of the place could include
increasing the productivity and health of the land or the longevity of the house as
a dwelling. Humans must “ever learn to dwell;” they must “build out of dwelling, and think for the sake of dwelling” (Heidegger, 1971).

To turn the space of the Iowa landscape into place, meaning must be added in the form of memories, understanding, and respect. Human experience is an important part of the place creation process. Casey said, “A given place takes on the qualities of its occupants, reflecting these qualities in its own constitution and description and expressing them in its occurrence as an event: places not only are, they happen” (Casey, 2009, p. 27). Experiences, and the remembrance of those experiences, or memory, give emotional meaning to a space, creating place. Humans give emotional meaning to space in a number of ways such as verbal and written narrative, deep mapping, and photography. Through these techniques places become powerful, and these techniques give humans the tools to record the history of the places around themselves.

**Narrative Writing**

Lived human experiences are recorded within memories and can shape narratives. First-person narratives are full of detail and personal emotion. The person telling the story relays their experience through written language. They saw with their eyes, smelled with their noses, heard with their ears, touched with their hands, tasted with their tongues, and felt with their emotions the experiences they describe. These descriptions can be vibrant and powerful, adding value to the place being described. For this thesis the definition of place that is most relevant is stated by Tuan, “An object or place achieves concrete
reality when our experience of it is total, that is, through all the senses as well as with the active and reflective mind” (Tuan, 1977). This concrete reality can be realized through narrative writing. The senses experience the place, but it is the mind that catalogs and decodes the experience. As author Brian Brett stated,

> It’s my belief that, because of the miracle of writing, which allows collective memory to be retained beyond oral tradition, we haven’t evolved as quickly as our tools, and thus accidentally separated ourselves from that natural order. That’s why I find myself in the odd position of attempting to write myself back into the landscape where I live. (2009)

The writer can replay the experience over and over in the mind, learning or understanding it differently each time. Memories are dynamic. They can be re-shaped each time they are recollected. Literally rewritten the memory is ever evolving from the original experience of the place. The least recollected memories are the most accurate. The most recollected memories often tend to diverge furthest from the reality that occurred. This is because of the reconsolidation process in the brain. Writing while experiencing a place can create the most accurate story. Writing after an experience, places a time and space between the experience and recollection. People fill the time and space with preconceptions, post thought, and piggybacking of future experiences that inform and help to understand previous experiences.

Writers often write about places they visit or the act of traveling between places. This is called travel writing, and it has two approaches: vertical travel writing and horizontal travel writing.
Horizontal travel is the more conventional understanding of travel as a linear progression from place to place. Vertical travel is temporary dwelling in a location for a period of time where the traveller begins to travel down into the particulars of place either in space [which include botany, studies of microclimate, exhaustive exploration of local landscape] or in time [which include local history, archaeology, folklore]. (Cronin, 2000)

This can apply to how social encounters are affected by vertical and horizontal travel. Author Catharine Mee states,

The horizontal traveller, accumulates a large number of brief but often intense encounters, the vertical traveller, takes the time to develop more sustained relationships with a small number of people. Vertical travel is not exactly synonymous with deceleration, but does stem from a similar motivation; calls for vertical or slow travel reflect the perception that too much travel is horizontal. (2014, p. 80)

Aldo Leopold and Bill Bryson vividly write about occurrences in a way that helps the reader visualize or relate to the experience, which can be successful in engaging the readers in a place. The content of their narratives are important, but so is the manner in which they write. They use emotion to tell their stories, which evokes passion and adds a human element to scientific writing. They take the reader to the place being described. There are many examples of this type of writing. Leopold and Bryson are especially applicable because of their relation to the Midwest. Leopold’s book, The Sand County Almanac, is used in this chapter as an example of vertical travel (Leopold, 1987). Bryson’s books, A Walk in the Woods, At Home, and One Summer, are examples of horizontal travel in the case of time and vertical in his use of humor and emotion (B. Bryson, 1989, 1998, 2005, 2010; B. a. Bryson). Leopold and Bryson’s works represent good
examples of travel writing as they have reached many audiences beyond their respective industries. Leopold’s work relates to the non-scientific community, and Bryson’s work relates to the non-travel community.

Aldo Leopold

Leopold contributed to scientific journals and conservation magazines throughout his career, writing primarily about forestry and wildlife management. In 1935 Leopold became increasingly focused on reaching the general public with his conservation message. Concerned about the lack of communication between disciplines, Aldo wrote

One of the anomalies of modern ecology is that it is the creation of two groups, each of which seems barely aware of the existence of the other. The one studies the human community almost as if it were a separate entity and calls its findings sociology, economics, and history. The other studies the plant and animal community and comfortably relegates the hodge-podge of politics to the “liberal arts.” The inevitable fusion of these two lines of thought will, perhaps, constitute the outstanding advance of the present century. (2013)

Nina Leopold Bradley writes that Leopold’s work legacy was “a product of the heart as much as of the mind. With his use of the words ‘loved’ and ‘respected,’ we can see already that he was integrating his factual science with a much broader humanism” (Leopold Bradley, 1999). An example of Bradley’s critique includes this sentence from Leopold, “That land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics” (1987). Leopold recorded his observations on the land around his farm.

He states
A year-to-year record of this order is a record of the rates at which solar energy flows to and through living things. They are the arteries of the land. By tracing their responses to the sun, phenology may eventually shed some light on that ultimate enigma, the land’s inner workings. (Leopold & Meine, 2013)

He maintained that through writing about the place around him, he could persuade others to respect the land. He extensively observed the place he was a part of and shared that experience with others by writing. He wrote “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (1987, pp. 224,225). Leopold distinguished himself as a unique scientific writer when he personalized his observations. He wrote of places and how those places moved him emotionally. He included his heart in his writing and was able to connect with a larger audience that could also feel for places important to them. He gave the elements, plants, birds, weather a history by recording them over time. This recorded and shared history was his place creation legacy.

Bill Bryson

Bill Bryson has written on a variety of subjects and has appealed to a large audience through the use of humor and sarcasm. In a 2005 interview about the reason for this kind of writing, he said

I was going for the gags. I had never written a funny book before and assumed it was like doing standup. Gradually I learned that you don’t have to have a joke in every paragraph. In fact they work better if they take you by surprise. And I still reserve the right to do that. Most things in the world are ripe for sarcasm. The world is crazy and there is a lot of stupidity and there are a lot of things that are exasperating, but more and more I’ve tried
to balance that with some positives because there is also a lot of good in the world. (Wroe, 2015)

His writing has won him numerous awards and he has been elected to many committees. He loves science and realizes its social importance. He set up the Bill Bryson Prize for Science communication that is a competition for students to explain science to non-experts. He made scientific writing accessible. As Bryson said to interviewer Lyn Hughes, “You have to figure out a way – either through some special talent you have, or a way of telling the story, or something – that makes it absorbing and engaging to a stranger” (Hughes, 2015).

Bryson is not what would be considered a typical scientific writer. He writes factually often about the sciences but with narrative as his means of doing so. As a result, he has successfully reached an audience beyond the sciences. As opposed to the reader remembering just the facts, the reader remembers the narrative story that includes the facts. This could be considered as something similar to a ‘memory palace’ (Foer, 2011) as the reader associates facts and images with different parts of the story and hangs the facts on the structure Bryson builds with the narrative story. In Bryson’s book, *At Home*, he literally walks the reader room by room through his house, taking us on a journey in history based on the different objects or architectural features found in each room. Through this kind of narrative, a reader can gain a deeper understanding of a place, the value of the place spreading from the author to the readers. While narrative can conjure images in a reader’s imagination, tools also exist that can create place through visual and spatial drawings, such as deep mapping.
Deep Mapping

Maps have been used to document space for centuries. This section focuses on how to represent not only space on a map but also place. A map can be a tool for documenting the information that a place holds. Casey says, “Places gather things…places also gather experiences and histories, even languages and thoughts” (2009). Human decisions that shaped the place occurred in previous generations, and the current place is inherited from them. Thoughts and memories of place are becoming secondhand as we live in a largely inherited landscape. “The hand of the mapmaker is guided by a mind located in a certain time and place and sharing inevitably the prejudices of his or her surroundings.” (Edson & British Library., 1997, p. vii) It is important to understand maps by considering them in the context of the maker.

While landscapes, cities, and buildings can be represented on maps, so can much more. To understand maps is to understand what they are representing. Maps show natural and built environments, often at the same time. Maps represent both space and place. A space is defined by the places that surround the space. The space could be described as a place by the marks that define it, either with boundaries or words. Maps created by different makers, and during different times shape an understanding of a place by its changes.

A map is a representation, usually on a flat surface, as of the features of an area of the earth or a portion of the heavens, showing them in their respective forms, sizes, and relationships according to some convention of representation.
“Medieval maps were referred to by their makers as ‘histories’.” (Edson & British Library., 1997, p. viii) They were considered a representation of an experience, movement from place to place. Often locations were identified by events that took place at the location.

Scale is often diminished when mapping. It changes the viewer’s perception of a place. I call the use of a one to one scale a physical mapping occurs when a representational map is executed in physical space. Examples of physical mapping include the Jeffersonian grid, suburbs, cities, and individual structures like a house. A house is a physical mapping; its boundaries are built at one-to-one scale in the form of walls and a roof. Ingold describes buildings as

Buildings, like other environmental structures, are never complete but continually under construction, and have life-histories of involvement with both their human and non-human inhabitants. Whether, at a certain point in its life history, a structure looks to us like a building or not will depend on the extent and nature of human involvement in its formation. (2011, p. 154)

Understanding built places as physical maps is a form of understanding the place. Understanding a place from a representational map is another form of understanding place.

Deep mapping as a method involves looking at Euclidean space and also social space. There is crossover between narrative writing and deep mapping when the narrative is describing a place. Geographers call this a deep map; a map of place rather than space. Deep maps tend to be smaller in scope but can be linked to create a larger picture.
A deep map goes beyond simple landscape/history-based topographical writing – to include and interweave autobiography, archeology, stories, memories, folklore, traces, reportage, weather, interviews, natural history, science, and intuition. In its best form, the resulting work arrives at a subtle, multi-layered and "deep" map of a small area of the earth. (Casey, 2009; Cresswell, 2015; Heat Moon, 1991; Mullen, 2013)

This type of deep mapping gives meaning to space, consequently, making it place. An example of a deep map is the Ebstorf Map. (Figure 2) This is a map of the known world at that time in 1300. The animals that live in the places and the oral histories of the people represent the places.

Figure 2 - Ebstorf Map, 1300
Higbie describes another deep map stating, “If we expand our definition of mapping to a more metaphorical level, we can see a whole range of landscape images that work like maps of space and time” (Higbie, 2010). An example of this is the 1868 lithograph, by Francis F. Palmer, depicting the heartland as settlers are transforming it. (Figure 3) This map shows space but also the progression of time.

