

**The construction of scale in museum exhibition design:
Negotiating context and narrative with object display**

by

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TABLE OF CONTENTS

LIST OF FIGURES.....	iii
ACKNOWLEDGEMENTS.....	iv
ABSTRACT.....	v
CHAPTER 1. INTRODUCTION	1
CHAPTER 2. LITERATURE REVIEW.....	5
CHAPTER 3. METHODS.....	41
CHAPTER 4. CASE STUDIES OF EXHIBITS AT THE CVHM	52
CHAPTER 5. CONCLUSION.....	99
BIBLIOGRAPHY.....	106

LIST OF FIGURES

Figure 1. Data driven geographical map of the College of Design at Iowa State University	43
Figure 2. Detail driven map of the College of Design building on the Iowa State University	43
Figure 3. Dean’s comparison of two approaches to exhibit content.....	46
Figure 4. Data-driven vs. detail-driven exhibit continuum	50
Figure 5. Dean’s process of exhibit design and development	54
Figure 6. Three-quarter scale 1930s farmhouse	61
Figure 7. Kitchen stove inside of house section.....	64
Figure 8. Part of the field section of the Farm Exhibit	65
Figure 9. Workbench in tool shed section	68
Figure 10. H tractor artifact inside tool shed section	68
Figure 11. Threshing machine with small models in foreground	70
Figure 12. Close up of prosthetic arm.....	71
Figure 13. Prosthetic arm and image of Terry Kolhepp	72
Figure 14. 1930s Graff barn and part of the 1914 Harriman silo.....	74
Figure 15. Diagram of how scale changes occur from complex exhibit narrative to simple exhibit Narrative during exhibit development.....	78
Figure 16. Schlegelmilch Living Room in first sub-section of Schlegelmilch Block section	81
Figure 17. Rocking Horse in the Schlegelmilch Section	82
Figure 18. Beginning of Randall Park Section.....	84
Figure 19. Exhibit display from sub-section <i>An Unsettled Life</i>	85
Figure 20. Exhibit display from sub-section <i>Same Old Neighborhood</i>	86
Figure 21. Exhibit display from sub-section <i>Tickle Grass and Sand Burrs</i>	87
Figure 22. Close up of glass case from sub-section <i>Gold in the Flats</i>	88
Figure 23. Exhibit display from sub-section <i>Putnam Heights Today</i>	90
Figure 24. Patio table from sub-section <i>Putnam Heights Today</i>	91
Figure 25. Car as viewed from the Schlegelmilch Section.....	92
Figure 26. Car as viewed from the Putnam Heights Section.....	93
Figure 27. Diagram of how scale changes occur from complex exhibit narrative to simple exhibit Narrative during exhibit development	96

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ABSTRACT

Historical museums take large-scale events and attempt to recreate them within the spatial confines of the museum space. This shift from the large-scale event to the small-scale display is enacted in order to present a history to the public for educational and preservation purposes. This construction of scale, while necessary, is not without consequences. It is important for exhibit designers to acknowledge and understand how their decisions about scale influence the interpretation of the narrative. This study examined the exhibit designer's role in the construction of scale, and the decisions made by them as they construct narrative space. A conceptual framework was generated to examine these issues, and two assessment tools were devised for designers that help to examine the implications of their design decisions on the constructed meaning and significance of the exhibit. Case studies of two interpretive historical exhibits were then conducted using the newly devised assessment methods.

CHAPTER 1. INTRODUCTION

Museum exhibition exists as an important source of cultural, social and political discourse and critique. Numerous critics and scholars have concerned themselves with the political and social implications of museum exhibits. Among the topics most written about are issues of representation, cultural interpretation, and marginalization. Though much has been written by museum scholars, curators, directors, educators, and museologists about the social and political nature of museum exhibits, what is missing is an examination of how museum exhibit designers are able to mediate between scales; that is to say how are they able to take an historical event and reconstruct that event within the confines of the museum space.

This reconstruction of a history within a museum exhibit is a visual representation of that history. Because of the spatial constraints of museum exhibits, those involved with the creation of these exhibits must make choices about how the visual representation will communicate that history to the public. Because not all objects and events can be included in the exhibit, the exhibit designer must always negotiate a balance between what can and can't be included and in what capacity each item can be included. Certain items, both artifacts and props, are chosen to represent a larger context within the exhibition narrative. Priority must be given to certain aspects of that narrative and to the objects that best represent those priorities in a way that communicates the message to the museum visitors.

This act of reducing down a historical event is an act of *social construction* of scale. The process of developing an exhibit is a process of producing a representation for

the public, to show the aspects that are decidedly the most important (representative) to that historical event in a small space. Since the historical event existed in both a time and a space that cannot be recovered or experienced again as it was, both the time (hours, days, years, etc.) and the space (acres, miles, feet, etc) need to be compressed into a single static moment that exists within a museum exhibition space. This compression of time and of physical space into its own visual representation is dependent on the decisions of the exhibit designer and the other museum staff involved in the process of research and the collection of artifacts. Because of this dependency on individuals to make decisions about the representation, and the acceptance of the decisions by the public as factual, the exhibit can be said to be socially constructed. Because of the need to scale a certain time frame of an event—years, for example—into a static representative moment for the exhibit, the exhibit becomes a social construction of time, or timescale. This means that the exhibit creators were able to construct a representation of, for example, a four year span into one exhibit, and that it is accepted by the public (museum visitor) as acceptable and true. The same can be said about the scaling of physical space. Taking several miles of space and re-presenting them in a museum exhibit in a matter of square feet is an act of socially constructed scale. A museum exhibit, then, can be said to be a social construction of scale.

The concept of the social construction of scale has its beginnings in geography derived from the concept of the social construction of space, which was observed and explained by Henri Lefebvre in his book, *The Production of Space*. Since then, it has been reconceptualized by human and physical geographers to include scale as a social construct. This is especially evident in geographical studies of scale constructions at the

regional, national, and global levels performed to change the outcome of certain political issues. The social construction of scale has recently been considered and written about by archeologists as well, questioning what the effects are of removing artifacts from excavations and, in turn, removing them from their original contexts. Archeologists are interested in what is lost in the analysis when a scale construction has occurred. This issue will be taken up again in following chapters, but serves here to demonstrate that the concept of scale as socially constructed is not a new concept, but an interesting one that has yet to be applied and theorized in the context of museum exhibits.

The focus of this paper is the social construction of scale that occurs in the representation/exhibition of a historical event in terms of the items chosen as powerful representative tools of the past. Given that not everything can be included in an exhibit, decisions (both graphic and spatial) are integral to the representation of the past, and are not without certain consequences. The case studies examine this construction through exhibits at the Chippewa Valley Historical Museum. The artifacts chosen to drive the storylines of the two historical exhibits and the effectiveness of the design to communicate those storylines, both graphically and spatially, are both examined.

The position of exhibit designer is held by people with varied backgrounds. It is not uncommon to see professionals in interior design or architecture filling these positions, bringing with them a very keen understanding of both three-dimensional space and manipulations and constructions of space. More recently graphic designers have begun to fill these positions as well, bringing with them unique skills in visual communication. While currently unfamiliar with the concept of social construction of

scale, these designers are well qualified to understand and benefit from an analysis of this topic.

The exhibit designer is in a powerful position to construct and manipulate meaning through the use of widely used visual organization techniques. Though the use of emphasis, repetition, proximity, contrast, and the creation of information hierarchy, the exhibit designer is in control of the way the meaning is conveyed to the museum visitor. The exhibit designer plays the role of mediator between the verbal and written understanding of an idea and the actual visual display; between what is meant to be conveyed and how it will be constructed/represented. Yet without an awareness of the implications of the social construction of scale, this mediation can occur without regard to its impact. This study intends to provide insight to exhibit designers that will help them consider the implications of their construction in historical exhibits as well as to provide tools for analysis and assessment to use when considering both the creation and evaluation of museum exhibits.

CHAPTER 2. LITERATURE REVIEW

Museum exhibition exists as an important source of cultural/political discourse and critique. Issues of representation in museums are largely debated in museum literature, and this review will cover these issues as presented by some of the major voices in the discipline. This section of review provides an overview of the issues of representation, but also demonstrates that although literature and criticism in museum studies has been focused on these issues, it has yet to confront them in terms of scale construction.

The fields of material and visual culture studies are also included in this review to present a broader view of the value of artifacts and objects within cultures, and to point out that though there seems to be a very strong correlation between these studies and that of exhibition design there is currently little or no literature on the impact of these aspects in museum exhibition design.

This chapter also includes a review of the literature from social constructs in general, and social scale construction in particular, in order to demonstrate that concepts addressed in this study can be recontextualized to analyze exhibition design. There is currently no literature on the social construction of scale in the museum literature. This study will show that this concept is useful in considering exhibit design.

The concept of scale will also be briefly discussed in this review, as the term itself is ambiguous and can carry many different definitions and references. This part of the chapter is meant to inform the reader of the ways in which scale is defined for this study, and its relationship to the social constructionist critique that is advanced in this paper.

Finally, the review works to identify a void in museum literature relating to issues of exhibit design specifically. Though museums rely heavily on exhibit designers to create the visual representations of the past, there appears to be no overlap between the literature of the museum world and that of the design world. Books dedicated to the design of exhibitions tend to focus on pragmatic issues such as care of artifacts, ADA requirements, and viewing heights; there is no attention in the literature to the social/political influence of the design itself on how it limits or manipulates the communication of the past, which is the focus of the study at hand.

Introduction to the Museum Literature

“A museum is the best device our culture has developed for the transmission of ideas to large numbers of people through the exhibition of genuine objects. This is the museum’s strength. This is what it can do better than any other kind of institution yet devised...” (Falk 78). The museum is a forum where ideas can be transmitted to the public through the display of real objects or artifacts, but this makes it especially important to develop an understanding of how these artifacts communicate and what the museum’s role is in the communication and representation of ideas, histories, and cultures alike. As such, this thesis bridges the fields of graphic design and visual cultural studies in order to understand how the visual communication in terms of the artifacts (real objects) and the context and created for them work in tandem to construct the representation of the historical past.

Material and visual culture studies are two fields of research that concern themselves with the study of various cultures using the artifacts (objects) left behind.

Material culture, largely developed by archeologists and anthropologists, is the study through artifacts of the beliefs—values, ideas, attitudes, and assumptions—of a particular community or society at a given time. The term *material culture* is also frequently used to refer to artifacts themselves, to the body of material available for such study (Prown 1). Material culture studies, for the most part, restricts its focus to the history and significance of three-dimensional objects, which is largely the case when considering historical artifacts.

Visual culture studies, primarily of interest in the disciplines of art history and sociology, deals primarily with two-dimensional objects such as paintings, images, films, advertising, etc. Researchers writing in visual culture studies are interested in the relationship between the objects and their audience. Eilean Hooper-Greenhill puts it most succinctly: “The focus is the relationship between the object and the subject—the seen and the seer. This focuses directly on processes of interpretation, and on the ways in which objects become meaningful” (Hooper-Greenhill 108). Though both material and visual culture studies have begun to concern themselves with how these objects translate into museums, very little work on this has been done.

It is the role of the museum to display such artifacts for public consumption. Eilean Hooper-Greenhill writes in *Museum and the Interpretation of Visual Culture*, Museums are sites of spectacle, expository spaces, where exhibitionary complexes are sited. Museums pride themselves on being places where ‘real objects’ can be seen. This notion of ‘the real’ is a powerful and enduring one. However, the assumption that vision is autonomous, and that objects are unmediated, needs to be examined. Vision should be

aligned with interpretation rather than perception (Hooper-Greenhill 14-15).

Hooper-Greenhill emphasizes the notion that the strength of the museum is the ability to expose original artifacts for study by the public, but she is careful to explain that there is always going to be mediation between the notion of the ‘real’ and the notion of the displayed. Though we can display ‘real objects’ these objects are no longer the ‘real objects’ they once were; they have been taken out of the original context and entered into a new one, a constructed one. Michael Baxandall, assistant keeper of the Department of Architecture and Sculpture at the Victoria and Albert Museum and lecturer and professor of the history of the classical tradition at the Warburg Institute, University of London, elaborates on Hooper-Greenhill’s notion that museum artifacts are not unmediated. He writes:

It seems axiomatic that it is not possible to exhibit objects without putting a construction upon them. Long before the stage of verbal exposition by label or catalogue, exhibition embodies ordering propositions. To select and put forward any item for display, as something worth looking at, as interesting, is a statement not only about the object, but about the culture it comes from (Baxandall 34).