Figure 3 - Across the Continent, Frances F. Palmer, Lithograph, 1868

There are many examples like Palmer’s map in the settler’s atlas, which were resources during this time. Wealthy farmers in the late 19th century would pay to have engravings made of their properties to be included in the county atlases. An example of this in Iowa is the Residence of D.B. Murrow, an engraving that is
shown in the Andreas Atlas. (Figure 4) Edward Casey explains how maps are a way of “showing how it feels and looks to be on or in the land, at its very surface: where feeling and looking overlap in terms of their experiential qualities as well as in their domain of application. In the domain that counts—that of the re-implaced earth—it is a matter of going through, going over, and getting into the land. As if by legwork: it is not a matter of metrically determined motion in a striated space but a matter of moving in place, getting intensely involved just there, in a “space of the smallest deviation.” (Casey, 2005, p. xvii)

Figure 4 - Residence of D.B. Murrow, Andreas Atlas

Another definer mapping is Denis Cosgrove. His work deals “with imagination and projection, efficacy and disruption; with processes of mapping rather than with maps as finish objects.” (Cosgrove, 1999, p. 1) James Corner, a
landscape architect, was a collaborator with Cosgrove on his book titled Mappings. Corner feels strongly that many maps of today are not exposing the potential that is embodied in the places they represent. He states, “mapping acts may emancipate potentials, enrich experiences and diversify worlds.” “Mapping unfolds potential; it re-makes territory over and over again, each time with new and diverse consequences.” “Not all maps accomplish this, however; some simply reproduce what is already known. These are more ‘tracings’ than maps, delineating patterns but revealing nothing new. (Cosgrove, 1999, p. 213) The researchers Gilles Deleuze and Felix Guattari explain well the difference between a tracing and mapping. “What distinguishes the map from the tracing is that it is entirely oriented toward an experimentation in contact with the real.” “The map has to do with performance, whereas the tracing always involves an ‘alleged competence’.” (Cosgrove, 1999, p. 214) James Corner expands on this stating “Unlike tracings, which propagate redundancies, mappings discover new worlds within past and present ones; they inaugurate new grounds upon the hidden traces of a living context. These include natural processes, such as wind and sun; historical events and local stories; economic and legislative conditions; even political interests, regulatory mechanisms and programmatic structures... mapping itself participates in any future unfoldings.” (Cosgrove, 1999, p. 214) This is the experience of mapping explored in this thesis. Mapping is a documentation of a history. There are many outcomes for what a map looks likes and accomplishes. In the process of turning space into place, maps in the form of a narrative writing, photographic compilations, and installations are all
created. As explained further in the thesis, the display of these mappings allows the viewer to experience representations of place.

Photography

Art has long been used as a tool for documentation. In prehistoric times, art was of the animals living at the time. Examples include the Lascaux caves in Europe. The artists did not paint all animals, but they did paint “animals that had a special place in their culture” (Curtis, 2007, p. 14). Art offers the artist opportunities to capture, highlight, and question what he or she wants to share with the world. When discussing place-specific art Neville Wakefield says, “You discover the art through the place and the place through the art” (Donadio, 2014). Art is a valuable tool that can communicate ideas about and characteristics of place to the viewer. Art can also express feelings that the artist or others have of a place. While place is an individual experience, people can share experiences with others through artistic expression. Expression is the process of making known one’s thoughts or feelings. Apply this to place and art becomes a suitable method for making known an artist’s thoughts or feelings about place. Successful expression of a place can heighten the experience for the viewer. What the artist expresses as place and what the viewer interprets as place may be different but both are place experiences. In relation to landscape painting, Casey says that the painting “stands in its place…place is at once signified and reinstated” (Casey, 2002).
As artists create second representations of place, they increase the places potential to be experienced by others. Casey also mentions the consequences of using art as a form of representation. He describes three consequences; the first being that there are many kinds of subject matter and many modes by which that subject matter may be represented (Casey, 2002, p. 17). The second consequence is that art can only be a representation of place and not a second presentation of the same thing. The third consequence is “representations are genuine presentations. They seek to present, not to represent; they strive to show, not to replicate” (Casey, 2002, p. 18). One exception of Casey’s consequences is photography, which can create a genuine representation. He says

Photographs are not bound to be literal representations of independently situated objects; they can express the manifold ways in which nature is an encompassing presence of maximum circumambience for its willing witness. Moreover, thanks to framing and scaling, a photograph can become the effective re-emplacing of a landscape in the new world of the work. (Casey, 2002, p. 23)

In this way photography can be a representation of place, but the presentation can also be expected to express the intent of the photographer.

Joel Meyerowitz discusses this balance of place-representation and artistic intent in his book, Creating a Sense of Place (Meyerowitz, 1990). He says

I have been thinking about what a photographer's responsibility is—his social responsibility, the responsibility to the craft, to the telling of the message, to the print. Although I started with what I thought was a moral imperative, that America was this crazy place that needed to be described and I had a social responsibility to tell it as
it is-the Great American Novel in photographs—somehow over
time, during my middle years, the aesthetics of photography played
a greater role, and I became less concerned with serving moral
issues. And as I got a little older, it has become more important to
me again to be morally conscious—not to vacate that responsibility,
but to say, "These are my feelings about it. This is what America
looks like right now. These are things that are socially
reprehensible. These are things that might be overturned." If you
don't point them out, if you only glaze the surface, the beauty of
light or the beauty of the subject, you don't see what might need to
be corrected, or what can be changed, or what's really wrong. An
artist's responsibility is to not avert his gaze. Maybe you can't
correct it by pointing it out, but you can at least certify that you saw
it at that time, and that it was painful to you. (Meyerowitz, 1990)

He also related the photographic representation to the feelings that he felt
while experiencing the place. He says

I felt in Atlanta a reawakening of moral responsibility. I felt it was
important for me to go to the malls, it was important for me to look
hard at construction, at building materials, and to see the way
neighborhoods were being put together, to see the anonymity of
streets, the emptiness of what really passes for everyday life. I
wanted to find a way of telling what I saw, or of keeping it alive in
the photographs. (Meyerowitz, 1990)

Casey distinguishes between three senses of re-emplacement within art.

He highlights place at, place of, and place for. Casey defines place at as the
exact location of place. Place of is when someone “reinstalls [the] place in a
representational transformation that modifies some of its aspects while keeping
the place itself recognizable to the viewer” this could be the cropping of the
image, or the presentation of it in a gallery. Place for is “forward-looking: looking
forward, for example, toward the sublime of contemplation” (2002, p. 30). The
“place for” is the emotional trigger that powerfully connects humans to place representation and place itself. All three of these place senses are used in many original artworks. Reproductions of artwork have a slightly different quality.

Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be. This unique existence of the work of art determined the history to which it was subject throughout the time of its existence. This includes the changes which it may have suffered in physical condition over the years as well as the various changes in its ownership. (Benjamin, Jennings, Doherty, Levin, & Jephcott, 2008)

This information is tied directly to the place history of the artwork. Where the artwork was created, viewed, and moved. Walter Benjamin writes with concern about photography is the article The Work of Art in the Age of Mechanical Reproduction. The concern is that with mechanical reproduction art does not carry the aura of who and where it was created. My argument in defense of photography is even if a work of art is duplicated, both copies carry the intended view, and unique circumstance depicting the place in the exact moment in time, which it was captured. Each work or art then begins its own journey, gathering dust, scratches, water damage, and passing through time and from owner to owner. After each photographs physical initial creation it becomes its own unique representation of a place in its own unique place in time and space. Two artists whose works focus on the “place for” are photographers Ansel Adams and Abelardo Morell. Descriptions of their work can be found later in this section.
History of Photography

When a photograph is taken, it shows a place as it is. One second later, the photo shows what the place was. What a place will become can only be guessed at and represented as an interpretation. Early non-digital film photography was unique as it was mostly unedited, unlike digital photography today. For the purpose of this study, early photography is when light from the place being photographed hits the surface of the final product. It is not photographed as negative and reproduced as a positive like film photography. Types of this early photography include Daguerreotype, ambrotype, and tintype. The negative itself is the final photograph and is usually placed in front of a black velvet or glass of a dark color. The work is unique and only occurs once (Powell, Hartley, & Safari Books Online (Firm), 2006). There is no opportunity for the photographer to lighten, darken, or enlarge the work. Most importantly the light, usually sunlight, that was used to create the photograph was the light reflected from the place being represented. The image of the place was photographed in the place. For me this gives each photograph a unique aura.

Photography developed as a tool to help capture the images of reality during the 19th century. Often it captures culture and tradition, leaving a legacy for future generations. Examples of this are historic photographs of places and people showing similarities and differences over time. Photographs are a form of communication and education about what a place used to be. Walter Benjamin
et. al. discusses photography when talking about mechanical reproduction. They say

In photography, exhibition value begins to displace cult value all along the line. But cult value does not give way without resistance. It retires into an ultimate retrenchment: the human countenance. It is no accident that the portrait was the focal point of early photography. The cult of remembrance of loved ones, absent or dead, offers a last refuge for the cult value of the picture. For the last time the aura emanates from the early photographs in the fleeting expression of a human face. This is what constitutes their melancholy, incomparable beauty. But as man withdraws from the photographic image, the exhibition value for the first time shows its superiority to the ritual value. (Benjamin et al., 2008)

The exhibition value is the idea that the artwork has moved beyond the ritualistic and into the political. The artist can share a view of what is in the world and in doing so shape political ideas for the viewer. Abelardo Morell discusses the idea of capturing a place in time and communicating that place to the future viewer. He says

Along with the premise that the eye in one instant takes in much more than the mind can conceivably process in the same instant, which is why photography as a medium of fixed reproduction was a necessary invention, since we need to look again and again, to stop time in its passage. They can be taken in by a single glance and appreciated all at once, but they continue to unfold, with layer upon layer of meaning, rendering the entire history of the human engagement with sight and the human desire to preserve vision. They return the art of photography to first principles and show us that we had only hastily considered what we always thought we knew. (Morell, 2004, p. 9)

We interpret the places we look at in photos. We reference what we are looking at and draw comparisons to previous experiences. Additionally photographers select the view of the places they would like to capture. By
selecting and framing what to show of a space photographers can change the interpretation and meaning of place. In the photograph on the left, below, there is an old house that has been surrounded by the city, but the cropped image on the right shows only a house that could be located out in the countryside, surrounded by grass and trees. In this simple exercise of cropping or framing the photograph the photographer captures a completely different meaning of place. (Figure 5)

Figure 5 - Crop Example: How it changes the sense of place

For a more specific examples of photographers that focused on representing place, the works of Ansel Adams and Abelardo Morell are discussed in this thesis. These photographers were chosen because while their works differ in content and style, they are landscape photographers that have focused on representing place throughout their careers. Adams does this by capturing the emotion of the place in his photography. Morell does this by raising the viewers' awareness of the larger context of a place.
Ansel Adams fell in love with photography after spending time in Yosemite. Along with Edward Weston, Imogen Cunningham and Willard Van Dyke, Adams formed the group called f/64. “The group’s advocacy of ‘straight’ photography had a revolutionary influence on attitudes in the world of photography” (Turnage, 1980). Compared to the popular pictorial style at the time that often softened the images or added brush strokes, straight photography is when the clarity of the lens is maximized and there is no obvious manipulation. It
was the clear sharp focus that inspired awe and tonal manipulation that injected feeling into the photographs making them emotionally powerful for the viewer.

(Figure 6) This new style was controversial. European pictorial photographer, Henri Cartier-Bresson, opposed their photographic style and was recorded saying, “The world is going to pieces and people like Adams and Weston are photographing rocks!” (Ratcliffe, 2001). In response Weston states

> It seems so utterly naïve that landscape—not that of the pictorial school—is not considered of ‘social significance’ when it has a far more important bearing on the human race of any locale than excrescences called cities. By landscapes, I mean every physical aspect of a region—weather, soil, wildflowers, mountain peaks—and its effect on the psyche and physical appearance of the people. (Weston, 1973)

Also important to keep in mind is that Adams was working in an era that had not yet accepted photography as fine art. Henri Cartier-Bresson was still thinking about photography in its ritualistic manner as it related to the human face and memory. Adams was looking at the world with its exhibition value in mind. He was taking photographs showing places he valued. Sharing these places in photographs with others, he shaped politics.

After years working as an advocate for the creation of and protection of United States national parks, Adams became concerned about the amount of tourists visiting the parks in the 1950’s. The park service responded with a “more the merrier” attitude and increased the numbers of roads and accommodations. Adams describes this attitude as

> A very two-dimensional idea when we consider mood and experience and emotional state-of-being. It never enters these people’s minds at all. They
just want everybody to see it; isn’t it beautiful? …something to be seen and not experienced. Wilderness is rapidly becoming one of those aspects of the American dream, which is more of the past than of the present. Wilderness is not only a condition of nature, but also a state of mind and mood and heart. It cannot be confined to the museum-case status—seen only as a passing diorama from superlative throughways (Turnage, 1980).

Through straight photography, Adams promoted the experience of place. He felt the value of places were the emotional connection that one created to the place. In his photography, he wanted to capture that emotion, and he felt that the best way to do that was with the honest truth; photographs that were not artistically altered and clearly represented the raw place in black and white. It was a straight photograph.

Abelardo Morell

Figure 7 - Athanasias Kircher, Drawing from *Ars Magna Lucis et Umbrae*, 1646
Abelardo Morell creates his work using a *camera obscura*. (Figure 7)

*Camera obscura* is a single pinhole in a completely dark volume. The result is a projection of the outside light on the wall of the interior volume. Morell covers all the windows in the room with black plastic and places a single opening in one. In this opening he places a lens to create the clearest image possible. Just inside the lens, he places a prism to flip the incoming image back to right side up. The exterior environment is projected onto the walls on the interior room. (Figure 8) Then he photographs the resulting interior-exterior overlapping scene with a digital camera.

Figure 8 - *Camera Obscura* View of Central Park Looking North - Summer 2008
Copyright Abelardo Morell
These digital photographs become semi-surreal illustration of the outside environment overlaid on the interior condition. The process is completed through pre-digital processing, which makes it more compelling and has viewers constantly asking about his process. Describing his pre-digital process, Morell said, “That one half of the essential principle of photography is both ancient and technology-free still astounds” (Morell, 2004).

Morell’s technique is age-old but his work is vivid because of modern technology. He brings the out of doors inside through non-digital photography. A direct connection is created between what is outside of the building and what is inside. He brings this to reality with his photography. He says

I want to refresh how people see the world. One of the satisfactions I get from making this imagery comes from my seeing the weird and yet natural marriage of the inside and outside. The marriage of the outside and the inside is now made up of more equal partners. (Morell, 2007)

He shares with us the connection of adjacent spaces creating one image that juxtaposes two places over top of one another. This relationship interprets and connects those two places. This is drastically different from a photograph of a single space. For example, Central Park can be photographed many times from different angles, with different lighting conditions, and in different seasons. An apartment that overlooks Central Park can similarly be photographed many times. The visual overlay of the apartment space and the park space, however, tells us about the relationship between the two spaces. This capturing of one light
source that shows two viewpoints in the form of a single photograph tells us a fuller story than a single viewpoint could. This is the simultaneous capturing of two views. It is the redirecting of simultaneous exterior light on interior place. It is an honest capture of layered reality. As Henry Thoreau said, "Many an object is not seen, though it falls within our range of visual ray, because it does not come within the range of our intellectual ray." He meant that if we are not looking for something, we don’t see it. We find only what we look for. Morell presents an alternative by offering the juxtaposition of two places, allowing room for the viewer to interpret the meaning.

Narrative writing, deep mapping, and photography are important tools for place making and creating value within a place. By taking the information from *place at*, and *place of*, to *place for*, these three tools can allow a writer, mapmaker, or artist to interject expression. This allows a viewer to interpret the works as they see fit, understanding them through their own experiences. If a viewer does not have an understanding of the place being presented then a combination of methods like narrative writing, deep mapping, and photography may be important tools to invoke a passion for the place. This process of interpretation and comprehension can be reflective or active, encouraging the viewer to use these three methods to represent the place where they dwell, ultimately, increasing the value and sharing it with others.
CHAPTER 3

NARRATIVE WRITING: CHILDHOOD ON A FARM

Recollecting my experiences and memories is part of the research process for this thesis. I was born and raised within the Iowa landscape. I grew up on the threshold between suburban development and farmland. The gravel road in front of my house turned into a four-lane divided thoroughfare over the past two decades. The neighboring farms turned into a sea of repeating roofs (Figure 9). The material used to explore the narrative writing method of place creation is my memory of childhood on the family homestead. The memories shaped the farm and watershed as a place for me but also shaped the perception of other similar and different places. This place being the first place experienced repeatedly set deep foundations for future place experience. The first shaping of the place occurred during the physical making of the memories. The second

Figure 9 - Urbandale Development, 1999 and 2014
place shaping occurred in the recollection of the memories. The third place shaping is occurring in this document in the form of the story. The forth place shaping occurs in the interpretation of the place by the reader.

Life on the Homestead

For my whole life I have been enamored with the out of doors; fascinated by nature, the trees, plants, and animals that thrive around my family’s 1856 farmhouse in central Iowa. I climbed around the empty granary and hog barn, now used to store the tractors and equipment that has accumulated over the last 150 years. Originally, it was a 160-acre farm that my grandparents purchased in the 1970’s on the periphery of the city. When my parents, aunt, and uncle graduated college, my grandparents gifted each of them the old farmhouses and built a new house for themselves on the property. That is when the family compound, or Colbyville as some call it, began. My father and uncle developed 100 acres of wooded land, as a modern suburb, preserving all of the old trees. They platted the lots, graded and cleared the path for a road, and sold one lot at a time.

On the remaining 60 acres, a ten-acre pasture full of native grasses was used to raise horses, and the rest of the property was wooded with old oak trees. My grandfather added a small dam in one ravine and built a pond, which he stocked regularly with fish. Raccoons or the large snapping turtles that always seemed to find the water ate most of the fish. This remaining land provided me with hours of entertainment as a child. I would grab my net, push the canoe out
into the small pond, and spend the afternoon scooping up water bugs and tadpoles. Often, I would fill the bottom of the boat with water so I could watch them swim without escaping. It was like a temporary aquarium that was filled with new surprises each time I created it. In late summer, the cattails would grow six feet tall on one shore. I could slide the boat into the reeds, and in my own mind, be hidden from the rest of the world among the amphibians, bugs, and birds. One of my favorite forts was on the edge of the pond where the willows met the reeds. It seemed to be where two ecosystems collided, and there were always creatures frolicking around providing action to be observed. My uncle built another body of water on the property; it was a pool between his and my parent’s houses. I rarely used it. More often than swimming, I would walk over to make sure no mice or frogs had jumped into the chlorinated water. I would always save them if they had. I even had a soft spot for the bugs and the bees, scooping them to safety as well.

In between the barns and the houses was a gravel circle drive. In the middle of the circle were two large oak trees and one small oak tree. A pile of fieldstones, discarded metal, and ceramic farm implements used to sit at their roots. I loved digging up the old metal objects and ceramic pottery to try guessing what they would have been used for. I found old tractor plows, license plates from the 1930’s, and railroad spikes. Around a few other oaks were piles of bricks, left from some structure long forgotten. I laid out my prize discoveries, took sand from my sand box and bricks from the other trees, and made paths
from one “archaeological” find to the next. I was interpreting the place history by observing its artifacts. Then I took some of my mom’s discarded plants from her garden and filled in around the paths. That was the start of my nature garden and soon after the nature club was formed. This invitation-only club was dedicated to exploring and nurturing the out of doors. A wine carrier from my parent’s garage, turned it on its side, became the mailbox. Each compartment was labeled with the names of my cousins and two neighbors. To officially become a member you had to help plant in the garden or collect bugs from the field in nets. My female cousins around my age, who would have rather played dress up, got into the gardening and stole plants from their mom’s garden to contribute.

By the end of the summer, we had quite a garden with a variety of plants. We included history points to talk about the discoveries from the site. As fall started and the plants died, a neighbor boy and I piled up the fieldstones in a six-foot cylinder. We took metal fence posts from the barn and wove grasses from the field in between them to make the roof. The warm stone fort was built. It blocked the wind, but it was cramped and uncomfortable. After the field was harvested, we built a fort in between the hay bales. The straw was almost like a cushion, and it was a great success until a colony of bees moved in. We lived in harmony until one of my cousins accidently stepped on the hive. Screaming children ran in every direction, and most of us escaped with just a few beestings. Ultimately the straw bale fort was closed for good!

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2 They did regularly play dress up, and I, of course, would end up in grandma’s fur coats and boots.
After the first big snow of the season, my uncle got out the skid steer to plow the gravel drive. Knowing we had built the stone fort in the middle of the drive he piled the snow on top as high as he could. By the end of the day we had carved out a snow and ice fortress that included a normal entrance and a secret entrance from the top. My Labrador dog, Bailey, could hear us talking inside the fort, and she decided it was her duty to save us. She quickly dug a third entrance on the side and “rescued” us. As spring approached the snow melted and froze into small pools around my uncle’s drive. We pretended to ice skate, sliding from one side to the other. Our barn cat got in on the fun, but walked to the thin side of the ice and fell in. Struggling to return to the solid ice, she scrambled and clawed her way out of the frigid puddle. We brought her home and dried her off next to the wood burning stove. From then on, she became a permanent addition to the family as an inside-outside cat.

This cast-iron hearth, at the center of the house, was the best part of playing outside on a cold winter day. My dad spent hours splitting oak logs. I assisted by piling a few on my sled and dragging it back to the porch. After stacking enough wood for a few days, we came back inside to defrost. My dad napped in the chair, and I curled up on the floor by the hearth. The soul-warming heat was a wonderful feeling on your skin closest to the stove. The outside chill slowly retreated. I did not realize how I appreciated this heat source and its central location in the house until much later in life. We worked to provide that heat as a family, and my mom often brought cookies as a reward.
My favorite spring pastime was creating channels for the melted ice that ran down the driveway. I would race leaves against the neighbors to see who would win. We learned that the straight channels were the best, but to get a large volume of water flowing for the race you first had to create a dam to collect extra water. Once we had our prime leaves we gathered at the starting line, we broke the dam sending the leaves and a flush of brown water surging down the drive.

Other spring pastimes included building a tree house in an old oak tree. The house was built of leftover lumber that we scrounged from the barns. It was two stories tall and questionably solid. We added a zip line, made from ski rope and a PVC pipe, from a tree about 30 feet away. We climbed the tree, hung on tight with both hands, and zipped from one tree to the base of the fort. We slid so fast that we had to rotate the PVC after each trip as it nearly melted a groove all the way threw on each journey. After a few weeks we would replace the PVC “glider” and start the process all over again.

During the summer, I would snack my way through my family’s gardens. Grapes, raspberries, strawberries, apples, crab apples, pears, blackberries, and mulberries were my favorites, followed by sugar snap peas and cherry tomatoes. Much of the vegetable produce was not appreciated until I was older, but the garden also had onions, bell peppers, jalapenos, eggplant, asparagus, beans, tomatoes, carrots, zucchini, spinach, kale, rhubarb, brussel sprouts, radishes, cilantro, basil, rosemary, thyme, garlic, chives, butternut squash, and acorn squash. I took it upon myself to grow tiny pumpkins, the vines growing over a
large tomato cage turned on its side. A Hot Wheels car city developed beneath the vines in the dappled light. The pattern of the light shaped the roads and houses that my imaginary Hot Wheels owners occupied. The shape of the Hot Wheels city changed as the sun moved across the sky and evolved completely as the plants grew all summer.

When it came time to harvest, the tiny pumpkins sold like hot cakes, especially if I wore my cowboy hat and plaid shirt while sitting at my little table by the mailbox. Buckeyes, from grandpa’s tree, also sold well. I became a locker dealer in the third and fourth grades, bringing grocery bags to school daily to sell the buckeyes for nickels and dimes around lunchtime. By the second year, I had saved up enough to buy speakers for my locker. I attached them to my cd player and blasted Backstreet Boys in between classes.

My favorite structure on the property was the granary. The granary was a large structure with beautiful heavy timber framing and slats on the outside for drying grain. The slats also conveniently worked as a ladder for small fingers and feet; this made the granary a large jungle gym. It took me three years to convince my friend, Joey, to climb to the first level of the bins. Not long after I got him off the ground we ran into a hissing raccoon at the top of one of the ladders, and we quickly retreated back to the ground. When I got back to the ground he was holding a brick and was ready to bludgeon the creature to death. He never went up the granary again, unless I first climbed up and could guarantee there were no animals inside.
Besides raccoons, we also had horses on the farm, which were an attraction as we made our daily journeys around the property. Joey was happy to feed apples and grass from the other side of the fence, but the horses were always terrifying for him. My other friend, David, lived across the field, and we would cross from his house to mine a few times everyday. Eventually we would just sleep at one house or the other and sometimes in a tent in between. This journey between the houses was Joey’s worst nightmare. The horses would follow us from one fence to the other, sniffing us and nibbling on our sleeves. Joey, near panic until about 100 yards out, would burst into a sprint to the fence and dive to safety between the slats. This excited the horses, and they would often gallop to catch up which would only send Joey ever closer to hysteria. Once at David’s house, we had other livestock to be weary of; notably his family’s African geese. They were enormous and extremely protective of all the other ducks and chickens. Our time playing outside at David’s would regularly end with a blood blister on our butts as we all ran for cover trying to escape the charging geese.