Further, he continues, “To put three objects in a vitrine involves additional implications of relation. There is not exhibition without construction and therefore—in an extended sense—appropriation” (Baxandall 34). That is to say that putting more than one artifact together in an exhibit creates another level of construction or representation. A relationship between the objects is created and though it may be true that the objects

share certain attributes that are best accentuated in a comparison, the relationship between the objects is then also constructed. Tony Bennett, Professor of Cultural Studies and Foundation Director of the Institute for Cultural Policy Studies in the Faculty of Humanities at Griffith University, Australia, pushes this notion one step further, suggesting that not only are artifacts no longer the real objects but they become rhetorical objects. In his book, *The Birth of the Museum: History, Theory, Politics*, he writes:

For the artifact, once placed in a museum, itself becomes, inherently and irretrievably, a rhetorical object.... No matter how strong the illusion to the contrary, the museum visitor is never in a relation of direct, unmediated contact with the "reality of the artifact" and, hence, with the "real stuff" of the past. Indeed, this illusion, this fetishism of the past, is itself an effect of discourse. For the seeming concreteness of the museum artifact derives from its verisimilitude; that is, from the familiarity which results from its being placed in an interpretative context in which it is conformed to a tradition and thus made to resonate with representations of the past which enjoy a broader social circulation (Bennett 146).

Bennett makes a very strong argument about the nature of the past and about the role of museums within the construction of the past. Since the viewer or the audience will never be able to come in contact with what Bennett refers to as the "reality of the artifact" or "the real stuff" of the past, that situates the museum in a position to control the representation of these artifacts and the representation of the past itself. Jules David Prown, in his 1995 article entitled: *In Pursuit of Culture: The Formal Language of Objects* writes,

An artifact...is an historical event, something that happened in the past. But unlike other historical events, it continues to exist in the present and can be reexperienced and studied as primary and authentic evidence surviving from the past. The past was a reality; it happened in certain ways in certain times and places. But the past cannot be retrieved in its affective totality. We can never recapture what it was like to have been there and to have experienced it. We can determine small truths about what happened in the past, but they coalesce into a large falsehood. History is untrue; it has to be. Recognition of this does not invalidate it but simply underscores the obvious fact that the past is over and done with and, absent a time machine, cannot be recaptured whole. The history that we retrieve is our interpretation of what happened, a myth or fiction that helps us explain how the world in which we live came to be (Prown 2).

Prown's assessment of the artifact and its value also situates the museum in a role where interpretation is needed to control the representation of an artifact. In Prown's case, he believes that we cannot hope to retrieve that past, all we can do is interpret it as best we can to learn something about how it is the event may have impacted the world in which we live. Again, the museum is placed in a power position for demonstration to the public, or to the collective 'us,' what it is we came from and how we came to be. The museum is given the ability to situate history and the way in which the public will come to understand it.

Steven Dubin writes about museums in his book, *Displays of Power: Memory and Amnesia in the American Museum*, "They no longer merely provide a pleasant refuge

from ordinary life, nor are they simply repositories of received wisdom. Museums have moved to the forefront in struggles over representation and over the chronicling, revising, and displaying of the past” (Dubin 5). It is this notion that the institution of the museum holds control over what Dubin refers to as the ‘chronicling, revising, and displaying of the past,’ that causes many concerns in museum discourse.

It has been established that the museum as an institution is responsible for the interpretation, the representation, and the display of both material and visual culture, but what needs further review how the decisions within the museum institution get made regarding how to create the representations. It is necessary to look at who and what is involved in the decision making process and to what extent. In the introduction to their collection of essays entitled, *Exhibiting Cultures*, Steven D. Lavine and Ivan Karp write,

The struggle is not only over what is to be represented, but over who will control the means of representing...What is at stake in struggles for control over objects and the modes of exhibiting them, finally, is the articulation of identity. Exhibitions represent identity, either directly, through assertion, or indirectly, by implication. When cultural “others” are implicated, exhibitions tell us who we are and, perhaps most significant, who we are not. Exhibitions are privileged arenas for presenting images of self and “other” (Karp, Levine 15).

Authors Karp and Levine make an important observation in the above passage. They call into question what it is that is being represented, and then offer an answer: identity. The other answer offered in the quotation is who is in charge of representing this identity and again offer two possibilities: the “self” and the “other.” Representing oneself or one’s

own culture allows for a relevant cultural understanding of what is to be represented and in what way. However, when the representation of something or someone from an outside culture is to be represented, the interpretation process becomes much more complex. Karp and Lavine call into question the ability of a cultural outsider to create an accurate and acceptable “identity” or representation of another culture.

This notion of the ‘self’ and the ‘other’ is worth examining, especially in relation to the understanding of the museum visitor and the curator. Especially pertinent to the art museum, but not irrelevant to other categories of museums, the influence of the artist or the culture being exhibited may not be fully visible. In speaking about an art museum, Susan Vogel writes in her article, *Always True to the Object, in Our Fashion*:

An art exhibition can be construed as an unwitting collaboration between a curator and the artist(s) represented, with the former having by far the most active and influential role. Ironically, the curator’s name rarely even appears in the information available in an exhibition (except as the author of the catalogue), and the public is given the false impression of having come into contact with “Goya,” Warhol,” or “African Art,” for example (Vogel 191).

Vogel’s observation of the viewers understanding paired with the curator’s intention is cause for review. Vogel has a strong belief that it should be apparent to the viewer the role of the curator or even the role of the museum itself. She continues,

Museums, it seems to me, have an obligation to let the public know what part of any exhibition is the making of the artists and what part is the curator’s interpretation. Disentangling those two elements, however, may

not be easy, since at least some of the curator's understanding of his or her material may rest on unquestioned and unexamined cultural—and other—assumptions (Vogel 191).

To call into question the ability to disentangle the work of the artist and the work of the curator is an interesting endeavor. As Vogel writes, it may not be easy because by the curator by nature is not the artist, nor is the curator likely to be part of the culture on display. It is true and even likely that the curator or the museum may not intentionally misrepresent or misinterpret artifacts, histories, or artworks. These institutions have a mission to present the materials accurately to the best of their ability and to allow others to learn from them.

Karp and Lavine make a distinction about the more political nature of museum exhibits. Museum exhibits are well-intended things, meant to deliver information to the public. These good intentions however, are in principle but not in practice. They write,

The messages communicated through the museum effect do not have a predetermined content. Museums and their exhibitions are morally neutral in principle, but in practice always make moral statements; even the assertion that “art” is exempt from moral, social, and political judgments, implies ideas about what is and is not subject to certain forms of criticism. The alleged innate neutrality of museums and exhibitions, however, is the very quality that enables them to become instruments of power as well as instruments of education and experience (Karp, Levine 14).

Social Constructs

Since the focus of this study is on scale as a socially produced concept and graphic construction, it is necessary to provide a definition and brief overview of the concept of social constructionism. This section does not attempt a comprehensive literature review on social construction, but rather provides a context and a framework for the scale construction that this particular study wishes to analyze.

Social constructionism is a sociological theory of knowledge having roots in logical positivism and Marxist theory (Hacking 43). It is about looking to uncover the ways in which individuals and groups participate in the creation of their own perceived reality. Philosopher, Ian Hacking who specializes in the philosophy of science, writes in his book *The Social Construction of What*, “Social construction work is critical of the status quo. Social constructionist about X tend to hold that: (1) X need not have existed, or need no be at all as it is. X, or X as it is at present, is not determined by the nature of things; it is not inevitable” (Hacking 6). Hacking, here, is describing the logic of constructionism, pointing out that the reality of something is only as it is because people have collectively reinforced an idea until it is accepted by all as the way it is. In other words, the way something is, is not determined by nature, but of the collaborative efforts of people believing it is so; what we believe to be true becomes true. People understand the world and each other as representations of what they actually are. “Constructionist theory suggests...representations have always had a slippery relationship to their supposed referents” (Gergen 203).

Many topics can and have been challenged as social constructions including all of reality in the book, *The Social Construction of Reality* written by Berger and Luckman in

1966. Berger and Luckman argue that all of reality is socially constructed. Their argument is that reality is reproduced by people acting on their interpretations. When people interact, they do so with the understanding that their respective perceptions of reality are related, and as they act upon this understanding their common knowledge of reality becomes reinforced, creating the reality that individuals accept as naturally determined (Berger and Luckman 1974). The Berger and Luckman argument is considered one of the most radical, it is important to note that many social constructivists do not take such an overwhelming view.

Gender is one of the most commonly written about social constructions, noting that the biological difference between men and women do not account for the social differences between the genders; that gender roles are prescribed by culture, and not by science makes gender a social construct. Hacking references a famous line from French author and philosopher, Simone de Beauvoir. In *The Second Sex*, “*On ne nait pas femme: on le devient*; One is not born, but rather becomes woman” (Hacking, 7, de Beauvoir 267). Woman, as we understand it, is not biological, but a cultural construction. We have created the image of woman and the role she is to fill through cultural reproduction and collective reinforcement. The collective has constructed the female role, so it has been socially constructed. “The constructionist argues that the product is not inevitable by showing how it came into being (historical process) and noting the purely contingent historical determinants of that process” (Hacking 38). Museum exhibitions are certainly not exempt from this form of construction as it is essential to understand that a story can be told many ways. The narrative of the exhibit is constructed by the museum staff as a representation of a specific historical past. As Guy

Debord writes in his book *Separation Perfected*, “Everything that has directly lived has moved away into a representation” (Debord 95-96). In the case of museum exhibition, this representation is the responsibility of those involved in its physical creation as a public display.

Defining Scale

In order to better situate scale within the realm of social construction, it is first useful to discuss the concept of scale itself. What at first seems a straightforward concept, turns out to be something much less tangible and much more abstract. This section is an attempt to contextualize the notion of scale as it is used in this study.

To define scale is a matter of interpretation. The Oxford New English Dictionary dedicates more than half a page to the multiple interpretations of this word, and the Encyclopedia Britannica cites more than twelve separate uses of the term scale, each with its own set of subcategories. What is apparent when attempting to define scale is that it cannot be ontologically defined and each discourse develops a working definition that can be used to describe the materials of their particular interest. What can be learned from a loose reading of nearly all of these interpretations is that scale is the way in which we view or understand something in comparison to something else.

In many disciplines scale can take on a very straightforward interpretation referring to the actual physical size of something. In the fine art fields such as painting or sculpture, for example, scale can refer to the actual physical size of a canvas or the finished piece of marble. We can say that the painting is eighteen inches tall, a comparison to the standard unit, the inch. We can also say that the sculpture is eighteen

feet tall and took more than ten years to create. This circumstance interprets scale in two different ways, one as a measurement of both physical size and one as a measurement of time referred to as timescale. To delve one level deeper into the interpretation of scale, it may be determined that this particular sculpture will be located in a prominent place in a city and will be referred to as a large-scale project making reference to several issues such as importance, cost, size, resources, and time.

If the sculpture happens to have been created by Claes Oldenburg, the interpretation of the term scale can play another important role in the equation. Oldenburg famously takes the everyday object, let it be a clothespin, a garden trowel, or a typewriter eraser and recreates it at an enormous size. All ties are broken to our previous relationship with that particular object no matter how familiar it may have been at its original size. The object has not only been physically scaled but it has also been contextually scaled; that is to say removed of its original context and now placed in a new one, creating a relationship that is unrecognizable as it once was.

To look at scale as a comparison is to assess value onto something based on considering the relationship of relative opposites. In Oldenburg's case it is the relationship of knowing and seeing, object and environment, the personal and the collective that is called into question. This use of scale is a way of changing perspective or the way we see both the object itself and its environment. We understand that the clothespin no longer is a clothespin at all but something entirely different. We can no longer hold the same expectations as we did in its original scale (context), we now see it as a new item with a new identity. "Scale is therefore closely linked to perspective, such

that scale is used to provide structure and context for any given perspective, and by extension, a crucial element to situating interpretive statements” (Ridges 145).

There is a similar change in perspectival scale or contextual scale when we consider the relationship of the historical to the present. Studies in material and visual culture are an attempt to read or analyze artifacts to learn about the culture in which they were produced. Eilean Hooper-Greenhill writes, “Since the late nineteenth century, researchers in the human sciences have become interested in the study of physical objects to determine culture. This resulted in museums of archeology as well as the field of material culture studies....Objects are seen as having life-histories that can be followed and analyzed” (Hooper Greenhill 107). Like Oldenburg’s objects, these objects, too, have been taken from their original scale, both in time and in perspective, and have been placed in a separate scale to be compared and analyzed. Given this juxtaposition, how is it that the past can be scaled both in time and in physical space in order to be studied and represented?

Oldenburg’s sculptures provide a comparison between the familiar and the unfamiliar, but these are relative terms. Familiar in comparison to what? The objects he chose are familiar to us when they are in their original scale or the scale relative to ourselves that we have come to understand as human scale. Human scale makes reference to our understanding of how big things should be in comparison to our own body. We believe that a clothespin should fit neatly in our hand and a building should tower over our heads. Oldenburg uses this understanding of scale to his advantage. This same idea of human scale translates over time. The way we understand time is also based on a human scale, most often the human lifespan. The farther something is from the

present the more difficulty we have in understanding or contextualizing. In the same vain, the more we try to understand the makings of history the more the time has to be compressed. There is no way to isolate a moment in time; even as we experience the present every moment that goes by becomes history. We can only generalize about a certain artifact and about a time period and work to contextualize it within our understanding of the world at present.

An artifact is only a small piece of history; at this scale, the problems of analysis are complex, however, scale gains even more complexity as one begins to consider the scale of an entire historical event or even the historical canon. Like Oldenburg's objects, when considered one at a time they may have a marginal effect, but when all objects are considered simultaneously the scale changes and history itself begins to change. For example, Martin Wobst explains this in terms of archeological discovery, where one might compare, "...an artifact (or a grouping of artifacts) as the smallest possible unit size, to one continuous entity (the entire archaeological record, discovered and as yet undiscovered) as the largest possible unit size, with an infinity of potential spatial unit sizes in between. At each unit size, one would learn something different about human behavior" (Wobst 56). At each scale a new context presents itself and a new interpretation is available. In this way the scale of history has been reduced to the scale of analysis or data that can be collected about the particular artifact, the feature, or the event.

It is useful to look to the human sciences to discover how an artifact is scaled and finds itself as representative of the culture it belongs to since it is the artifact that stands for the culture within a museum collection. Researchers in anthropology have begun to take up the issue of scale as it relates to representation and perspective.

“While theoretical discussion tends to focus on the fit between the scale of analysis of archaeological phenomena and the scale of the cultural life that produced them, the crucial relation is our own, materially and socially, to the information we retrieve. The typical analytical environment consists of artifacts at least twice removed from the original contexts and most often from utterly different cultures than our own, imagined against an arid background of maps and images that substitutes for the real world” (Molyneaux 67). Here, anthropologist Brian Molyneaux questions our ability to move from one scale to the next in order to make sense of artifacts. Using scale here as perspective, how is it possible for us to even begin to analyze artifacts? We cannot ever know what the true context was, and even if we did, we could not go back in time to experience these things in the same way that the original owners did. This is another change in scale, this is a change in timescale. Chris Gosden and Karola Kirsanow provide an example of the difficulty in analyzing an artifact, given that there are elements working within culture that drive many of the attributes of the artifact that are difficult to see outside of the culture. There is no one reason or one way to see things in any given time. They write in their article, *Timescales*, “A useful analogy is the contrast between perspectival painting and Cubism. Constable’s *The Hay Wain* depicts a bucolic English landscape at a human scale, complete with buildings, human figures and the hay wain itself as comforting reference points. The paintings of Picasso’s Cubist period are much harder to assimilate, precisely because they introduce the temporal dimension of human experience to explore what an object looks like when the various angles from which it can be seen are rendered in two dimensions. Scale is not a strong quality of cubist

painting and in the same way timescales in archaeology are hard to judge due to their internal complexity” (Gosden, Kirsanow 30).

The artifact provides us with material to study but we can never reconcile the fact that our perspective is just that, ours. We cannot go back and determine what really was the context. In 1991, hikers on the Italian side of the Otztal Alps discovered a frozen hiker thought to be more than 5,000 years old. In this example of the Otztal hiker there are many temporal scales that we have difficulty reconciling though the evidence has been almost perfectly preserved for us. The Otztal Iceman, alone, represents several different scales of interpretation. His body represents a span of many decades or a perceived human life span. His tools represent traditions and modifications developed from early models throughout time, an undeterminable length of time, only understood as much longer than a human lifespan. His clothing and stomach contents tell us only about the last part of his life. This can only be understood in days and relative to the activity he last participated in, climbing in the mountains. We can only begin to piece together what this means about this particular man’s history let alone the history of his larger environment, community, region, country, or world. This is a snapshot of one day of his life, only a mere cross-section of what it may have been like to be this particular man on this particular day. What this means for spatial scale is twofold, it is of primary interest on a local scale in terms of what that time period meant during the iceman’s lifetime, and on a more global scale in terms of his miraculous preservation for the advancement of science (Gosden, Kirsanow 35).

The role of the museum is to recontextualize these artifacts within its space to recreate or to produce a narrative that provides the museum visitors a way to experience

or begin to know about the particular history. This changes the scale once again. It has been established that the artifact now is a scaled representation of what it once was, forced through an interpretation to determine its original purpose, meaning and significance.

These artifacts can help us to understand the past, but they are not longer the objects they were. This puts a strong responsibility on those whose duty it is to interpret, since the object stands only as a scale model of the reality of what it once was. In another article, Jules Prown elaborates on an observation about reality; he writes, “Because we cannot really experience a reality other than the one into which we are locked in time and space, we can make only limited use of an artifact as an informational sign, as a referent outside of itself, as an implement” (Prown 16). We have to participate in a scale transformation of time and space, as it takes more than a bit of imagination to interpret these histories.

Referring to the archeological process and mapping techniques Larry Zimmerman and Jjow Artz write, “Scale is defined here as the ratio between the size of something and *a representation of it*. By constructing a representation, we build a model of some reality, such as an artifact, feature, or event. Models are abstractions containing what are understood of believed to be the salient features of that reality” (Zimmerman and Artz 191). Although this passage speaks about the nature of mapping this easily translates to the role of the museum. A map in a sense is a scale model of the earth that is under study. The map is meant to reveal the areas that seem most important to best represent the area in question. In the same way, a museum exhibit is a map of the historical event. Because there is no way to go back in time, we can only try and determine the salient

features to best represent that history. We are in turn creating a scale model of a time, a perspective, and a context that we cannot ever fully recover. “The ultimate uncertainty of the past makes us all the more anxious to validate that things were as reputed. To gain assurance that yesterday was as substantial as today we saturate ourselves with bygone reliquary details, reaffirming memory and history in tangible format” (Loewenthal 191).

At first thought, the word scale is a modest one. It seems rather one-dimensional and can be easily used to supply a comparison to something commonly understood, but after further thought and investigation, the notion can take on some very powerful interpretations. The idea that we are somehow able to compare one thing to another could be as simple as apples to apples, but we often strive to compare things that don't even have the same common denominator. Even an apple from one hundred years ago may be much different than one we would pick up today. We need to consider scale and an interpretation of one thing compared to another, but we also need to keep in mind that we are only comparing something within our own perspective. This is the nature of the present, our reality. The farther away the object is from the present, the more scale comes into play and the more difficulty we have in understanding or contextualizing.

“Is it not the characteristic of reality to be unmasterable? And is it not the characteristic of the system to master it?”

~Roland Barthes (Hutcheon 24).

Social Construction of Scale

Since the mid 20th century, scholars have begun to develop a body of research on the social construction of scale. These studies have been primarily conducted in the fields of geography and archeology and have yet to be discussed in their application to design and the specific role of the designer as mediator or communicator to the general public. This section of review will present a brief history of the literature on the development of this concept and its use.

Much of the research being conducted on the social production of scale comes from social and human geography, and is based on the observations offered by Marxist philosopher, Henri Lefebvre. Lefebvre's 1974 book (translated into English in 1991), *The Production Of Space* discusses space as a social production/construction. Lefebvre takes the reader through explanations about how we construct space, and how that space is constantly being reconstructed and redefined by the people who inhabit it. Lefebvre argues that space is socially produced/constructed by cultural perceptions and values that affect the spatial practices (Lefebvre 1991). In other words, a church, for example, is only understood as a church because it has been collectively produced and understood that way; it is not an inevitable end in itself. Further, because people understand a church as having a specific function, the practices that happen in that particular space are also socially produced.

Scholars in geography have been able to adapt Lefebvre's observations of socially produced space into issues of the way geographic scale, too, has been socially produced. There has been much attention paid to the way the local, the national, and the global conceptual scales can be manipulated to gain certain power, economic, political or

otherwise. “Attention has been drawn to the relations between, and influences of, processes operating at different geographic scales (such as the local and global), and how they interact to produce incentives and motives for political action” (Miller 1994). In his article, *The Political Construction of Scale*, David Delaney cites scholars such as John Agnew and Andrew Herod. Each has significantly contributed to the body of literature on scale production. Andrew Herod has most notably written about the geographical scale production of east coast longshoremen after World War II. After the war, the changing US economy no longer required merchants to ship from local ports. Emphasis was given to prioritizing the most economical solutions rather than the most convenient, and longshoremen began to compete for work and wages. There was a need to unionize and, in turn, to change from small local operations to a large national operation, the International Longshoremen’s Association, to present a unified front, managing as one unified system rather than bargaining port by port (Herod 1997). This example demonstrates a shift in scale from the local or regional to that of national power.

In his article, *The Rhetoric of Regionalism: The Northern League in Italian Politics*, John Agnew presents socially constructed geographic scale as it is evident in Italian political movements. He discusses the rise of the Italian Lombard League/Northern League as it rose in power from 1983-1994 by combining forces with five other northern leagues to move from small regional/local powers to a more powerful national force. (Agnew 158). Unifying power at several local or regional scales led to power at a larger scale, the national level that assigned enough power to the Northern Italian League to gain control, while still maintaining the ties to the local communities.

In her article *The Social Production of Scale*, Sallie Marston delivers a comprehensive review of the literature on scale production, also beginning from theories offered by Henri Lefebvre. According to Marston, scholars have been able to suggest that there are at least three tenets that currently constitute our understanding of how scale is socially produced. “The first is that scale’...is not simply an external fact awaiting discovery but a way of framing conceptions of reality.’ The second observation is that the outcomes of these framings - the particular ways in which scale is constructed - are tangible and have material consequence...Finally, the framings of scale - framings that can have both rhetorical and material consequences- are often contradictory and contested and are not necessarily enduring. In short, scale construction is a political process endemic to capitalism, the outcome of which is always potentially open to further transformation” (Marston 221).

Marston is able to make the jump from scale construction in physical geography to women’s studies and scale construction as it led to women’s movements in the beginning of the 20th century. Marston’s own research is focused on the household during the years 1870 to 1920, when women were able to transform their roles as mothers and wives to household managers. They were able to adapt the research on scientific management systems and take control at the scale of the household to produce books, pamphlets, and other materials that could influence other women in other households, eventually empowering women to join in and contribute on larger and larger scales until certain women’s movements were able to make changes at the national scale. Marston’s article demonstrates how the manipulation of scale from the household to the region and finally to the nation can be used to influence and change the context of perspective.