**A Disconnect Between Farm Life and Suburbia**

Though not profitable it was always entertaining when David and I collected a couple dozen grasshoppers while waiting at the bus stop, which we would release about midway through the bus route to school. Being that most the kids on the bus were from Country Club, a new suburban development to the south, bugs were not something they enjoyed or found as interesting as we did.
Screams and stomping continued until we arrived at school. Miraculously the bus driver never said a word during any of the events leaving a few of the kids permanently traumatized. This was the start to the realization that a life in the suburbs, though just a bike ride away, was worlds apart from the childhood I was experiencing.

Joey lived in Country Club. We could bike from my house to his in about twenty minutes; a journey that was completed hundreds of times over the years. Joey was four months older than I, but I always felt like he was years younger. I took him under my wing like a little brother and taught him everything I knew. He had terrible allergies. During a long day of building a mountain bike trail in the woods, cutting all the honeysuckle down, he almost croaked because his throat swelled. He eventually had to go home. At the time, this made no sense to me. But his house was always cold, clean, and included multiple rooms full of fancy furniture that we were never allowed to enter. I don’t remember a window ever being opened in that house. My house on the other hand was usually close to the temperature of the outdoors. We had screen doors and windows on most of the openings that were switched with glass storm windows each fall. Another of my friends from the suburbs had never seen a screen door and walked, tearing directly through the screen. My parents and myself were dumbfounded. But this was the reality of the indoor-outdoor relationships at their homes in the suburbs.

My childhood on the farm is where my perceptions started to form; questions were asked and lessons were learned. During this educational
process, I learned to see the world with all the senses, discovering its possible bounty and variety of forms. Growing up on a farm teaches one to comprehend, life through the seasons and the harvest. One can live on the land or with the land. This narrative writing about my childhood on the farm places value upon the landscape where I grew up within the Walnut Creek Watershed.
CHAPTER 4

DEEP MAPPING: THE WALNUT CREEK WATERSHED

The material collected for the deep mapping method focuses on the Walnut Creek Watershed from 1816-1886. It is a collection of maps and stories from that time frame that are explored to understand the place as it was understood at the start of European settlement. When links, chains, and rods were stretched across this land, its topographical and geographical features were ignored. For the first time the water features and natural resources were not the only thing representing Iowa on a map, it was made of surveyed township squares with six-mile by six-mile dimensions. This was a division of a larger place into a placeless commodity to be sold. Places turned into arbitrary space, and this space was given to settlers. These men and women worked hard to turn Iowa into a place to call home.

Walnut Creek Watershed is located in the Midwestern United States in the heart of Iowa. The mouth of Walnut Creek meets the Raccoon River about five miles to the west of the current state capital of Des Moines (Figure 10 and 11). It is a fairly small watershed, only 51,589 square acres. Given that a surveyed township is nominally six by six miles square, or 23,040 acres, the watershed would be equal to just over two surveyed townships.
Figure 10 - Map of Iowa, Walnut Creek Watershed indicated by red dot

Figure 11 - Walnut Creek Watershed overlay in gray, Andreas Atlas, 1875
Pre-Settler History

About 10,000 years ago the Des Moines Lobe Glacier began to recede. The Des Moines Lobe of the Laurentide Ice Sheet stopped and retreated during the last Ice Age, which is often called the Wisconsin Glaciation Period that occurred as recently as 10,000 years ago (Whittaker, Alex, & De La Garza, 2015). The Walnut Creek Watershed was one of many small drainage basins that formed at the southern tip of the glacier. The glacier deposited a thick layer of black topsoil. The melting ice then eroded the topsoil as it flowed toward the Raccoon River, forming the many ravines and valleys in the area. These valleys became the habitat for a variety of heavy stands of hardwood trees. The prominent tree that grew in the area was the Native Black Walnut, which in North America occurred in its highest densities in Iowa. The high density of Black Walnut trees impressed the European settlers that arrived in 1843, and it was given the name Walnut Creek (Andrews, 1908).

Native American Indians lived and moved across the watershed for thousands of years. They inhabited the space without claiming it or mapping it. They also did not drastically alter the physical landscape, being mostly nomadic and following the natural resources depending on the seasons. An early settler, Curtis Lamb tells of his initial interactions with the Native American Indians and their nomadic nature. He states, “They went north every spring to where the wild ducks and geese laid their eggs...in the fall they returned and camped on my place and traded with me. Then they went to their tepees not far away, where
they remained all winter” (Andrews, 1908). When Spanish and French explorers first began mapping the North American lands in the 1530s, the maps showed the lands as places of natural features, namely rivers and lakes. A great example is the De Soto map of 1544. (Figure 12)

Figure 12 - De Soto Map, 1544

Maps before the 1800’s do not show Walnut Creek. They do show the Raccoon River as demonstrated with this map by Nicollet in 1843. (Figure 13) Fort Des Moines is easily identifiable where the Raccoon River diverges to the west. There is a slight wiggle where Walnut Creek meets the larger waterway.
Figure 13 - Iowa Map, Nicollet, 1843

Where the watershed is located on the map it is labeled as Sac and Fox Indian Country. There was a very short window in history when the Sac and Fox Indians owned the lands they had been occupying for thousands of years. For example, Henry Tanner’s 1845 map shows Native lands including Walnut Creek as well as the grid of European-American settlement encroaching from the east. (Figure 14)
The maps by Henry Tanner and Nicollet are among the first and last maps that show the Sac and Fox Native American Indians. The maps were not made by the Indians to show their ownership of the lands. Rather they were made by the European settlers to show the natives what they currently occupied and what lands they soon could no longer occupy. The European settlers wrote about this transition in land from mound builder to Indian and Indian to white man.

And did the dust
Of these fair solitudes once stir with life
And burn with passion? Let the mighty mounds
That overlooks the rivers, or that rise
In the dim forests crowded with old oaks
Answer: a race that has long passed away
Built them. The red man came-
The roaming hunter tribes, warlike and fierce-
And the mound builders vanished from the earth.
The solitude of centuries untold
Has settled where they dwelt. The prairie wolf
Howls in their meadows and his fresh dug den
Yawns by my path. The gopher mines the ground
Where stood their swarming cities. All is gone-
All! Save the piles of earth that hold their bones
The platforms where they worshiped unknown gods.

The settlers do not share much knowledge about the mound builders, the poem focuses on the mounds that remain and the fact that the occupants of the place changed from mound builders to the red man.

But the Indian was destined to create no further disturbances upon the soil, which the white man had marked for his own. In accordance with the stipulations of sacred treaties and likewise agreeably to the demands of the times, the allotted time had now come for the red man to move westward again on his roving mission and add one more proof that his race is fast passing away, and must eventually disappear before the restless march of the Anglo-Saxon race, as did the traditional Mound Builders give place to the predatory red man of later times.
Thus as those traditional Mound Builders were forced to give way to the plundering red men of later times, so must he give place to his pale faced successor, and his night of ignorance and superstition in which he so delights to revel, must give place to the approaching light of intelligence and civilization as truly as the darkest shades of midnight are dispelled by the approaching light of day. ("The History of Polk County. [electronic resource]," 1880)

The feelings of the settlers are expressed in the descriptions used for the Indians and for the white men. The writer describes the 'red men' with negative
connotations. Place for the Native American Indians is described as a place of ignorance, superstition, and darkness. Place for the settlers on the other hand is described as place of intelligence, civilization, and light. Settlers see the change in ownership and land occupancy as progression.

   The lack of maps made by the Native American Indians before European arrival is a void in the mapping of the place. The mapping history starts from the outside view of the Europeans. Europeans mapped the place by the main mode in which exploration occurred. The maps initially are maps of waterways. The waterways gain place names representative of the Native American Indians that lived on their shores. These waterways continue to be maps shaping force of place representation until the surveyors arrived.

   The Division of Land in Iowa

   Dramatic changes occurred to maps of Iowa between 1816-1886. The land was drawn as a river, then with natural resources, and later with inhabitants’ names and properties. This was the era when Iowa became part of the United States and also when Iowa’s most prominent grid landscape was shaped. The Andreas Atlas of 1875 was the only promotional map that included the names of the residents living on the lands. These residents were the initial shapers of the Iowan landscape as it is today. The settlers were the local human force, integrating the capitalist idea of land ownership into the physical formations of the land. These settlers were experiencing the land, firsthand, shaping memories, and creating place.
The era in which these maps were developed was an era full of surveying in the United States. The Louisiana Purchase was being divided up for sale; this division would come to be called the Jeffersonian Grid. The grid is not a new development pattern. The first documented use was the design by Hippodamus for Piraeus, Greece in the 5th century BC (Morris, 1994). Jefferson was influenced by its use from William Penn in laying out Philadelphia. Penn decided to use the grid for its indexical qualities. The grid has no built-in hierarchy and was a great way to promote the Quaker value of equality. Each square was essentially equal in value to the next one (Linklater, 2002). For Thomas Jefferson the grid was a quick way to allow the frontier families to settle the land of his new Louisiana Purchase. While sitting at a desk in Monticello, he drew lines on the map in a perfect grid, these lines were turned into reality by the hard work of settlers and farmers as they claimed and turned the prairies.

Much of the East Coast was initially developed in a way that respected and worked with the topographical changes of the land. Because Iowa was mapped and divided with no understanding of its actual landscape the value of its resources of prairie, pristine watersheds, and oak savannahs were divided haphazardly. The most interesting document in the Library of Congress documenting this process is the Land Ordinance of 1785. The description of this land division and the tasks of the geographer and surveyors are quite exact. The Ordinance states

The lines shall be measured with a chain; shall be plainly marked by chaps on the trees, and exactly described on a plat, whereon shall be
noted by the surveyor, at their proper distances all mines, salt springs, salt
licks and mill seats, that shall come to his knowledge, and all water
courses, mountains, and other remarkable and permanent things, over or
near which such lines shall pass, and also the quantity of the lands. There
shall be reserved for the United States out of every township, the four lots,
being numbered, 8, 11, 26, 29, and out of every fractional part of a
township, so many lots of the same numbers as shall be found thereon.
There shall be reserved the lot No. 16 of every township, for the
maintenance of public schools within the said township. Also one third part
of all gold, silver, lead and copper mines, to be sold, or otherwise
disposed of, as Congress shall hereafter direct. (Kemp, 2010)

The division of the natural place into a civilized place, as the government saw it,
was a division into manageable sized spaces.

Following the Indian Succession treaties of 1824, 1830, 1836, and 1837,
the United States government controlled the lands previously occupied by the
Sac and Fox. The most influential of these was the 1832 Black Hawk Purchase
Treaty where 8,360 square miles of eastern Iowa was ceded to the United States
(Iowa. Secretary of State., 1985). The newly purchased land needed accurate
surveying so the plats could be distributed and sold to settlers. The United States
Government Land Office contracted survey crews to measure the lands and
create the congressional survey maps. Regular congressional townships were
mapped onto the landscape as six-mile by six-mile squares. Little regard was
given to the natural features of the landscape. Each six by six mile square was
evenly divided into smaller squares each measuring one square mile. This can
be seen clearly in the Government Land Office Survey map that was started in
1836 and was finished in 1859. (Figure 15)
A temporary Indian Boundary Line called the White Breast Line was drawn from north to south across Iowa, preventing permanent Euro-American settlement on the lands from 1842-1845 (Aurner, 1917). The Sac and Fox tribes had three years to find new lands. This did not stop the building of forts and fur trading.
posts beyond the Line, surveyors from surveying the lands, or the pioneers from scouting the area for the best plots on which to build.

Initially the congressional township survey divided the watershed into eight surveyed townships, four of which are highlighted. (Figure 15) These four highlighted townships covered most of the watershed drainage area and all visible surface waters. They were T78N R25W, T79N R25W, T79N R26W and T80N R26W. The following paragraphs decode the survey map using T78N R25W as an example. Each number and letter has meaning.

1. T represents Township.
2. 78 represents for the number of units away from the referenced baseline, which are six miles in length.
3. N represents the direction from the referenced baseline.
4. R represents range.
5. Twenty-five stands for the number of units away from the principal meridian, which are again six miles in length.
6. W represents for the cardinal direction being traveled away from the principal meridian.

Iowa used the fifth principal meridian that runs in the North South direction through the West edge of Iowa and the national baseline which crosses central Arkansas, East to West, as its origin of the rectangular coordinates, both of which were established in 1815 for the purpose of surveying and mapping the Midwest. Each six-mile by six mile township is then divided into its thirty-six parts labeled in a boustrophedon order starting with one in the top right and ending with thirty-six in the bottom right. (Figure 16) The township is numbered right to left, one till six, then down one line where it is labeled seven till twelve, left to right, then
Figure 16 - Land Division Diagram and Correction Line, 1854

down one row and thirteen till eighteen is right to left and so on. The word boustrophedon is derived from Greek for “oxen-turning” as it plows a field. The surveyors were plowing the land figuratively before the settlers had even finished
making their claims. The numbering pattern makes it so, sequentially; each number shares a boundary with the number before or after. For example eighteen and nineteen share a boundary. If it was labeled traditionally left to right on each row they would not.

![Diagram showing surveying map and correction lines](image)

**Figure 17 - Principles, Meridians, and Base Lines**

There is a correction line that appears on the surveying map and runs directly across the watershed. It is one of two correction lines in the state of Iowa and is in place to fix the convergence problem of the meridian lines that are used as origin points. (Figure 17) This caused approximately a one-mile shift in the two main surveyed townships over the Walnut Creek Watershed. All this work was being done to map the place mathematically; not in the dimensions of the physical landscape place but in the dimensions of human measurement, which
are feet, miles, and acres. This was the era where mapping shifted from a
drawing of an experience to a tracing of the lands to scale.

**European Settler History**

European settlers could legally and permanently claim lands in central
Iowa by the time the first steamboat arrived on the Des Moines River in 1843.
Captain Allen and his troops came on the boat and began building Fort Des
Moines. This made it possible for settlers to station themselves in and around
Fort Des Moines while they scouted the surrounding lands to make claims. An
account written in the *History of Polk County* in 1880 states:

> Long before the expiration of the Indian title, the settlers around the
Fort had made arrangements with each other, and the valuable
tracts were already considered claims. Some claims were even
measured and staked off, but this was of no validity, and done only
for convenience or to facilitate such subsequent survey as was
absolutely necessary to establish and identify it. ("The History of
Polk County. [electronic resource]," 1880)

In 1845 a group of local settlers from “the Fort” formed a Claim
Association to protect themselves from claim jumpers and speculators, and wrote
a series of resolutions regarding policy for the claiming of the best lands before
being officially recognized by the United States Government. This document is
very important, as it is the first example of civil governance in the area ("The
History of Polk County. [electronic resource]," 1880). (Figure 18) Civil
governance is one way that the place representation of the geographical Walnut
Creek Watershed as a drainage landform makes it back onto the map as a series
of civil townships.
Plots were analyzed in regard to their natural resource value. Most settlers looked for agricultural ground. Many of the first settlers of Walnut Creek were interested in both the agricultural lands and the Black Walnut trees as a harvestable commodity. Black Walnut was and is a valuable wood used to build cabinets, fences and gunstocks. A few settlers also claimed land near the mouth of Walnut Creek to build sawmills; one being B.F. Jesse ("The History of Polk County. [electronic resource]", 1880). At midnight on October 11th, 1845
everything changed. Settlers gained the rights of the land as property and the
days of Native American lands in Central Iowa were over.

Precisely at midnight the loud report of a musket, fired from the Agency
House, announced that the empire of the red man had ended forever, and
that of his master race had begun. Answering reports rang sharply on the
night air, in quick succession, from every hilltop, and in every valley, till the
signal was conveyed for miles around, and all understood that civilization
had now commenced her reign in Central Iowa. Settlers rushed in by
hundreds and the region lately so tranquil and silent, felt the impulse of the
change and became vocal with sounds of industry and enterprise.
(Andrews, 1908)

Shortly after Dallas and Polk Counties became official counties on
January 13, 1846. Polk County was named after the then-sitting eleventh United
States President, James K. Polk, and Dallas County was named after Vice
President George Dallas. With the creation of Polk and Dallas counties, residents
began forming civil townships. A civil township is unit of local governance and
usually named and organized by the residents of the area. The Walnut Creek
Watershed as a geographic place influenced the formation of the Walnut
Township.

From the year 1860-1868 residents in four congressionally surveyed
townships identified themselves and ran their local government as members of
Walnut Township. It created an exceptionally large civil township that crossed the
boundary line of Polk and Dallas Counties and created a common identity among
its citizens. In Dallas County on March 17th, 1857, two congressionally surveyed
townships were consolidated into a civil township named Walnut Township. In
Polk County in March of 1860, the settlers residing in Walnut Creek Watershed
separated themselves from Des Moines Township due to population increases and formed the civil township of Walnut. Joseph H. Mott was appointed constable for the purpose of initially organizing Walnut Township, and Mott’s schoolhouse was designated as the place for holding the first election. In September of 1868, due to population increase Grant Township separated itself from Walnut Township. Walnut Township operated as a collective whole until June of 1878 when it was divided legally into Webster Township to the north and Walnut Township in the south.

Even though documents state the split of Walnut Township into Walnut and Webster, it is still represented on the map from 1886 that Walnut Township covers two and a half Government Land Office surveyed townships. (Figure 19) This could be an error in the map or this could be a case of how the residents in the area were still identifying themselves as from a place called Walnut, and that is how it is represented on the map. Exploring letters from the time and place held shed light on how settlers in the area identify themselves as from the place of Walnut Creek.
Figure 19 - Walnut Township, 1857 and 1875
Joseph H. Mott had three sons, one biological and two adopted, all of which went to fight in the civil war in 1862. None of them came home, but while in the army all displayed pride in where they came from. They identified themselves as “the boys from Walnut Creek.” This can be seen in the letter from one of the sons, Hiram D. Cornish. (Figure 20)

![Letter from Hiram D. Cornish](image)

**Figure 20 – Hiram D. Cornish Letter, 1862**

The reference *A New Guide for Emigrant to the West* published in 1837 summarizes the settlement process, and explains why some families eventually make it on the map. There are three classes of immigrant: the pioneer, the settler, and the capitalist. The pioneer “depends for the subsistence of his family chiefly upon the natural growth of vegetation, and the proceeds of hunting” (1837). The settler purchases “the lands, add field to field, clear out the roads, throw rough bridges over streams, put up hewn log houses…build mill, schoolhouses, courthouses, and exhibit the picture and forms of plain frugal,
civilized life” (1837). The settler sells out to the capitalist and resettles again. The capitalists then turn the village into a town or city with “substantial edifices of brick, extensive fields, orchards, gardens, colleges, and churches are seen” (1837). Peck then states, “A portion of the two first classes remain stationary amidst the general movement, improve their habits and condition, and rise in the scale of society” (1837). This last passage is particularly relevant: to “improve their habits and condition, and rise in the scale of society” (1837). These are settling families that did not quickly move on to the next unbroken lands. They created and became invested in the place they called home. These are the men and women that physically shaped the place of Walnut Creek Watershed; they plowed the fields and built the first schoolhouses.

The pioneers took the lead in naming the places on maps. The settlers transformed the ecological place, opening space to develop the human place. The capitalists commoditized the human places, shifting the importance of value from the natural place to the human-improved place. The settlers and capitalists are the names that made it onto the 1875 Andrea Atlas map. Many started as pioneers, but the physical place of Walnut Creek supported their families and allowed them to transform the natural place into the human and capital place. In turn, these families created a place community and network that was in the geographic Walnut Creek Watershed. They thought of themselves as from Walnut Creek. When they created the civil township of Walnut Township, it was a
combination of the congressionally surveyed townships plus the community and geographic features on the landscape that created the place of Walnut Township.

From 1860-1868 the residents of the Walnut Creek Watershed had a population that was appropriate for the scale of the watershed. Walnut Township could be governed successfully and residents could identify themselves as part of the geographical Walnut Creek Watershed. As population increased neighborhoods replaced streams as identifiers. City governments became more prominent than the township governments, and Walnut Township faded from the map. The last map labeled with Walnut Township was the 1886 map by A.J. Johnson. Today townships are most often referenced with the survey numbers they were originally given.
A photograph is a *representation of place*. The place still exists in time and the photograph is a second version of place. In making a second *representation of place* with photography, Casey’s consequences as discussed in Chapter two need to be considered. The first and third consequences being the most important as the second, creating an exact *representation of place* was not the goal of this thesis. The first consequence is that there are many kinds of subject matter and many modes by which that subject matter may be represented (Casey, 2002). To explore this method a general understanding of a few of the types of photography and representations will be explored. The third being that artwork “seeks to present, not to represent; they strive to show, not to replicate” (Casey, 2002). This consequence will be investigated within the method of the presentation of the represented place.

A camera is a protective structure with a window for viewing the outside world. The film, emulsion, or sensor is the memory that documents what is outside the window. Outside the window light strikes the objects, and depending on shape, color, and texture, reflects in differentiating amounts. The light then bends as it passes through the window and into the camera. The first distortion of what was occurs here. If the film is developed and a print is made, the second distortion occurs. If the eyes view the final print, a third distortion occurs. If the
viewer has preconceived notions or knowledge of the subject in the photograph a fourth distortion occurs. If the viewer closes their eyes after seeing the image and recalls the photograph, a fifth distortion occurs. If the viewer tells someone about the photograph later, a sixth distortion occurs. All versions of distortion are accurate. This reinterpretation of photography with each viewing is much like visiting a place many times, observing new things each time that had not been noticed previously.

Pinhole photography uses a pinhole to control the subject matter selection and amount of light for the exposure. To create a pinhole photograph, the artist must follow a multi-step process. First, the artist establishes the reference point or subject he or she desires and frames the subject accordingly. The light-sensitive material traditionally used is black and white photo paper. Second, the pinhole openings rotate and mirror the subject. Light travels in a direct line; the darks become lights and lights become darks. The resulting negative capture becomes an inverted black and white image. (Figure 21)
A film camera uses an adjustable aperture that allows for size adjustment. Film is the exposed medium where a negative image is produced. The negative in a darkroom is placed in an enlarger and projected onto photo paper creating a positive image that is then developed, fixed and, stopped. A digital camera collects all image data with a sensor. Artists choose shutter speed, size of aperture, and focal distance. With these selections and framing the artists place is created. This digital file can then be printed onto a number of mediums in any size or quantity.

Any of the above mentioned ways of representing a place could also be used to create a panorama. The definition of a panorama is “an unobstructed or
complete view of an area in every direction” (Merriam-Webster Inc., 2004).