It is this demonstration that can be applied to museum studies only in the reverse: we need to consider first the larger scale or the scale of the historical event and then to scale it down to what can be collected, interpreted, and represented within a museum space and what determines how the museum space is configured. Much of this relies on the artifacts present in the museum's collection, the curator's abilities and knowledge, and that of the exhibit designer. It is the interpretation of the artifacts and the analysis collected that begin the interpretive process of reconstructing and representing the past, but it is the history museums special responsibility to educate the public about the past through the use of these artifacts and data interpreted through the use of narrative contexts. It is the use of artifacts and the scale of interpretation and representation that shape the way the public views itself. The museum's role is to perform a scale transformation that allows these artifacts to serve as a representation of their original context. The museum space attempts to hold much more than can fit within its walls and the way in which the materials are interpreted and displayed have effects on the understanding and interpretation of history. In this way scale can be defined as a powerful social product, with social and political implications. Building on this social constructionist framework, new research can be conducted to study the effects of scale production in the design of exhibits for historical museums.

Exhibition Design

There have been several books written dedicated to the creation of exhibits for museums, trade shows, and world fairs. As a general rule, these books provide information on the appropriate processes and strategies for the creation of an exhibit from

conception to execution and eventually evaluation. They also provide information regarding certain managerial and curatorial strategies such as proper treatment of certain types of artifacts, (temperature, protective lighting conditions), and some books even offer pragmatic design-specific information such as type sizes, viewing angles, special effects, and aesthetically pleasing solutions to attract a visitor's attention. Though these books are useful in the pragmatics of exhibit planning, they offer few resources for dealing with the production of meaning and the scale construction that is charged to the museum staff when producing a representation of a historical event. There are, however, a few exceptions, which are discussed here.

In a book specifically written to tell the story of the U.S. Holocaust Museum in Washington D.C., authors Weinberg and Elieli write of narrative museums, "The narrative museum goes beyond displaying collected items. It is based on the premise that exhibits have to be presented in a context that allows their full significance to be understood and appreciated. The narrative continuum is as important as the objects themselves. Drawn into the flow of the narrative, visitors view the display with their sense tuned to sequence, coherence, and transformation" (Weinberg and Elieli 49). Clearly the authors understand that the design of the display constructs meaning and directs interpretation, and that the design of exhibits plays a very important part in the interpretation and understanding of the event being exhibited. Weinberg and Elieli speak specifically of sequencing, coherence, and transformation, all of which is under the control of the museum staff. This implies that there are many ways to tell the story and each one has its own implications.

It is Weinberg and Elieli's argument that in a narrative museum it is a historian rather than a curator that is better suited to provide the academic expertise, and that an exhibit of this kind "Needs a designer with experience in the conceptual design of narrative historical exhibitions and a thorough mastery of the historical subject" (Weinberg and Elieli 52). Weinberg and Elieli are placing greater significance on having a thorough understanding of the material to be presented. Rather than relying on knowledge of the artifacts, they contend it is a sound knowledge of the event that is of utmost importance. Weinberg and Elieli fully acknowledge that the creation of an exhibition is an interpretative process. They state, "Surely the narrative approach is not of exclusive validity, not even in the domain of history museums. But it is probably one of the best ways for history museums to realize their educational potential" (Weinberg and Elieli 50). It is clear that though it is a fully acknowledged fact that the historical event can never be retrieved and represented as it was, and that certain parts are lost to history, using a narrative approach can maximize the learning potential of certain aspects of that event. They continue, "Every narrative is an interpretation by the storyteller, and in this case the interpretation had to be twofold: as a basic historiographical retelling and a design-oriented one" (Weinberg and Elieli 54).

Weinberg and Elieli also include some discussion of scale in their account. They write, "Aware of the fact that large exhibits are visually much more impressive and effective than small ones, the planning team tried to obtain as many large objects as possible for inclusion in the exhibition" (Weinberg and Elieli 68). Many of the artifacts desired for the U.S. Holocaust Museum were much too large to be brought to the United States. Among them are the Warsaw wall, the gate of the Auschwitz death camp, the

door to a gas chamber and the front of a crematorium. Since the inclusion of these artifacts was considered so integral to the museum, an exception was made and fiberglass replicas of these objects were substituted for the artifact itself. In the case of the Auschwitz gas chambers, a sculptor was hired to create a small-scale model (a miniature). This model and the fiberglass replicas were the only exceptions to the rule of including only authentic artifacts. (Weinberg and Elieli 57).

Other design considerations had to be made for the large objects that were included in the exhibit. The boxcar, for example “affected the circulation path, since visitors were to walk through it, and its height affected the building because in order to accommodate it, the floor had to be lowered” (Weinberg and Elieli 60). The Auschwitz barracks also created a situation where it was possible to create an environment with death-camp related artifacts (Weinberg and Elieli 60). The authors point out that in some cases, larger objects were sought out even when their importance was marginal. They write, “In some cases the almost obsessive quest for large artifacts led to the acquisition of objects that had only dubious value for the exhibition, as in the case of the burned-out fragment of a German missile probe.... (Weinberg and Elieli 68). Since it was known that larger objects naturally attract attention, it became very easy to become fascinated with larger objects even when the meaning wasn’t necessarily significant to the storyline. It is clear that to include objects that are known to attract attention and imply significance, when they are not in fact significant, would be a neglectful misrepresentation and a fault in the design that would cause misinterpretations of the event.

Weinberg and Elieli point out that there was also an advantage to displaying smaller items. They write, “on the other hand, there was widespread sentiment among team members for small personal Holocaust memorabilia. This was perhaps understandable from the human point of view, since many of the small objects represented very touching stories” (Weinberg and Elieli 68). Again, it is noted that the quest for the small items (artifacts), which it was concluded better represent individuals, was also a very attractive solution to creating attention. It was very important to the museum to verify and analyze all items before presenting them in the exhibit. It was clearly understood by the design team that the context of the display was a powerful tool that could change the story.

The negotiation between the inclusion of the very large and the very small did not end with the artifacts. There was also some discussion presented as to the photographs and what size meant in terms of representative qualities of the photographs. The authors write, “Although some team members frequently favored inclusion of vintage snapshots in their original small size, it was agreed, on the whole, that the exhibition needed large visuals, even if this meant displaying fewer photographs on the walls and panels” (Weinberg and Elieli 66). The acknowledgment of this being an active decision made by the design team that influences the message comes closest to this study’s investigation of the implications of scale in exhibits of all existing literature.

Other literature in the field of museum exhibition is less relevant to this study. Books on exhibit planning and the design of exhibitions such as *Exhibits: Planning and Design* seek to address pragmatic issues in exhibit creation. Author Larry Klein speaks about understanding demographic records and target audience. He informs designers

about technical issues such as the ‘cone of vision,’ lighting, color, etc. He makes important observations about creating exhibits that require a lot of reading when the museum visitor has come for a more interactive learning experience. Klein does, however, make a few statements about the nature of representation when exhibiting objects within a museum context. He discusses the differences in object oriented versus concept oriented exhibit displays. He states, “An object displayed in a museum acquires an aspect of meaning and significance that was never intrinsic to its original purpose” (Klein 69). Here, Klein notes that an artifact by itself does not hold meaning without context. He points out that the artifact’s meaning is held only in its original context and when placed in a museum does not exude that meaning, but another meaning that is created by the context of the museum. What a reader must remember is that a museum is just a building; it is the active or passive decisions made by the museum staff that create meaning and context and ultimately control what and how the museum visitor will see.

Klein provides an example of the effect of creating context. He compares a renaissance painting hanging in the Metropolitan museum to a washboard displayed in the Smithsonian. His argument is that the painting is much less removed from its context than the washboard because of their original meaning and context. He writes, “The reasons for this are complex and not dependent on time and space but depend more upon the character of the objects themselves and the new setting in which they are placed. The incongruities of time and place upon objects can be mitigated to some degree by altering the museum environment. Design can provide the context and help reduce the barriers to appreciation and understanding” (Klein 69). Here, Klein acknowledges the role of the

design in the creation of meaning for an object and the importance of interpretation and understanding.

Designing Exhibitions: A compendium for Architects, Designers and Museum Professionals, by authors Bertron, Schwarz, and Frey reads as a pocket-sized how-to guide for developing an exhibit. The book presents sequence of phases required to develop an exhibition: concept, design, planning, production, implementation (Bertron, Schwarz, Frey 9).

The book is intended to be a quick reference guide for processes such as sketching, modeling, planning the space around the building architecture, lighting, presenting new media, etc. The book seems to present a very clear cut, almost scientific way of constructing an exhibit. Direct statements seem to drive the development such as, “A clear exhibition concept defines overriding themes that constitute the basis of all subsequent design decisions” (Bertron, Schwarz, Frey 22). Or, “The method of presentation is based on the specific task that has been set. If this task is to present as vivid an image as possible of the past, then one might select a highly realistic form of illustration, which provides a picture of life in the past with the precision of a photograph” (Bertron, Schwarz, Frey 135). These statements clearly illustrate the highly pragmatic and directive nature of this book. The authors do, however, manage to emphasize the importance of the designer to the project: “The success of the final design product hinges on a consistent presentation of both form and content. The stance a designer takes determines the quality of the result” (Bertron, Schwarz, Frey 19). Here, the authors point out that it is the designer who holds much of the power to make

decisions that control the final output, and ultimately the decisions that scale the overall theme into the exhibit space.

In his book, *The Museum Interior: Temporary and Permanent Display Techniques*, Michael Brawne discusses the importance of the designer's role and the exhibit design itself in determining meaning for the artifact on display. Speaking about the importance of the controlled sequencing of objects, Brawne briefly discusses the way meaning can change when similarity or difference are emphasized in exhibit display. He writes, "The way in which any sequence is controlled or is free is thus likely to alter our awareness of objects and especially their initial impact" (Brawne 10). He goes on to describe how sequencing can add to the understanding of the progression of time or evolutionary development. Also in the same section, Brawne spends a great deal of time discussing the different types of galleries and the option they provide for displays.

"When an object is selected for display, whether it is a sculpture or a steam engine, it immediately acquires through the action of being singled out certain attributes with which it is not normally invested. The act of selection implies a measure of specialness, or interest, of value" (Brawne 18). In this statement, Brawne, like many other museum writers, points out that objects displayed in a museum have been taken out of their original context and have been re-contextualized to represent a meaning much more significant than their original. When he says 'act of selection,' he also points out that objects do not appear in exhibits passively, it is an active decision by someone to include and give meaning to a certain object. Brawne takes this notion one step further to suggest that placing these objects in a very particular context can further emphasize their 'special meaning.' He speaks of aedicular space, or a scaled down architectural space

created specifically for a particular object emphasizing both its size and meaning (Brawne 21).

Brawne furthers his discussion of museum exhibit display technique and makes somewhat clear that there are repercussions to design decisions. Speaking of a possible exhibit on the painter Piero della Francesca, Brawne argues that the exhibit display could go many ways. It could place the artist in his historical context, it could describe the technical means of a painter during that time, or it could speak about the symbolic meaning of the work. However, Brawne argues that, "...it must, in the last resort, leave an understanding and an awareness of the nature of these paintings to the visitor.... its message cannot in any way be predetermined or defined in any sense which is not trivial; ambiguity is here a virtue" (Brawne 22). Here, Brawne is acknowledging that there is much at stake when considering design decisions. How can a designer provide enough information for the visitor to understand the intention without placing subjective value on the objects themselves? Brawne points this out, however, he does not offer a solution. Instead, he states, "In many ways it makes the design problem more difficult rather than less so" (Brawne 22). Though Brawne appears to acknowledge the problems of design decisions and display, his only suggestion for dealing with these problems is to conclude that each exhibit needs to be considered individually.

"Exhibition design must thus always concern itself with judgments about appropriate techniques of presentation, related to both the nature of the material and its position within the concept of the display as a whole."