Casey describes the feeling for the viewer of a panorama of a landscape painting. He says,

> The totality could not be apprehended instantaneously. Its actual and sensible nature is such that it cannot be grasped *totum simul*, all at once as a single object...just as a given landscape cannot be contained in a finite part of space, so its full perception cannot be confined to an instant of time. (Casey, 2002, p. 8)

By this Casey means that comprehension of the entire picture cannot exist as a singularity; panoramic place relates to its adjacent places. Because it requires understanding of adjacent places, it also requires time for the viewer to travel mentally between those places. This traveling within a place to a place to understand a place allows a panorama to be a *place for contemplation.*

Panoramic generally mean anything wider than the visual field of human eyes. This is approximately 120 degrees and mostly peripheral. This panoramic image can be presented traditionally as a long rectangle (Figure 22) or can be arranged concentrically as a circle. (Figure 23) Both panoramic images contain the same amount of information and both show a 360-degree view.
Standard photography and panoramic photography can both capture a place. Similarly, 360-degree linear panoramic photographs and 360-degree circular panoramic photographs both represent the place. In the 360-degree rectangle panorama the viewer looks at the horizon line. The sky is above and the earth is below. (Figure 24) The edges of the photograph are cut off. The image is physically presented flat on a screen or canvas. A 360-degree circle photograph is self-contained and terminates. (Figure 25) The space represented by the images is unified and complete. The image is again presented physically flat. This concept of planet sends us into the reaches of our brains that think ecosystem, finite closed system.
Figure 24 – Diagram of Concentric Photo Stacking

Figure 25 – Example of a 360-Degree Circular Photograph
There are a few limitations to these methods. The first limitation is that all of the above methods—narrative writing, deep mapping, and photography—represent the physical three-dimensional places as flat images. The second limitation is that there is no current way to capture and represent three-dimensional place in three dimensions. The panoramas above require the stitching or stacking of many photographs to create the representation of place; they are not represented as one simultaneous photograph. Of these methods the 360-degree circular photograph does the best of utilizing the three place senses of place at, place of, and place for. The next section will present a new method that addresses the two limitations of the 360-degree circular photograph.

Spherical Photography

I developed a new kind of camera for this thesis. The goal of designing and building a new camera was to document not just a place with a photo but to capture the immersion into a place. The many subtleties within a place make it necessary to create a photograph that the viewer returned to many times. This allows for a place for contemplation. The three-dimensional photograph allows for interaction from the viewer and the use of multiple senses. The viewer can circumnavigate the photograph. By circling the representation of the place the viewer understands the place more thoroughly. The extra information gathered by moving through a place to discover the place brings the viewer closer to experiencing the physical place. The viewer draws upon knowledge of the details in the photograph and mentally pieces them together. They can recreate the
place in their mind. The form of the sphere forces the viewer to move through space to understand the subject of the photograph. The world is not flat, and so this spherical photography process allows for representation of a place in three dimensions. Current camera technology uses flat planes to capture the three dimensional world. When designing the camera, I questioned: Is there a way to capture the three-dimensional world on a three dimensional surface? The 360-degree circular panoramas are able to represent three-dimensional space, but do so on a flat plane. There is a gap in the literature here, and I developed a camera that can photograph 360 degrees on a three-dimensional surface to represent a place. The following images and text outlines the process I went through while creating the final camera.

A how-to guide to spherical photography

I started this process by creating a camera obscura in a dark room. This works best in a light-tight space that is large enough to be occupied, such as a basement. Create a pinhole directly in front of the light source and stand back to watch the image develop. The camera obscura helps to visualize how an image flips and mirrors once it has been projected from the pinhole. I also explored slits in attempt to capture the image right side up. All of this work was done with four layers of black plastic garbage bags taped over all windows in the basement.
Aluminum foil was used for my various pinholes, lenses, and slits. After experimenting with slits and pinholes, the best image resulted from the pinhole.\(^3\)

![Figure 7 - Geometric form of a dodecahedron](image)

**First camera attempt**

When deciding upon the geometry of the camera there were a few important considerations. First, the camera must be able to house a sphere. Second, the shape of the camera needed to allow the sphere to be as close to equidistant from all faces and lenses to allow for proper exposure. Third, a shape that used faces that were of the same shape would allow for easy reproduction. A regular dodecahedron was selected. (Figure 26) A regular dodecahedron is a

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\(^3\) I created a photograph using a version of slit photography, which is represented in Figure 42. This method worked well to represent a place while moving through the space. The image is compiled of 2000 photographs taken while driving. The middle inch is cropped out of each photograph. They are then lined up adjacent to one another to create a 120’ long panoramic image that represents a one-mile by one-mile square on the Iowa grid landscape.
twelve-sided geometric form; it is composed of pentagons. (Figure 27) The
dihedral angle, which is the angle between the two intersecting planes or faces of
the form, for a regular dodecahedron are 116.56° each. Consider the equation
below.

\[(180° - 115.6°) = 63.4° \div 2 = 31.7°\]

This is the bevel angle of each side of the pentagons. It must be 31.7° so the
form will come together without letting light between the pieces. When
considering the angle of a pentagon and the properties of a miter saw, study the
equations below.

\[(180° - 108°) = 72°\]

\[(90° - 72°) = 18°\]

When using a miter saw to cut the twelve pentagonal sides of the camera out of
half-inch thick plywood, set the bevel at 31.7° and the miter at 18°. After all
pieces are cut, glue and finish nail all faces together leaving one side operable

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Figure 27 - Pentagonal Geometry
for opening and closing the form. To minimize light pollution from leaks from the seams on the interior of the camera, paint the inside of the dodecahedron matte black. Drill a pinhole into one side of the camera. Take the camera into the darkroom, and load it with a piece of black and white photo paper. Take the camera outside to expose it. Process the paper in the dark room.

The first camera was a plywood camera, and there were a number of failures with it. (Figure 28) The failures were:

1. The thickness of the plywood made for an elongated pinhole, which was not conducive for creating a clear image.
2. The camera leaked at the seams, which allowed it to open and close the camera to load it with a photosensitive paper or sphere, but also leaked light onto the photo paper.
3. Other than taping the seams after loading the camera, there was not a good way to prevent the light leaks. Any slight variations in the angles of the wooden shapes created gaps. Each piece needed to be perfectly replicated.
Dode camera

The first wooden camera leaked too much light upon the photo paper. The solution for the inaccurate hand-cut pieces was vacuum formed plastic. This solution allowed for the consistent replication of the pieces. A 3-D Computer Numerical Control (CNC) router could also be used, but the vacuum formed plastic allows for a thinner and lighter material to create the structure. To start this process, cut three pentagons out of a one-inch medium-density fiberboard (MDF). Select the pentagon that looks the most perfect. Purchase six sheets of opaque acrylonitrile butadiene styrene (ABS) plastic. Drill a ¾-inch indentation in the center of the MDF pentagon so the placement of each pinhole will be identical. Vacuum form fourteen sides. This allows for two extra sides in case mistakes are made while creating the pinholes later. Trim the plastic pentagons to size and sand the edges. Use bolts and nuts for the assembly. (Figure 29) This second camera is called the Dode Camera.
Drill a ¼-inch hole in the center of each plastic pentagonal panel. Super glue a piece of aluminum foil between two steel washers. Glue the washers and foil combination over each hole in the plastic pentagonal pieces. Use a tiny needle to pierce the center of the foil to create the pinholes. Use magnets as removable lens covers that attach to the washers. (Figure 30) After completing these steps, I took the camera into the darkroom and tested it with photo paper. It leaked like a sieve. Weather stripping is necessary as a gasket between each plastic side to prevent light leaks. I disassembled the camera and reassembled the pieces with the additions of weather stripping and caulking.
between all the seams. I then painted the inside black, twice. I retested with photo paper, and with a lack of light pollution, I decided it was ready for the next step. (Figure 31)

For the Dode camera, I made a photo paper dodecahedron for the image collector. This was my first attempt at photographing a three-dimensional space on a three-dimensional object. First, I made a dodecahedron out of black and white photo paper. To do so, cut, fold and tape it together in the darkroom using the safe light. Place the paper dodecahedron on a cylinder to center it within the camera. Take the loaded camera outside, and use a light meter to determine the

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**Figure 32 - Dode Camera**

**Photographing on a dodecahedron**
time needed for a proper exposure. Expose each plane of the photo paper by removing one or two pinholes at a time, waiting for the exposure to take place. Use a timer. Complete all eleven exposures. Bring the camera back into the darkroom and unload the paper dodecahedron. Unfold and remove the tape, and process the photo paper. I developed, stopped, fixed, and rinsed the photograph, finally setting it on the drying rack.

After the photograph was dry, I taped the dodecahedron back together. This first attempt was successful; at the edge of each pentagon face, on the paper dodecahedron, the image cleanly ended. (Figure 33) There was very little overlap between each exposure. In fact, there was a large disconnect between each plane. As each face was flipped and mirrored, if unaware that it was all exposed in the same place, it would be difficult to attain that it was a 360-degree photograph. Additionally there were two horizon lines; this was unexpected. Because of the geometric shape of dodecahedron there was a top plane,
bottom plane, and two planes on each side. (Figure 34) Each plane was sixty degrees, which was only partially accurate. Each plane could view approximately 60 degrees of light, but the distance from the photo paper to the camera pinhole created a cropping effect. This effect is similar to the cropping created by a telephoto lens. There was also cropping of the circular image onto a pentagon. These combined cropping effects lost some of the photographic place information.

![Paper Dodecahedron Diagram](image)

**Figure 34 - Paper Dodecahedron Diagram**

**Photographing on a porcelain sphere**

The paper dodecahedron lacked the entire image, and so I decided to experiment with another form, the sphere. First I conducted research on how to make perfect spheres of wood, foam, or other materials. Porcelain became the
material of choice for this experiment. I started with flat tiles to test different light-sensitive chemicals on ceramic material. For the test tiles, I started by applying cyanotype onto twelve flat planes of ceramic material. Three planes of stoneware and three planes of porcelain were low-fired. Then three planes of stoneware and three planes of porcelain were high-fired. I applied various photography-related chemical compounds to the fired tiles. The porosity differs based on the firing temperature. I found the porosity of the low-fired porcelain to work the most effectively as it held onto the chemical compounds more than the high-fired ceramic materials. Additionally some thin plywood was cut into test squares to see results on wood. I decided to use cyanotype and Liquid Light on low-fired porcelain, because both chemicals compounds work with a variety of substrates. The compounds are easy to make and are less dangerous to work with than other compounds.

After testing the various compounds, I worked to make the spheres out of porcelain. The first spheres were small, approximately eight inches in diameter. I created two half-spheres by hand and joined them by scoring and slipping the seam. Then I placed them on memory foam, waiting for the clay to slightly harden and the sphere to become less fragile. When the porcelain was leather-hard, I molded the spheres with a wooden paddle and a rubber rib to shape them into perfect spheres and smooth out any imperfections. Then I used a drill bit to make 3 holes in the bottom of each. These holes played two parts. First they kept the spheres from exploding in the kiln when firing. Second they became the
mechanism to affix the spheres to the camera so they wouldn’t move while photographing. The spheres were low-fired.

When finished cooling, I took the spheres and coated them with one coat of Liquid Light photo emulsion in the darkroom. At room temperature the emulsion is solid. It must be heated to 100 degrees and becomes a white liquid similar to glue. The emulsion can be heated in the plastic container it comes in and a hot water bath. Coat one half of the sphere with a paintbrush, let it dry, and then flip it and coat the other half. It is difficult to see where the emulsion has been applied in the low-light darkroom. After coating the entire sphere, load it into the Dode camera. Expose each of the eleven-pinhole exposures. Bring it back into the darkroom and process it by pouring developer onto the sphere over the developing tray; hold it to let it drain before transferring to the stop, and then the fixer. Finally submerge the sphere completely in the water bath for fifteen minutes. After the development process, I brought the sphere out into the light and could see nothing; just hints of gray. I considered under-exposure, but believe after reviewing the test tiles that I did not apply enough emulsion onto the sphere.

On my second attempt, I coated the sphere, allowing the first half to dry for one hour followed by the second half for one hour. I applied two more coats of emulsion the next day, allowing the sphere to dry until late afternoon. I loaded the sphere into the Dode camera, went outside, and exposed the sphere for one minutes per pinhole. After developing this attempt, the blacks were true black.
While the emulsion had been enough this time, the subject matter was tiny and unrecognizable. On the third attempt, I applied the same amount of emulsion as sphere two. While attempt two had been photographed in the countryside, I photographed attempt three under the water tower on campus at Iowa State University. The proximity of the camera to the surrounding buildings was approximately 100 feet. I used one-minute exposures for this sphere. I developed the sphere using the same process as attempt two, and immediately, I could tell it was a success in the darkroom. The exposures on the spheres not only overlapped, but also merged and blended into one another. The white of the steel beams, on attempt three, against the dark sky was an excellent contrast and provided a clear comprehendible image. The subject was recognizable to my fellow classmates, and they were actively engaged in the photograph as they viewed it the next day. They interacted with the sphere by walking around it, crouching down to view the bottom, and peering over the top. Attempt three represented the ability to capture place at, place of, and place for on a three-dimensional surface.
Limitations of the Dode camera

While the sphere of attempt three was successful, the method has limitations. The issues that need analysis and improvement are

1. The double horizon lines were confusing to the viewer.
2. The details though clear were small.
3. The overlapping images were interesting but also a challenge to comprehend.
4. There was chemical discoloration near the holes used for attaching the sphere to the camera.
5. The bottom of the sphere was underexposed even though the top was perfect.

To address the limitation of the double horizon there needed to be a change in geometry of the camera. There must be a single central plane that was perpendicular to the ground plane. The geometry chosen for this study was a Rhombicuboctahedron, drawn by Leonardo da Vinci in 1509 in the book *Divina Proportione* (Pacioli et al., 1509). (Figure 35) da Vinci’s geometry allows for the vertical plane to be a square, but requires triangles and squares to create its

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**Figure 35 - Leonardo da Vinci’s Illustration, Divina Proportione, 1509**
form. The Rhombicuboctahedron only uses one size of triangle and one size of square, totaling eighteen squares and eight triangles. The use of a square at the center of the sphere allows a flip of the horizon line directly onto the equator of the sphere.

To address the limitation of small content and to compensate for the reversed images, I created a third camera, the Rhombi camera. The Rhombi camera allows spheres to be up to eighteen inches in diameter larger than the Dode camera. This enlargement allows the viewer to comprehend the place being represented more clearly. It also allows for the camera and sphere to rotate separately from one another in the field. To address the limitation of the chemical discoloration, it was imperative that the spheres be drained very well between the developer, stop, and fix baths. The spheres also must be fully submerged in the wash bath. To correct for the under-exposed bottom of the spheres, I designed a special tripod to hold the Rhombi camera, which is discussed in more detail in the following section.
Figure 36 - Sketches of Rhombi Camera
Figure 37 - Sketch of Tripod Connection on Rhombi Camera
Figure 38 - Notes for Rhombi Camera Rotation

Figure 39 - Sketch of Sphere Connections on Rhombi Camera
Figure 40 – Rhombi Camera
The Rhombi camera

After analyzing the limitations of the Dode camera, I designed and built the Rhombi camera. (Figure 40) The constraining feature of all cameras was the light proof doorway into the darkroom, which was thirty inches. The sphere must be loaded into the camera in the darkroom. As such whatever camera is built needs to be able to fit in and out of the doorway. The main differences between the Rhombi camera and the Dode camera were the size and the change in number of pinholes. Overall the Rhombi camera is successful. It captures a 360-degree place on a porcelain sphere. The spheres are larger and thus the places are easier to see. There is one horizon line on the spheres. Because of the gears and rotation process, the flipping and mirroring of the images can be negated; this makes the place being represented more comprehensible.

The Rhombi camera has a single pinhole in front of a lens. (Figure 36) This combination of pinhole and lens are located inside a bellow to increase the control and reduce the possibility of light leaks from multiple lenses. The bellow was modeled after classic medium or large format camera bellow. Instead of the traditional four-sided bellow, this bellow has 8 sides. It was folded, like an accordion, out of one piece of faux leather backed with chipboard for rigidity. Four adjustment screws and aluminum rods allow for controlled adjustment and locking at the desired length. The bellow allows for the pinhole to move closer to or further from the center of the camera, which permits for use of different sphere sizes in the camera. Different sized spheres can be used to change the
relationship of the sphere to different sized exhibition spaces. In a large room, a large sphere allows the viewer to circumnavigate the place from a few feet away and still legibly comprehend the photograph. In a smaller space or a display situation that allows the viewer to hold the sphere by hand, a smaller more intimate sphere can be used. The bellow allows both spheres to be in range of the camera. (Figure 33) Research into slit scan concepts and mirrors was completed but not integrated into this version of the camera.\(^4\)

The Rhombi camera has more complex gears and pivot points than the Dode camera. (Figure 38 and 39) To correct for the flipping and mirroring of the images, gears in the camera were designed to allow the sphere to rotate independently from the camera body without light pollution. Between each exposure the camera and sphere pivot. Each new exposure is taken on an unexposed side of the sphere. The last two exposures are the bottom and top and these are taken by flipping the camera over at the pivot point where it is connected to the tripod. By doing this the images line up as we would see them. The result is a sphere that looks like a mirrored sphere would look if it were sitting in the location the image was taken. The black and white is still inverted

\(^4\) Research into on slit scan pinholes could be another possibility. The flip is prevented because the slit is exposed at a very small width. Pentaprisms and penta-mirrors are a possible solution to solving the flipping and mirroring from the pinhole; exposure of the sphere with light after it has been corrected for flip and mirror with the pentaprism. A pentaprism is located in the eyepiece of a camera. This allows the viewer to see an upright image as opposed to the flipped image that occurs as the light passes through the lens. In theory, the mirror right behind the pinhole in an old camera could be used to project that flipped light onto the sphere. Most likely this would cause an increased exposure time.
because of the use of a direct exposure to the sphere. The sphere becomes a large physical negative of the place where it was taken.

The complexity of the moving parts required a sturdy base on which to situate the Rhombi camera. The tripod allows for one of the exposures to occur at the bottom of the camera looking directly down. (Figure 37) Instead of a traditional connection of the camera to tripod at the center of the camera arms on each side of the camera body hold the camera. The tripod head is a ball bearing connection in the shape of a donut. This allows for 360-degree rotation but also for the last exposure to be taken through the donut opening directly at the ground. By elevating the camera off the ground this also improves the amount of light that is reflecting off the ground below the camera. If the light meter still suggests additional time is needed the exposure that is looking directly at the ground plane can be slightly longer than the other exposures. There are additions and modifications that could improve the camera in future versions.

While the Rhombi camera addressed many of the limitations of the Dode camera, new limitations, specific to the Rhombi camera exist.

Limitations of the Rhombi camera

Similar to the Dode camera, the Rhombi camera has limitations. This entire experiment has been a learning process, and I intend to continue evolving the camera over time. The limitations of the Rhombi camera are

1. The weight of the camera; between the wooden tripod and the wooden camera the whole piece of equipment is quite heavy. This reduces the transportability ease and user satisfaction.
2. The size of the ceramic spheres, being eighteen inches in diameter, requires that they be made in two halves to allow more to fit in the electric kiln during firing. This seam is very noticeable on the final piece. (Figure 52) In the current configuration the seam of the two sphere halves lines up on the horizon line of the place and that causes comprehension problems for the viewer as content is missing. Also the size of the ceramic spheres uses additional material that becomes costly. The spheres also take up large amounts of storage space.

3. Additional surface area makes the process of applying Liquid Light difficult. The chemical solution tends to cool down before a full coat can be applied. The larger surface area also makes it difficult to develop the sphere after the exposure..

4. Displaying the spheres become more difficult because of the two halves. The half sphere is much more delicate and easier to crack than a solid sphere.

While both cameras have limitations, both cameras produced spheres that were successful. Viewers engaged in the representation of place and asked questions about spheres from both cameras. This level of engagement increases the memory retention and value of the place represented. Using narrative writing, deep mapping, and photography in the form of the spherical photographs create a memorable understanding of a place. The spherical photographs are one additional tool to create place. In addition the novelty of the spherical photographs can make the place they represent more memorable and thus more valuable to place creation. The following chapter displays the resulting place understanding through each method in detail. Each method—narrative writing, deep mapping, and spherical photography were used to create installations to share the place of the Walnut Creek Watershed with others.
These installations add an additional layer of expression to the representations of place. (Figure 41) The results of these methods were presented through installations to improve the communication of the Walnut Creek Watershed with the general public. An installation was created for each method and installed together in a gallery, displaying the entire body of work in one show. Each artwork was separate but all related to the others. The installations were of related subject matter from the same place in Iowa and now it was all re-placed in the same gallery. Through these installations, viewers can
view the work and interpret the work based on personal recollection and past experiences. This, in turn, creates another layer of meaning for the process of place creation, and continues to re-value the Walnut Creek Watershed. More installations images can be found in Appendix A.

*Empty Frames*

Only one of the wood and gesso and gilded frames had a date on it from 1897 and the typewriter was made in the 1950’s. Frames are not generally thought of as obsolescent but both the frames and the typewriter were recovered from a dumpster. All the glass and objects were removed from the frames except one; the marriage certificate of a couple married at the courthouse in Des Moines, Iowa in 1912. The frame with the couple was highlighted by hanging it not on the gallery wall with the rest of the frames, but about two feet in front of the wall. Suspended in place, its relationship to the empty frames on the wall is obvious, but the importance of the couple to the artwork is clear. (Figure 42) All associated stories and memories of the couple have been erased by the removal of all the artifacts the couple had collected over a lifetime. The viewer must complete the narrative of this couple with the typewriter; to write the *place story* of the couple back into history.

The physical paper was a document that was created and occupied a physical place. It would be a representative written narrative, relating to the couple through the viewer’s personal memories and experiences recollected
through associations with the presented information. The facts given were sparse.

1. Location: Des Moines Iowa.
2. Timeframe around 1912-1959 based on the marriage certificate and typewriter date.
3. A married couple.
4. Thirty one empty frames that are worn and show use.
5. Frames of all shapes and sizes, both intricate and simple frames.
6. The current state of the frames, damaged and empty.

The last piece of information was a place in time, which was anytime before the present.

The majority of the viewers that entered the gallery located in the College of Design on the campus of Iowa State University are young students. Students that may have seen typewriters, but have never used one. The typewriter became an object to be observed but not to be used. The average viewer did not necessarily know how to use the typewriter. The intent was for the viewer to type a written narrative on the same typewriter that was used by the couple. The viewer could type the couple’s narrative. The typewriter as physical representation of place linked the viewer to the couple, because all had sat at the keys at different points in time. Both the viewer and the couple utilized the typewriter as a narrative tool for communication. Without the viewer using the typewriter much of the place for contemplations and a connection to the place of the couple was missed. Even without the physical connection of the typewriter, the viewer became associated in place with the objects and filled the frames with memories and thoughts of what could have once been found within them. The
arrangement on the wall and association of the typewriter facing the wall invokes the level of contemplation. The narrative plays in the viewer’s mind, and perhaps the viewer shared the narrative with another viewer in the gallery. Regardless, it was not recorded on the typewriter paper as a narrative place keeper, capturing that place in time.

Some viewers did participate in the act of recording the place and the narrative of the couple with the typewriter; they were from the generation that had used a typewriter. Their response and the opportunity to use the typewriter transported them back to their own memories of a time and place they connected to the typewriter. Typed comments included having taken a typing class and owned a typewriter in the past. Typed comments about the frames were of the desire to own them. By placing the frames on the wall in the gallery, it gave a new sense of importance to the old frames; a sense of value and the viewers found that desirable. Multiple viewers asked if they could purchase a frame. The beauty of the frame was not that it was in perfect condition, but that places and time had left their mark on the frames in a way that express the narrative without the need for content within the frames. The frame became the narrative; the image of the couple and the dilapidated state of the frame allowed for the replacement among the other empty frames on the gallery wall.
Figure 42 - Empty Frames Installation, 2014

Shadow Projection

The projection outline is in the shape of the classic home; a box with a roof. (Figure 43) Projected onto the house is a moving video of a 360-degree circular panorama. It is on a continuous loop and circles as if the viewer were pivoting in place looking at the horizon as it flashes by. The projected photograph is of the Unincorporated Town of Xavier in central Iowa. It is projected on the gallery wall from the other side of the room. Hanging on the wall are a discarded window and door from a demolished farmhouse. The viewer first sees the installation. The artist statement was hung to require that the viewer walk through the projection to read it. This process of walking into the projection became a part of the installation as the silhouette of a person standing within the shape of the
house. This interaction allows for the viewer to contemplate the larger meaning of the installation.