~Michael Brawne

In his book *Exhibitions in Museums*, Michael Belcher discusses scale briefly in a section outlining the advantages of exhibition as a medium of communication. Belcher writes, “[Exhibition] can work at scales appropriate to those of the objects to be shown and facilitate a ‘bridging’ function so essential to making viewing comfortable on a human scale” (Belcher, 38). He is speaking of the unique attribute of a three dimensional space to create a situation where an object can be situated in relation to the viewer in order to create a sense of importance or interest. He continues, “Small objects can be given some prominence and positioned in a way that enables them to be seen, and larger objects distanced or brought close to heighten visual interest as needs dictate” (Belcher 38). Belcher points out that the positioning of objects, large or small, can be a powerful tool in designing for visual communication; however, when he finishes the statement ‘as need dictate,’ he is leaving out the social or political implications that these visual techniques create. There is no discussion of how to determine such ‘needs,’ and further how creating visual interest or certain importance effects the overall construction of the representation. Belcher includes these observations in order to make his reader aware that exhibit designers have tools to create visual hierarchies that aid in storytelling, but his interest is limited to the specific advantages of an exhibit as opposed to two-dimensional media. The larger focus of his book is the discussion of more pragmatic issues of exhibits such as the economics of production, efficiency, ergonomics, and physical and resource limitations.

Giles Velarde takes a similar approach to Belcher for the design of exhibitions in his book, *Designing Exhibitions: Museums Heritage, Trade and World Fairs*. Though his book is primarily intended to educate designers in practical matters of exhibition design

such as the suggested processes, techniques, and viewing angles, he includes a discussion of scale as a technique in a few different instances. He writes, “The very large and the very small always create a peculiar interest. Their context is equally important. A very large object on a huge exhibition stand will simply look normal, but if it is apparently cramped in, its scale will be exaggerated. Similarly very small objects shown individually in special cases will have their smallness and their value enhanced by this special treatment. Massing ordinary objects also gives them a special charm” (Velarde 95). Velarde makes a very important argument about context and scale exaggeration and the possible interpretations of such techniques. Pointing out that the scale of a large object is exaggerated in a certain context points to the fact that the exhibit designer can intentionally situate a large or a small object in a space to make it seem more or less important to the overall exhibit. Though he does not explicitly say it, when Velarde speaks of context, he can be interpreted as speaking about the design decisions and juxtapositions of objects that were made by the museum staff and most significantly, the exhibit designer. This places the designer in an important role of creating meaning and emphasis through controlled visual interpretation. Later in the paragraph he notes, “Contrast emphasizes size” (Velarde 95). Though, again, he does not explicitly say it, contrast is a powerful technique that is controlled by those who create the exhibits. Emphasis is the result that holds the power to create importance.

Much of the remainder of Velarde’s book discusses pragmatic solutions for exhibit designers regarding type sizes and distances. He also spends some time addressing the need for exhibitions as a means of communication. He writes, “An exhibition is required because there is something to exhibit and a story to be told that can

best be put across in three-dimensional terms” (Velarde 51). It is assumed that by ‘something to exhibit’ Velarde is speaking of artifacts, and by ‘story to be told’ he is speaking of a particular event or context for these artifacts. He, however, does not present this connection; he seems to purposefully separate them, almost as to say that the artifacts are to be displayed because they are three-dimensional and the story must match and exemplify this multi-dimensional space.

Velarde does seem concerned with narrative, in that he emphasizes the need to tell a particular story and the importance of the storyline creation. In a later chapter he returns to this notion of narrative. He writes of possible stories to exhibit, “It must be strongly visual and factual since concepts, theories and philosophies do not translate easily into three-dimensional presentation. The story must be broken down into short aspects, chapters or statements, and it must itself be short.... Preceding the ideal story must be a title; this too must be short, because it has to be displayed in big print and seen from long distances....”(Velarde 63). It would seem that Velarde is getting very close to an acknowledgement that the challenge of an exhibit is in the way it attempts to create a storyline from a historic reality. He speaks of items to exhibit and concepts to be told, but seems to avoid issues of interpretation and its implications on the final exhibit; he appears to view it as a sub-conscious or passive process. He writes, “The author has been a designer all his professional life, but it is still impossible to say the solution that emerges. One thing is for sure: if there is a flash of inspiration it takes place in a part of the brain to which we do not seem to have conscious access. Once it has taken place we can rationalize it, demonstrate it, and eventually execute it. But that point—that particular narrowing of the hourglass—is not a conscious moment” (Velarde 131). Here,

Velarde suggests that there isn't an answer for how a designer comes up with a solution, but rather it comes from something unconscious embedded in the mind of the designer.

It has been a trend in recent history for museums to move from a more object-oriented approach to a more interpretive/narrative approach in the design of exhibits. David Dean, in his book *Museum Exhibition: Theory and Practice*, has addressed the similarities and differences between these two modes of display. He provides models for the exhibit design process from conception to execution and then to evaluation. He discusses the importance of storyline/narrative development for these more interpretive museums. He writes, "Interpretation is the act or process of explaining or clarifying, translating, or presenting a personal understanding about a subject or object" (Dean 6). Dean's model will be discussed again with greater detail in subsequent sections to serve as a model for comparison describing museum processes leading to exhibit development.

David Dornie, in his book, *Exhibition Design*, provides many glossy pages dedicated to the display of trade shows, world fairs, and narrative museum exhibits that have been built in the recent past. He attempts to describe and contextualize these exhibits in terms of their motives and intended learning objectives. Dornie concludes that many of these commercial exhibit venues are created in an attempt to compete with "the fast paced leisure market" that new technology and techniques have created. Dornie explains that for some of these exhibits, the main objective is the perpetuation of brand identity, which belongs to the commercial narrative experience and is not relevant to the museum narrative in the context of this study.

Dornie, however, provides a section of this book that deals specifically with narrative museums such as the U.S. Holocaust Museum in Washington D.C. He writes

about this specific museum, “The intention is that visitor should progress from an understanding of what happened during the Holocaust to an awareness of its continuing relevance for us all” (Dernie 26). These observations about the Holocaust Museum are the most relevant of Dernie’s writings to the topic being studied here, as the same could be said about the narratives of the two exhibits examined in the case studies.

Scale is also addressed in Dernie’s evaluation of certain exhibits, though in a more pragmatic sense. He emphasizes the importance of large-scale graphics, as they aid in the understanding of contextual elements of the display. Dernie writes, “Especially powerful is the use of large-scale graphics, applied directly to the surfaces of existing walls and windows...This scale contrasts with the detail of individual interactive devices, intended to clarify the theme of the exhibition” (Dernie 40). He also states, “The play of scales and horizons of graphics and color will affect the way the visitor moves through and approaches the exhibition” (Dernie 96). He discusses the possible implications of scale, in terms of effective visual communication, but not in a socio-political sense. He is interested in moving a visitor through a space and allowing them to see what there are intended to see, but he does not discuss the decision made as to what is seen.

“Exhibitions are instruments of communication and exhibition design is a discipline of aesthetics. Ideally, exhibition design would combine a high level of aesthetics with clear communication.”

~Weinberg and Elieli

CHAPTER 3. METHODS

The previous chapter attempted to show the breadth of material to be discussed, analyzed, and conceptualized in order to begin the process of applying social constructionist theories first to the concept of scale, and then to the practice of museum exhibition design. It has been shown that to construct an exhibit is to scale (compress) something very large (a historical event, for example) into a representation within the museum space; this is an example of socially produced scale because it has been the collective decision of individuals to “reinvent” the past using a visual representation that is to stand for the past event itself. Based on its prevalence in the existing literature, the notion that scale is constructed has been accepted as an underlying assumption for this study. Using this assumption, the study focuses on the decisions made to create the constructed space in terms as to how and what will be represented and the significance and consequences of those decisions.

Two exhibits at the Chippewa Valley Historical Museum have been used as case studies to examine the usefulness of two newly developed exhibit assessment methods developed by the author. These two different tools have been developed to analyze the concept of scale in exhibition design: the **map analogy** and the **scale comparison criteria**. Exhibits in this case study have been categorized in two different ways for analysis: by exhibit sections and by iconic artifact treatment. Exhibit sections have been evaluated using the map analogy explained below. Iconic artifacts have been evaluated using the scale comparison criteria explained in a subsequent section. These two analytic tools are necessary to understand the scale of the iconic artifacts both in terms of their

relation to the surrounding environment of the exhibit and their significance to the exhibit. The combination of these two methods of evaluation will help contextualize the decisions made to scale and construct the representation of the historical past.

Map Analogy

The map analogy analyzes a museum exhibit as though it were a map of the past, similar to a geographical map. Both ‘maps’ serve similar functions. A geographical map serves as a representation of a geographical area. Depending on its scale, or ratio as it is termed, a map can be a close up (or detail-driven) view that contains a lot of detail about an isolated place, or it can be a broader, zoomed out (or data-driven) map that contains more general data about a larger area. A *detail-driven* map brackets a very limited aspect, yet gives a very detailed description of whatever is within its parameters; a *data-driven* map provides more context by showing a larger area, but it provides little focus on specific details.

Figure 1 is an example of a *data-driven* geographical map of the area surrounding the College of Design at Iowa State University. The building itself is highlighted in a yellow box. This example shows extensive data and context about the building and its surrounding area. By comparison, Figure 2 is a *detail-driven* map of the College of Design building. This map gives the viewer a more detailed view of the building and the immediate area including the parking facilities and sidewalks leading to the building. It does not, however, give the viewer any broader context of where this building is situated within the larger campus.

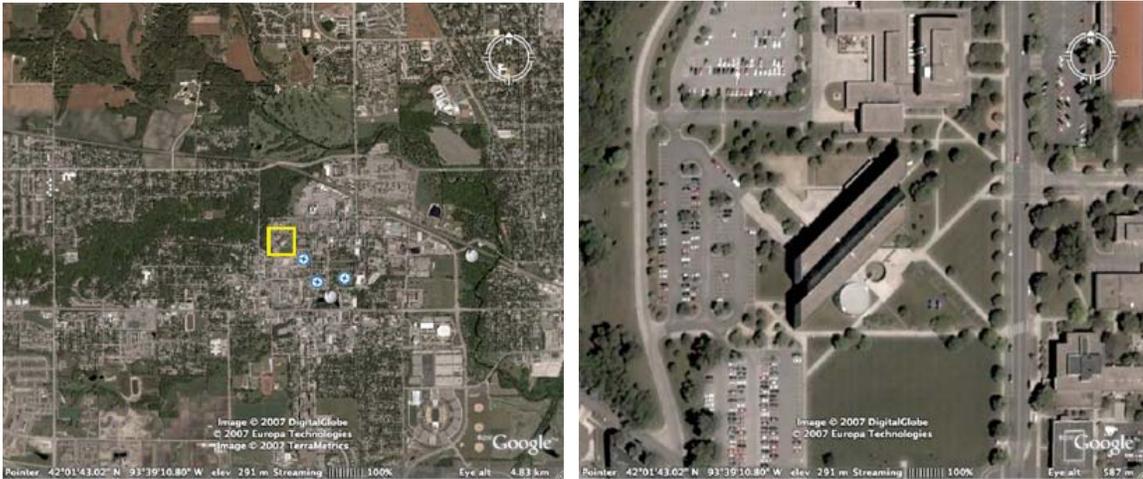


Figure 1 (left) Data driven geographical map of the College of Design at Iowa State University.

Figure 2 (right) Detail driven map of the College of Design building on the Iowa State University

These examples clearly show that depending on the scale of map, different information is being provided for the viewer. If the map is on a one inch = one foot ratio, it will deliver a much different perspective than a map that has one inch = one mile ratio, or even ten miles. Each map has a specific objective: to provide either lots of detail or lots of data. No map can do both. Museum exhibits function in much the same way: The exhibit may choose to cover a lot of information about a narrow subject, or a little information about several broad topics. Any particular exhibit may focus on a more generalized topic such as Native American life before Columbus, or they may focus in on a more specific aspect and provide a more detailed display surrounding one idea. An example would be to narrow down Native American life before Columbus to a particular Sioux tribe following four generations.

Scale Comparison Tool

In order to develop the scale comparison tool, the CVHM museum staff was asked to identify certain artifacts that they believe were essential to telling the story of the exhibits in this case study. These artifacts will be referred to as *iconic artifacts*. The scale comparison tool is very simply a way to look at both the physical scale of the artifacts and the significance each has to the exhibit itself. Each iconic artifact will be analyzed according to the following criteria:

- How does the iconic artifact compare to its original size?
 - Is it larger than actual size? If so, why? What are the consequences?
 - Is it smaller than actual size? If so, why? What are the consequences?
 - Is it actual size? If so, why? What are the consequences?
- How does the size of the artifact relate to the size of the exhibit?
 - Does its relative scale match its significance as outlined in the storyline?
 - Is it more significant than intended? If so, why?
 - Is it less significant than intended? If so, why?
 - Has the exhibit size itself changed to accommodate the artifact?
 - Has it become larger? If so, why? What are the consequences?
 - Has it become smaller? If so, why? What are the consequences?