The outline of the house suggests that the place was once a homestead, but the door and window are all that remain. The projection of the town represents a decrease in rural population to the point that the town can only be unincorporated in Iowa. The projection is also of a winter scene taken from a field just outside the town. The most prominent element is a large town granary that stands on the horizon as a beacon. Small houses remain huddled by its side. The remainder of the scene is a blank canvas of snow and sky and pastel colors of blues and pinks.

Once the viewer steps into the projection, they either quickly stepped out or aligned themselves with the door or window. The scale of the silhouette matching that of the window and door seemed to be the natural tendency to place oneself in the apertures of the place. This, in turn, created the sense that the viewer was both looking at the place but also from the place, back at the viewer through the window or door. This simultaneous viewing of place and viewing from the place created a hyperaware self-realization that the viewer became a part of the place. The fact that only part of the horizon was shown in the house projection required that the viewer watch approximately three rotations of the place before it was understood. At that point the grain elevators, houses, and trees were recorded in the mind. The realization that the projection was a loop caused the viewers to ask where the image was taken, desiring to know the
place they were locating themselves within. Just as *Empty Frames* represented memories of places that no longer exist, the silhouettes of the viewers represented the family members that once occupied the house that is no longer standing. The viewer became a part of the place, representing the people who had occupied the place previously.

![Image of installation](image)

**Figure 43 - Shadow Projection Installation, 2014**

*The Grid*

The deep mapping method results were presented as a floor and wall installation. (Figure 44) The installation was situated as the central element in the room connecting each artwork to create a complete concept. The floor installation was compiled of a grid of two-inch thick, 18-inch square wood tiles and ceramic silo forms. The wall portion was made of a grid of string. At the
intersections were knitting hoops that had cotton fabric stretched within them. The grid on the floor continued to the grid on the wall. The wood tiles represent the Jeffersonian grid in Iowa. Each tile was representative of a one-mile by one-mile field. They occupied the floor of the gallery as the farms occupy the landscape across Iowa. The wood tiles have acetone-transferred representations of tile lines in black ink on the surface. These are the tile lines that are buried under the field’s surface to drain the standing water so corn and beans can grow. There is more plumbing under Iowa’s fields than in our houses. (Figure 45)

Figure 44 – The Grid Installation, 2014
Figure 45 - Wood blocks showing acetone transferred drain tiles
Sitting on the wood tiles are porcelain silos of a variety of shapes and sizes, all ridged like the corrugated metal that they constructed out of. Many of the silos are pure white while some of the silos have the ghostly images people transferred to their surfaces. (Figure 46) The images are digital photographs of Iowans that are transferred to the silos using a digital negative and cyanotype chemicals. The process creates an image that is white and blue. Each silo is rotated slightly so that the viewer must circumnavigate the fields to see all the faces of the occupants. The silos with faces are the places where occupants still live on the farm. The white silos are the places where the occupants have left. Perhaps other farmers rent or own the land, but the structures are falling into disrepair. The silo form was selected as the representative form for the storage vessels for the corn and soy that dot the horizon of the Iowa landscape. Distance and time can be measured as they are passed on a drive because they are spaced at intervals representing the amount of corn or beans harvested in that area.
While the floor grid represented the place of farms and farmers, the wall grid represented the places of intersection between the farms: the roads. At the crossing of the thread are 360-degree photographs of intersections in Iowa. Some photographs capture farmsteads on the corner of the four-way crossing while others only capture the crossing and its adjacent empty fields. Intersections
are the place between places, the interstitial spaces of the landscape; the value of this place is its ability to link. To call attention to the place between places, intersections are the only element mapped on the wall. These important places connects all the farm places to each other. (Figure 47)

Figure 47 - Places of Intersection

The Places of Corn

The 360-degree photographs are canvases framed as circles on the wall. (Figure 48) Stretched in all directions and pulled taught over the inner hoop, they are held in place by the outer hoop. The three photographs are the visual representation of the places mapped in the grid on the floor. All three are places of storage. The first is storage for a variety of seeds for planting. The second is
storage for compost to maintain the soils. The third is of storage for feed and export grain. Shown together it is the life narrative of the seed. The genetic material selected from thousands of years of human cultivation.\textsuperscript{5} Framed in the round as opposed to square intended to let the circular space extend beyond the frame; extend and relate to the photographs, which may be adjacent.

The first place, the place of regenerated seeds, is one that is now discarded. Farmers today rarely keep seeds for planting the next year. Instead seeds are ordered from companies each year because of the research and development patents on the seeds. The viewer is immersed in the middle of the old equipment and bins. The storage structures extend well beyond the horizon and push on the boundary the frame. The importance of the bins is made clear by the viewer’s proximity to them. These bins were the lifeblood for years of production. The farmer would plant the crop from seeds stored from the previous year. Then when harvest season came, the farmer would select some seeds to keep for the next year of planting. The remainder of the seed would be sold or feed to the livestock.

The second place is of a composting facility. Organic material is collected, straw is added, and everything is turned continually throughout the year. After the compost has fully broken down, it is spread and worked into the fields. This is one place where the nutrients for the field are produced. These are the nutrients that are required for the health and production of the seed crop. The third image

\textsuperscript{5} Appendix Figure 53 – Corntemplation 2015 Installation
is the grain elevator. This elevator serves the larger community. The grain elevator is where the seed is stored and sold to broader market. It is located on the railroad and a paved highway. This is the place where the farmer sells a commodity for income.

![Image of inversion spheres]

Figure 48 - *The Places of Corn* Installation, 2014

*Place*

These spheres are the results of capturing place with Dode camera. Called inversion spheres, they mirror the surrounding landscape into two horizons, at the top and bottom poles. (Figure 49) The spheres explore the idea of place as a series of overlapping exposures, representing the layers of recollected memories that exist within a person’s mind. The mind works to create
the whole picture. The spheres capture a place in the field and representing it in a new place, the gallery. They move a place through space and re-place it for the viewer’s awareness to increase the value of the place. Much of the Iowa landscape is passed without inspection or thought because of the repetitiveness of the fields and the subtlety of the nature. It is place that is taken for granted, often driven past with thought, but it is place for consideration. These spheres raise the place of the farm field to the level of contemplation.
CHAPTER 7
CONCLUSION

With the use of narrative writing, deep mapping, and photography as methods, installations can represent the experience of a place. This collection of information is a far richer experience than seeing a simple photograph of a space. New memories are shaped through this installation experience, along with associated previous experiences and contemplated ideas of future experiences. The contemplation of these places extends beyond place at and into the realms of place of and place for. The combination of the artist’s and the viewers’ interpretation of the place shapes the perceptions of the place. As Tuan says, “An object or place achieves concrete reality when our experience of it is total, that is, through all the senses as well as with the active and reflective mind” (Tuan, 1977). The physical interaction and experience of place is concrete. The physical interaction and experience of represented place is like clay; it can be molded and remolded by the individual viewer.

Representation of place is flexible. Time spent in places creates experiences, and experiences require awareness and the openness to change and flexibility. This can be called a full experience or experiencing a place fully. Place has a past, present, and future. If the history and current conditions of place are not understood then it is only space. Space does not have a future; it is temporary. Space is endangered. Space has no feelings connected to it. Space
has no place. Humans dwell in place, not commodity, and certainly not space. Humans might occupy space but this is not dwelling. If residential suburbia and agricultural commodities are going to continue being major shapers of Iowa then representation as places at, places of, and places for need to be included in the shaping process (Casey, 2002). Let the maps help shape place at, let narrative writing take the place deeper into place of, and let the photography create a place for contemplation. Maps, place at, tell what it physically was and is. Narrative writing, place of, tells the meaning of the place. Photography, place for, tells of your personal place, both mentally and physically. Contemplating place for, is an experience and a re-experience. It is place and re-place, and it is physical and mental evolution. Evolution is used here in the sense of nurturing complexity and diversity into the future as opposed to the devolution and simplification of the world. Creating a sense of place becomes an experience using both the mind and body, requiring awareness of all the senses and the mind.

Now how does this understanding of and representation of place influence place-bo-burbi-agri-culture? If there is no place without experience then an experience of what one needs, not just what one wants, must occur. Alternatively experience of place that one does not need can bring light to what one does need. This can occur as an experience of a represented place. A place can be represented through a narrative, a map, photography, or a combination of the three. It can exist in the physical and mental realm and is shaped, not only by the
artist, but also by the viewer. Humans are innately place-dwellers before we are builders. If the place of suburbia or the place of agriculture is to be successful it must first be a place of dwelling; a place of thought and applied meaning. Building is not finishing; it is not the end. It is growing with time and the natural and human constructs.

Artists, architects, and farmers are place presenters, but it is the occupant of the place that is the ultimate place creator. For each place is unique within the mind of the occupant. That place becomes physical and representative as it is sensed. At that moment it exists in the physical and mental world. So what would this place be called? Place-ive-ianure: A native place making process. A place that is sensed, thought about, dwelt with, lived from, repeated, and shared. Place is not an answer. Place is not finished. Place is a continuum. A representation of a place can shape the reality of a place.

The design concern of placeless places is repetition and lack of history; places that are trying too hard to be the same as the places around them. Adjacent similar places create larger spaces of monotony and that is how the place is identified, as a monotonous space. This is unnatural in the evolution of the world. Diversity is how catastrophe is avoided and is the key to a successful ecosystem. The same solution does not solve all problems. The same house and the same farming practices are not going to be as successful in different places. The value of a place is unique. Unique to each individual at each moment in time. If the value of a place is not understood then the methods of narrative writing,
deep mapping, and photography can be used to bring about understanding. This redevelopment of generalized space into unique place, at all scales, will be the key to a healthy future.
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Figure 50 - Empty Frames and Shadow Projection Installations, 2014
Iowan Agricultural Landscape (2014)

A rhythmic experience, moving across a level grid of 1 by 1 mile squares the agricultural landscape stretches out as far as the eye can see to the horizon. The horizon is dotted with objects of purpose. Some new some old, some left behind. Many exist in a language of social adjacency, but some stand-alone. Apparently left behind, forgotten, falling into disrepair. Some weary forms collapse completely from years of work only to decline rapidly after their abandonment. These relics are of a time and lifestyle that is foreign to most of Iowa’s current population. Most of the builders have come and gone. We pass these relics at most with a nod of awareness. Not giving much thought to their purpose present, past or future. This exhibition offers diverse perspectives into the relationships of land, space, objects and places.
Figure 51 - *Shadow Projection* Installation, 2014

*Movement in Space to Understand Place* (Spring 2015)

Figure 52 - *Movement in Space to Understand Place* Installation, 2015

Panoramic room photograph, Moving in space

Over 2000 photographs while driving each cropped to the middle inch then lined up side my side to create a 120' long panoramic image that represents a one mile by one mile square on the Iowa grid landscape. As Tuan says, “If we think of space as that which allows movement, then place is pause; each pause in
movement makes it possible for location to be transformed into place” (1977). These are the pauses in space, represented next to one another to create the large sense of place.

Figure 53 – 1-Mile by 1-Mile, 2000 Photographs, 2015

Figure 54 - Gallery Installation, 2015
Figure 55 - Rhombi Sphere, 2015
Figure 56 – Corntemplation, 2015
Agriculture is a human construct and art form. Very few places on earth have as elaborate or complete a system as the landscape of Iowa. The seeds, used to plant the landscape, carry an unwritten history of natural and human selection spanning thousands of years. This unwritten history is a multi-generational story. Humans are just learning to read and realize the importance of maintaining the diversity of these stories to share with future generations. The structures required to store them en masse for food or future use were developed to make sure the legacies live on. As with fine artworks, each seed is unique. Unlike fine artworks, where reproductions are less common, seeds are copied in unimaginable quantities. The current movement of agricultural enlightenment may someday change the importance of this replication, becoming more focused on uniqueness and diversity within the agricultural system. Sadly it will take a catastrophe to awaken us to this need.
Figure 57 - Izzy and Julian, 2015

Figure 58 - Rhombi Sphere, Trees, 2015