Each of these *iconic artifacts* is significant to the storytelling and in turn representative of a larger view of the historical context. Each of the questions above will help analyze the effectiveness of storytelling through certain artifacts, and the effectiveness of the different techniques that may have been employed to enhance meaning or significance of

these artifacts. In other words, when do certain scale treatments enhance the narrative of the exhibit itself, and when are these techniques less successful?

Types of Historical Museums

The focus of this paper is specifically limited to historical museum exhibition design. Museums are categorized in several ways. Among those categories are size and funding sources. Historical museum budgets can range anywhere from \$1000/year operating cost to more than \$35 million/year operating cost. These costs do not include the design or fabrication of new exhibits, only the costs associated with the staff and the overall maintenance of the building, including maintaining existing exhibits. The CVHM falls into the middle budget range, operating at approximately \$550,000 to 600,000/year (Susan McLeod, interview, Dec 20, 2006).

Funding comes from various sources. Most museums are not-for-profit, and the intention of these museums is to serve as a learning environment to the general public. These museums receive much of their funding from grants. Theoretically, these have no specific agenda for advancing one concept over another. By contrast, Other “museums” may be established by an organization or corporation for the purpose of advancing its agenda. For example, the SPAM Museum in Austin, Minnesota is funded by the SPAM corporation and serves not only to advertise the product but also as corporate public relations. For the purpose of this study these privately funded museum will not be considered, since they are not necessarily committed to an unbiased learning environment for the public.

Types of Exhibits: Object Display vs. Information Display

Museums have choices to make when determining the nature of their exhibition type and the use of the collected materials. According to author David Dean, they can choose to host an exhibition that is *object-oriented*, meaning that the collection is the most important aspect and the focus is on the object, or one that is *information-oriented*, where the collections are displayed within a larger context or theme, including built sets that revolve around a common story. David Dean shows these approaches on a continuum (or spectrum) in his book, *Museum Exhibition: Theory and Practice*. (figure 3). Of course, these two approaches are at opposite ends of the continuum, and exhibits can fall anywhere in-between. Dean's continuum makes an important comparison of exhibit types that will be useful in this study.

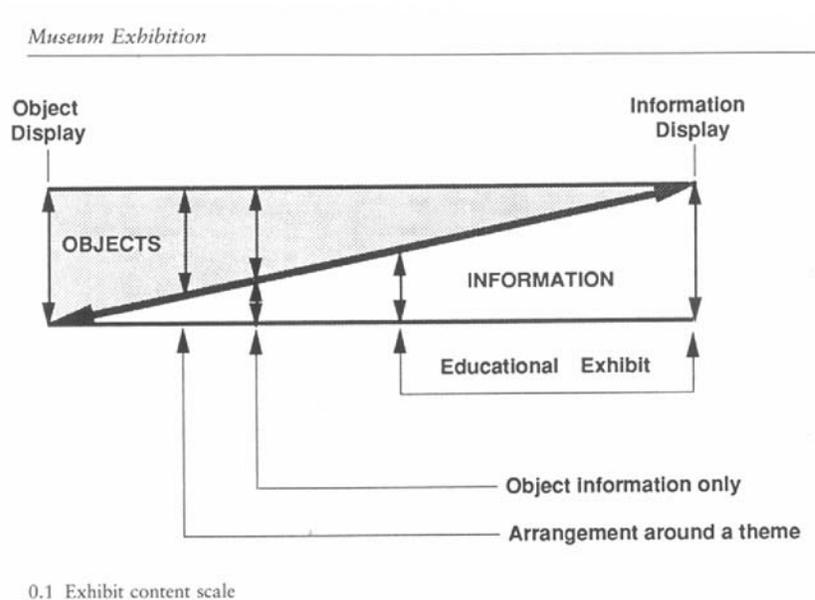


Figure 3. Dean's comparison of two approaches to exhibit content.

Dean's illustration shows that exhibits move from what he labels object-display to information display depending on the relative ratio of artifacts (objects) to information (context and story) in the exhibit. As more and more context and information makes its way into the exhibit and fewer artifacts (objects) are displayed, the exhibit becomes what he describes as information display. Conversely, when artifacts are featured more than information, the exhibit becomes what he describes as an object display.

Object Display

The focus of the object-oriented display in an exhibit is on the collection itself, which allows the museum visitor to make his or her own connections. The information on each of the items in the collection is limited to small name plaques. Relationships, values, and meanings are not the focus; instead it is an aesthetic or a classification approach, such as in art exhibits (Dean, 5). On Dean's model, he places *thematic display* near the *object-oriented* end of his continuum. He describes a thematic display as "Using collections arranged around a theme with basic information provided such as title, ID, and captions" (Dean, 6). This definition would include a grouping mechanism that would put objects with a similar classification together. For example, this may include placing objects from the nineteenth century together in an exhibition. The definition of a thematic exhibit may vary from museum to museum and exhibit designer to exhibit designer, but the distinction being made here is that object oriented displays place much of the responsibility for learning about and making sense of the objects on the museum patron. Little to no contextual information is provided.

Information Display

At the opposite end of Dean's continuum from *object display* lies *information display*. This type of exhibit is arranged around a common concept. The attention is focused on the message and the transfer of information rather than on the collection itself. Information-oriented displays are not dependent on the artifacts in the collection; instead, text, graphics, photos, and other didactic materials are used to educate the viewer. The artifacts are used in tandem with the other media to create a clearer picture of the exhibit concept. Dean argues that an information display will "Transmit [information] regardless of whether the collection has it or not..." (Dean, 5).

Expanding Dean's Model

The continuum Dean offers is valuable in considering different approaches to exhibition display, however, it is a bit limiting. A revised version of this model has been created for use in this study, incorporating the previously described continuum of *data driven* and *detail driven* maps. (Figure 4) The new model renames the two polar ends of the continuum *data-driven* and *detail-driven* to remain more consistent with this study. In figure 4, the term *detail-driven* has replaced object-oriented display; although it still refers, in part, to the number of objects (renamed artifacts), it is more complex. *Detail-driven* exhibits provide more of a close-up on a certain number of objects but surrounds them with less context (like a close-up map).

When this study refers to *data-driven* display it is referring to the ratio of artifacts in an exhibit to the amount of context, *i.e.* text, graphics, built sets, (designed material to accompany or explain the artifact). The term *data-driven* display has replaced

information display. In this new model, *data-driven* display refers to the extensive use of interpretive visuals to increase learning, understanding, and the overall education of the artifacts and their original context. In the case of an interpretive exhibit that has a conceptual thematic focus, this would fall very near the *data-driven* display, since information oriented exhibits provide thematic context with less focus on the individual items.

This continuum is meant to show that the more objects that are displayed, the less information can be given about specific objects, while the fewer objects displayed allows for more context and information to be displayed about each object. These are for reasons of scale. There simply is only a given space for an exhibit, and a museum must make choices of displaying data or displaying detail. Exhibits can fall anywhere between these two opposites; each will find a balance somewhere along the scale. Decisions must be made since there cannot be both at once.

Museums may choose to combine these conceptual techniques, and it is not uncommon to see more than one employed within the same museum. As previously discussed, exhibits can be compared to geographical maps which are considered either *detail-driven*, showing fine details of a limited scope, or *data-driven* showing a more generalized view of a larger scope. It is certainly not uncommon for a combination of these approaches to be combined in a single museum or even in a single exhibit. The continuum shown in figure 4 visually explains the map analogy; it does not however address the scale criteria that was discussed earlier in the chapter.

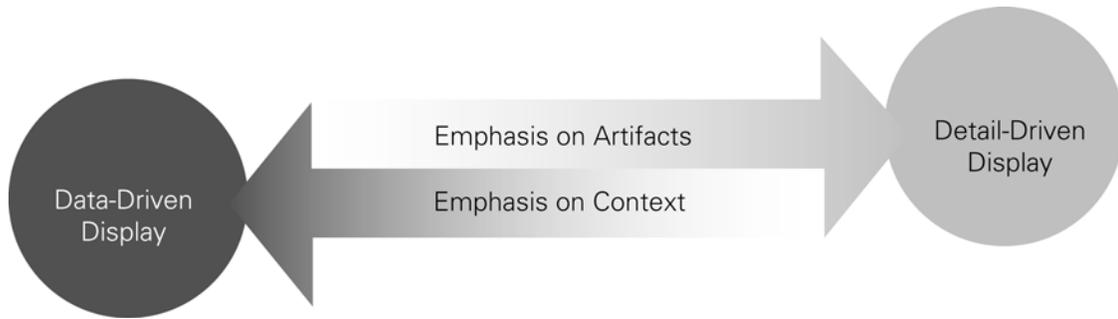


Figure 4. Data-driven vs. detail-driven exhibit continuum

Artifacts

Decisions must be made about the ways that artifacts in the collection can and must be displayed. In the case of the *detail-driven* exhibit, the artifacts play a major role in the constructed narrative of the historical past. Each artifact is carefully chosen for its representative qualities and then has to be given consideration about how it fits into the rest of the exhibit. In some cases the artifact itself is not displayed, but recreated at a different scale. This can be to connote the significance of a small artifact or to make it a focal point of the exhibit, which can draw the museum visitor across the room to further investigate.

Such manipulations of scale have consequences. A photographic image of an artifact can be displayed at much larger or smaller than life depending on the needs of the exhibit. A 3-d model has much the same range of representation. A model can enlarge a small artifact in order to show detail or it can reduce a large artifact to show context. An enlarged model may be considered also when the artifact is small, as it would allow more people to view the artifact at once and would potentially have more drawing power from across the room. While it is understood that museums have to work within the

limitations—of space, budget, time, etc.—it is useful to evaluate what they do to construct the scale of the artifacts and to situate them within the larger scaled construction of time and space.

CHAPTER 4. CASE STUDIES OF EXHIBITS AT THE CVHM

In order to investigate and analyze the decisions that are made in order to create a representation of a historical event in a given time and space, two of the exhibits at the Chippewa Valley Historical Museum (CVHM) were examined and compared. Numerous interviews were conducted with staff, museum documents were analyzed, and observation techniques were employed to get the most thorough understanding of CVHM's exhibit process and decision-making in the planning of a historical exhibit.

Two exhibits will be studied: *Farm Life: A Century of Change for Farm Families and their Neighbors*, a long-term, 5000 sf large budget exhibit, and *In the Neighborhood*, a short-term, 1500 sf smaller budget exhibit. These exhibits were chosen to represent the social construction of scale in exhibit design in a medium-sized historical museum. They serve as case studies of how a museum solves the problem of constructing a scaled history within a given space.

Chippewa Valley Historical Museum (CVHM)

The Chippewa Valley Historical Museum (CVHM) is a medium-sized interpretive museum located in the northwestern part of Wisconsin. The museum is committed to providing a place to study and display the history of the Chippewa Valley area. The mission statement reads,

Understanding the history of our community is basic to our democratic way of life, gives us a better understanding of our state and nation, and promotes a better appreciation of our American heritage. Within this

precept, the purpose of the Chippewa Valley Museum shall be to discover, collect, preserve, and interpret the history and culture of the Chippewa Valley and its people.

CVHM prides itself on not only celebrating the artifacts from the past, but on the stories that surround them. These case studies examine how effectively the museum has used exhibit design to accomplish the last part of the mission statement, “to interpret the history and culture of the Chippewa Valley and its people.” It is this interpretation that will be studied in this paper. Searching for artifacts for the farm exhibit, including photographs from the rural Chippewa Valley from the turn of the twentieth century to present, museum director Susan McLeod described the exhibit as “[departing] from a more traditional exhibit by emphasizing what farming has become as well as what it was, and by telling the personal stories behind the photos and items exhibited” (Hansen, 2000). The emphasis on the personal stories leads to a unique version of museum collecting. McLeod says, “The artifact separated from the story is of no use” She explains that the donation process should always begin with a dialogue, be it a letter, an email, or a conversation. What is of primary interest is the artifact’s unique history. For the CVHM, this means that artifacts that are representative of the history of the Chippewa Valley are chosen with care that the history of that particular artifact is preserved in addition to its significance within the larger historical context.

Design Development at the CVHM

The CVHM's exhibit design development can be compared to the suggested process shown in Dean's *Exhibition Design: Theory and Practice*. (Figure 5) The CVHM's process, though it has slight differences, fits this model for the purposes of demonstrating the exhibit process from conception through evaluation. It is worth noting that Dean does not use the term design, though it is clearly embedded in the development phase. For the purpose of this study, it will be renamed the Design Phase and within it have design stages: planning and production.

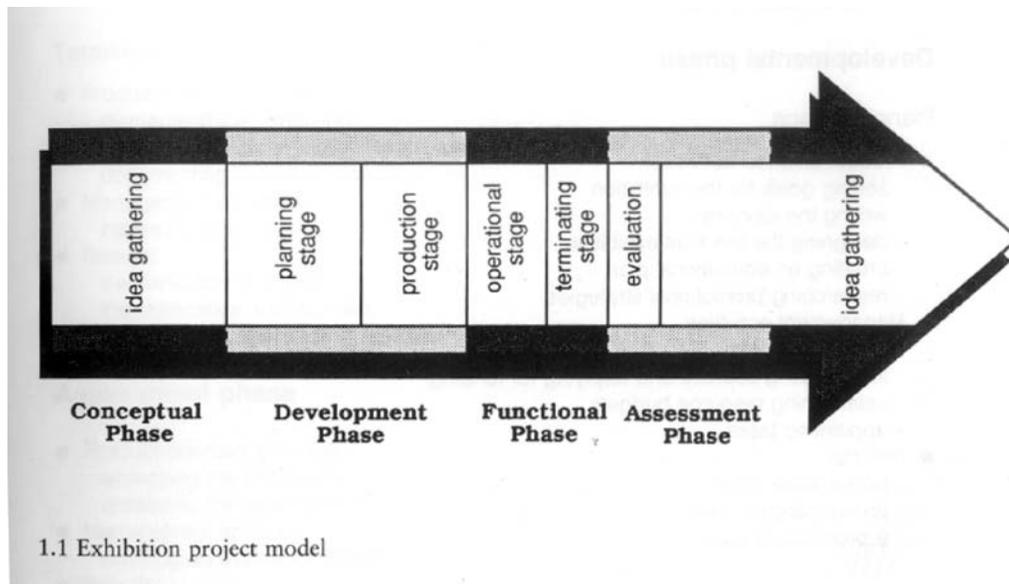


Figure 5. Dean's process of exhibit design and development

Conceptual Phase

For the CVHM the conceptual or idea gathering phase revolves around the interests and history of people in the Chippewa Valley. At this stage, museum staff will

consider what exhibits have already been done, what the people would like to see in the future, and what the resources may be for future exhibits.

(Design Phase) Development Phase

Dean places both planning and production in the development phase. For the CVHM, the planning stage requires substantially more time than the production. In the case of a large exhibit, it may take more than a decade to research and plan before production would begin. The production stage would typically last less than a year. For this study, The development stage has been broken down into two categories: Research and Development, and Creating a Storyline. In this phase the curator and the designer work in tandem to decide what artifacts are available and appropriate. Typically, the curator provides the designer with the artifacts that have been determined crucial to the exhibit by the research and development staff. The designer, then, can also request the curator locate certain artifacts that, for the design, would give greater pull to the visual creation of the storyline.

Research and Development

A project begins with an overall idea or theme and both material and scholarly research begins. In the case of a long-term exhibit such as *Farm Life* the research and development team began work nearly a decade before the exhibit was to open. For smaller exhibits such as *Neighborhoods* the research and development process is much shorter and isn't as extensive.

Researching for an exhibit, especially a large exhibit, means getting in contact with experts and authors on the exhibit's subject matter. The museum works very closely with the University of Wisconsin-Eau Claire and its faculty to include as many knowledgeable people and resources as possible. CVHM uses a *team approach* including the designers, curators, and the fabricators along with the researchers and developers from the beginning. This ensures that everyone has a more comprehensive understanding of the project and can contribute any specialized knowledge they have throughout the project. As the designers begin to conceptualize the visuals of the project, the curatorial staff begins to collect artifacts, while the fabricators can prepare for any necessary accommodations in the built environment.

Creating a Storyline

The first step in creating an exhibit in an interpretive museum is to create a storyline. This is the backbone of the exhibit; it decides what is going to be emphasized and what is going to be downplayed in the representation. The storyline outlines to all members what each section of the exhibit will be about, what the sub-sections are within each section, what artifacts are considered the iconic artifacts and where they appear in the narrative. Once the storyline is nearly complete, research and development creates a *walk-through*, describing in words what it would be like to experience the exhibit. This *walk-through* includes what the visitor would see, hear, read, and experience. This is often the document that gets sent out with the grant proposal to gain funding for the exhibit.

Design Planning and Production Stage

Once the storyline and the walk-through are completed, the research and development group gives a presentation to the design department. The design department then goes to work creating sketches, three-dimensional models, and computer mock-ups of the exhibit. The first thing that needs to be done is to prioritize the large objects, and to prioritize the iconic artifacts second. This is because of the spatial limitations of the museum space (Jeanne Nyre, Dec. 12 2006). The large objects naturally have more visual pull and holding power so they need to be carefully considered. The iconic artifacts also need to have visual pull and holding power, which can be a challenge when the artifacts are small. Once decisions have been made and priority has been given to certain objects, other more functional needs are considered. There are design solutions to all of these problems, for example to emphasize an iconic artifact, the exhibit designer may choose to use visual proximity to bring the artifact into a place of prominence in the exhibit space or to contrast it with other objects. This could mean, for a larger artifact, placing several smaller items around it so that it is identified as being something “different” or more significant in comparison.

To flesh out the rest of the storyline the designer works very closely with the curator to decide what artifacts (in addition to the iconic artifacts) can be used to best represent the narrative. Many times the designer notices objects of interest in photographs that would help enhance the meaningful context for the iconic artifacts. If an object is desired by the designer and is not part of the museum’s collection, the museum may seek out that object, or in special situation even purchase a reasonable facsimile. These substitutions are referred to as *props*. An artifact is something that has

historical value, while a prop does not bring its own narrative to the exhibit. While this distinction is important to museum staff, it is often unnoticed by the visitor.

Functional Stage

For the purposes of this study the functional stage will not be discussed.

Evaluation Stage

After the exhibit is nearly completed it goes through an evaluation stage. This may involve many “invitation-only” sessions for select patrons to determine how well the exhibit works to meet the goals outlined in the storyline and walk-through. During this period the exhibit experiences many small changes and in some cases larger revisions before it is opened to the general public.

Each of the stages discussed above are relevant to this study, since during each stage the historical event begins to be reduced down or scaled. During the research and development stage, the representation of the event is limited to the recoverable data and the ability of the research team to interpret that data. Based on the data uncovered, a storyline is created to describe the overall narrative of the exhibit. In this case, the available research is pared down to what is determined most relevant to the parts of history that are to be emphasized. In the production stage, those in charge of creating the visual representation make choices as to how best emphasize the priorities in the storyline using the available resources. Certain items are chosen and prioritized to represent the larger ideas, scaling the overall narrative into what is manageable in the museum space.

The evaluation stage is relevant because it allows the exhibit to be ‘tested’ to ensure that the ideas are clearly represented and certain aspects were not overlooked.

Intro to Farm Exhibit: *Farm Life: A Century of Change for Farm Families and Their Neighbors*

Beginning in the mid-1990s, research began for the exhibit that would become the pride of the Chippewa Valley Historical Museum in 2002. The Farm Life exhibit is over 5,000 square feet, including a replica farmhouse that holds a fully operational multimedia ‘object theater’ including sound effects, lighting, built sets, projected photo still and video combined into one seamless presentation, as part of the exhibition.

Farm Life is a thematic exhibit centered around concepts of geography on a family farm in the rural Midwest during the twentieth century. The exhibit as a whole attempts to reconstruct the experience of walking through one single-family farm as representative of walking through all family farms as they changed throughout the twentieth century. The farm is broken into four primary sections: Milking Night and Morning (barn section), Managing Farm and Family (house section), Gathering, and Working the Land (field section). These sections are then broken into smaller subsections. The museum based their approach on the concept of ‘mental map’ John Hildebrand was striving for in *Mapping the Farm*,

‘I am trying to form a mental map of my wife’s family farm, an overview of 240 acres of the planet’s surface, and inventory of this small kingdom. I have aerial photographs, quadrangle maps, soil-survey maps, plat maps, legal descriptions...What I haven’t got is a clue as to how all this information fits together to form the ongoing story that some people call a

sense of place. Government agencies have charted this ground for their own narrow purposes, transforming the landscape into a one-dimensional set of data. What I have in mind is a series of overlays that will orient me not only to how the land lies but where we fit into it. Land itself can never be lost, only transformed; what is slipping away, day by day, is the meaning that connects us to it.”

Farm Exhibit Sections

For each of the sections: Milking Night and Morning (barn section), Managing Farm and Family (house section), and Working the Land (field section) an analysis was conducted using the map analogy to determine whether each section is *data-driven* or *detail-driven*. This information is crucial to the understanding of how the decisions were made in order to construct the representation of that particular history. By prioritizing specific artifacts, rather than overall narratives, a very different representation of the historical event is presented, and vice versa.

Iconic artifacts were identified by museum staff as integral to the overall storyline. The second section of the analysis, the scale comparison criteria, is an attempt to determine the significance of these artifacts to the construction of the history as told by the storyline within the exhibits and how the spatial or graphical treatment of these artifacts either enhanced the significance of the artifacts or not.

Each of the sections of the exhibit include at least one iconic artifact: a threshing machine from the field section, the prosthetic arm from barn section, the kitchen stove from the house section and the workbench from the field section. Each of these artifacts can be analyzed using the scale comparison criteria to determine the role they play in the

overall narrative of the exhibit, and to the larger question/concern of the scale construction of the past and how it affects their significance in the exhibit.

Managing the Farm and Family: House Section

This section introduces the viewer to the division of labor within a farming family. The concepts addressed according to the museum documents are the continuity and change in the household from 1930-1990s, the effects of mechanization on the domestic sphere, making do, and a place for some community events like “bees.” Standing in this section of the Farm Exhibit (Figure 6) is a three-quarter-scale replica of a 1930s farmhouse including a walk-in kitchen also from the 1930s.



Figure 6. Three-quarter scale 1930s farmhouse.

Managing the Farm and Family: Map Analogy

The house section is *detail-driven*. The house, a three-quarter-scale replica of a 1930s farmhouse frames a very convincing 1930s kitchen. There is no item in the kitchen space that stands out as an artifact; instead all objects feel as backdrops for the items in close proximity. The kitchen feels very natural and has very subtly placed information plaques around to help explain the significance of the artifacts placed naturally throughout the space. One gets the sense that one is standing in a 1930s kitchen, rather than learning about the history of the domestic space during that era. Because of this specific focus, this section presents a close-up or *detailed* view of one specific aspect, a static moment in the domestic space of a 1930s kitchen.

The kitchen space lacks emphasis on the chronology of the history as stated in the storyline. It is very difficult to understand the changes that have occurred in the domestic sphere from 1930-1990, as it feels very much like a snapshot in time. Being a very small space, it is difficult to perceive a transition of time, and there are very few noticeable comparisons of artifacts. There are not a lot of signs alluding to the passage of time and its significance on the domestic space within the family farm.

The kitchen section is composed of two separate compressed scales, that of timescale and that of physical scale or of space. The three-quarter-scale room that serves as the kitchen space gives a certain emphasis to the artifacts inside. The museum visitor may not be aware that the kitchen is only three-quarters the size it would have been in reality, but there is a sense that the artifacts are a bit too large for the space. In the case of this section, it works to place emphasis on the artifacts, especially the larger ones that are more significant to the storyline.

Kitchen Stove: Iconic Artifact

The kitchen stove (Figure 7) has been identified as the iconic artifact of the house section and stands as it did in 1930. A built kitchen set surrounds this artifact, creating a rich context for it. What is interesting to note about the design treatment around this particular artifact is that the house itself is only three-quarter scale in contrast to the one hundred percent scale of the stove and the rest of the kitchen. It would seem that the entire domestic shell has been reduced in order to recreate a space that emphasizes the scale and in turn the importance of the objects within it.

The stove is given a prominent place within the kitchen setting. As a person enters the door they are directly facing the stove. It isn't obvious right away that the building is scaled but there is a sense of the 'largeness' of the appliances within the space. In this case, the manipulation of scale influences the perceived significance.

The stove is used as a demonstration within this exhibit of the quantity cooking that happens in the farm setting. In order to do this a large metal pot is placed on top of one of the burners. Though the concept of quantity cooking may be clearer because of this, the emphasis on the stove is weakened as an iconic artifact for the advancement of the concept. The pot essentially dwarfs the magnitude of impact of the stove despite the efforts of the building to create a stage to display it. In this case, the narrative—speaking about quantity cooking—creates a constraint on the design. The significance of the stove to the storyline has been manipulated giving it, alone, a less significant role to the storyline and relying on the relationship between the stove and the pot to drive the narrative.



Figure 7. Kitchen stove inside of house section.

Working the Land: The Field Section

This section focuses on the planted fields and their importance to dairy farms. Dairy farmers must maintain at least enough crop to feed the animals, and the technology in managing the fieldwork has gone through numerous changes throughout the twentieth century. Within this section are four sub-sections: the exchange of labor, the shift from horse power to horsepower, the family in the fields, and the risks involved with maintaining a farm.



Figure 8. Part of the field section of the Farm Exhibit.

Working the Land: Map Analogy

The field section (Figure 8) is largely dedicated to displaying farm machinery: a threshing machine, a manure spreader, etc. This aspect very clearly situates the field section on the *detail-oriented* end of the continuum. The field section is separated into a handful of smaller sections, each one having a dominant artifact, with some smaller contextual items to place it within the context of the farm, keeping it at least partially *detail driven*. The museum has taken an approach in creating the field section that has placed great emphasis on having the museum viewer see a close up of each one of these large pieces of machinery, allowing visitors to study in detail how this machine may have operated. This *detail-oriented* approach has advantages in showing the museum viewer

some very intricate details of some very specific artifacts, but suffers the consequence of not being able to show the other artifacts that may even serve as comparisons to demonstrate the changing technology. There is a balancing act between detail and data: when detail is chosen, then some data has to go. In this case the relationship of the large machinery to the working life of the farm is largely lost, and what becomes memorable is the artifact itself.

The idea of the change in the farm over the century is not as apparent as intended, since one artifact largely stands for each of the field sub-sections, and four or five large pieces of machinery stand for the field as a whole. This is both a strength and weakness: the museum visitor can absorb a great deal about specific aspects, the machinery, but takes in less about the context—the change of the managing of the field by the family and the change in technology.

Shed Sub-Section: *Horse Power to Horsepower*

The shed sub-section of the exhibit contains a portion of a full-scale yet cropped tool shed (figure 9) which was used by its owner to park the threshing machine and tractor. The concept here is the change from farms using the power of real horses to perform farm work to farms using heavy machinery to perform these same tasks. The section is titled, *Horse Power to Horsepower*. The original documents called for a life size horse to stand in comparison to the tractor, but it did not appear in the final exhibit. This is most likely due to spatial constraints, as the shed itself had to be cropped down to fit in the exhibit. A choice had to be made as to which large objects were most important within the space. In the end the model-H tractor and the workbench were chosen.

Workbench

The homemade workbench (Figure 9) included in the tool shed section includes an attached vice and grinder. The home-made aspect was very important to museum staff when choosing this object because they saw the concept behind this section as ‘making do:’ fixing what you can and using what you can. The tools displayed on the bench, too, are artifacts donated from around the Chippewa Valley.

The workbench sits within a section of the barn exhibit inside a partial tool shed. Adjacent to the workbench is a model-H tractor (Figure 10). The entire tool shed space is dominated by these two items, which are in competition for visual dominance. The tractor is placed closer to the viewer and is red, giving a little extra visual punch in comparison to the workbench which is made of wood very close in color and texture to the tool shed itself. On top of the workbench are several items: tools, a vice, etc. to give it context, while the tractor remains alone. The workbench is against the back wall of the tool shed and the tractor sits partially in and partially out of the tool shed, allowing visitors a three-dimensional view.

The intended significance of the workbench was to show visitors how important it was and is to farming communities to be able to ‘make do.’ You must be able to fix what you can and invent ways to help yourself. The workbench itself is homemade as are many of the tools that sit on or near it. This concept of ‘making do’ seems a little overpowered by the tractor that shares the space, thereby seeming less significant to the storyline. In fact, the visual impact of the model-H manages to overpower even its own narrative significance in the exhibit.



Figure 9. Workbench in tool shed section.

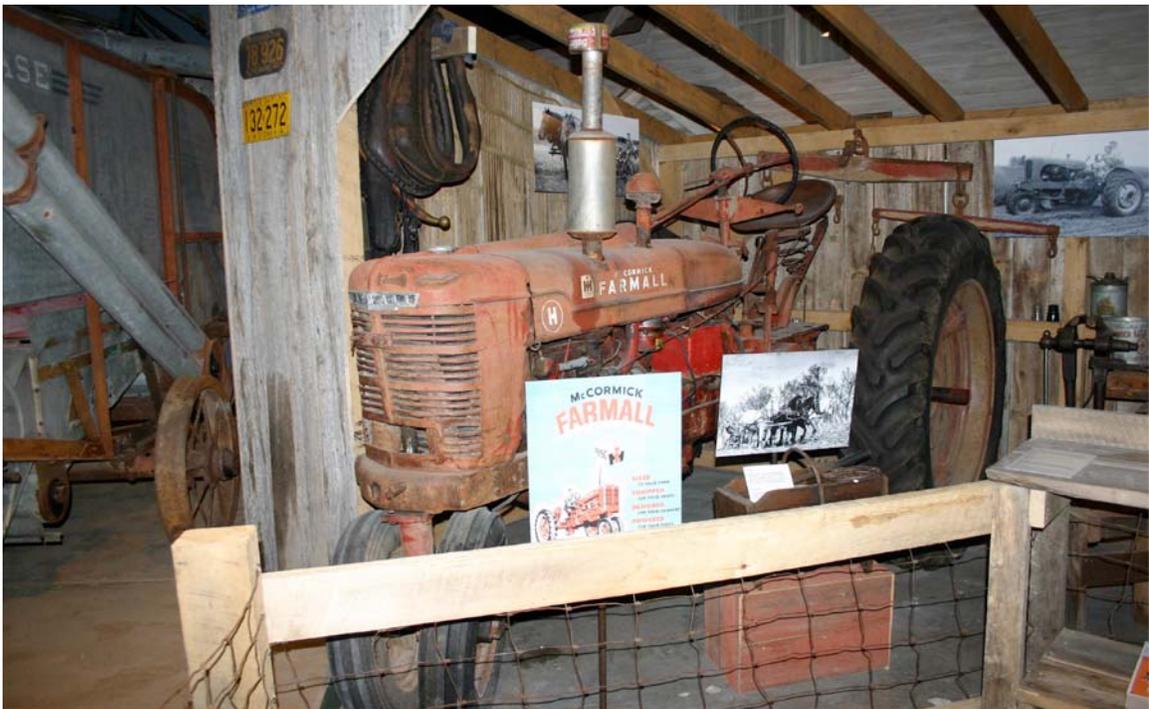


Figure 10. H tractor artifact inside tool shed section

Case Threshing Machine- Iconic Artifact

The threshing machine (Figure 11) was in use around 1935 on the Swoboda family farm. This particular thresher was unique because a single family owned it, while many farming families shared one machine.

The Case threshing machine, situated in the center of a sub-section of the field section, is displayed in its entirety. This large piece of equipment dominates this part of the exhibit. All other objects around this piece of machinery, including the information panels explaining it, are paled in comparison to it. It is easily the largest freestanding artifact in the entire exhibit. When viewing this part of the exhibit, it is very easy to overlook many of the other learning objectives such as the change of technology.

Provided for comparison are three small models of threshing machines, but they stand no more than two feet off the ground. In comparison they are barely noticeable.

This is an example of how the actual size of an artifact can dramatically influence its significance in the storyline. Because of spatial constraints no more than one machine of this size could be allowed in this exhibit, meaning that if this were included, nothing in that same section could compare. In this case, it would seem that special priority and treatment was given to this object to imply specific importance. By reading the information plaque near the front of this machine, one learns that this thresher was unique because it was single-family owned in comparison to most, which were shared by several families. The viewer gets a very strong sense of the magnitude of this object by its priority in the exhibit, but lacks the understanding of how this machine impacted the practice of farming. In this case, history was scaled down and represented by one large

artifact and a few surrounding objects. Again the decision to focus on detail resulted in less data about context.

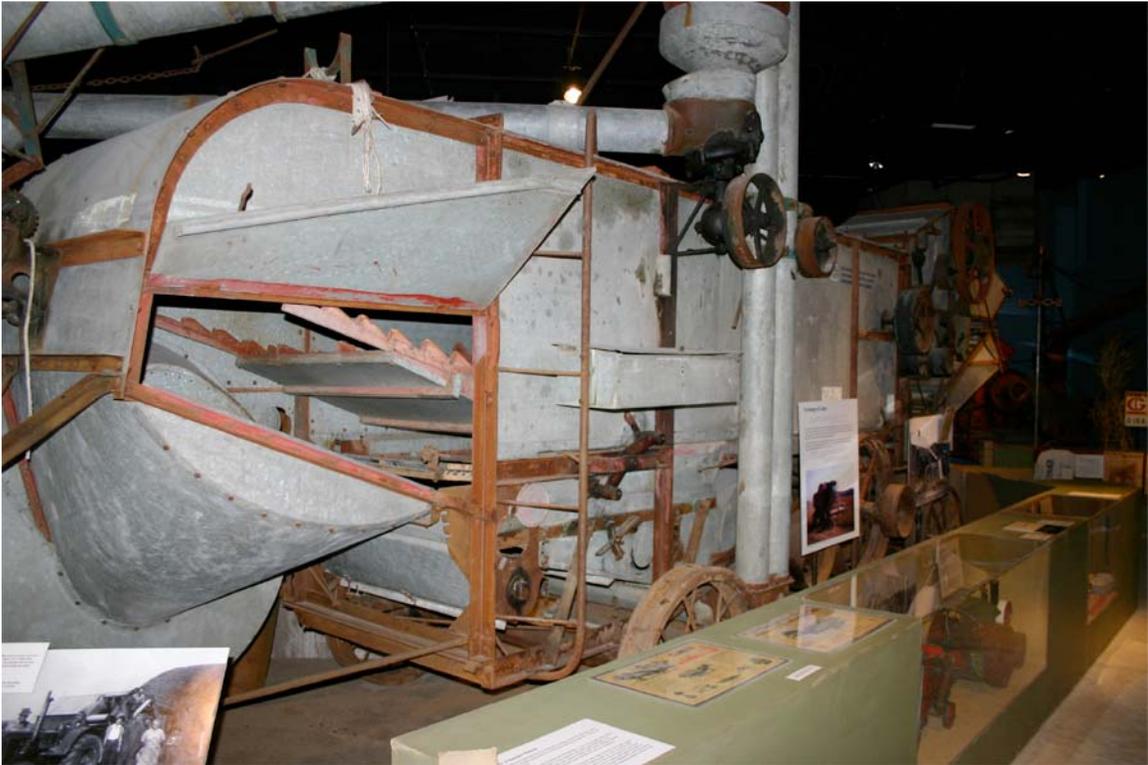


Figure 11. Threshing machine with small models in foreground.

Prosthetic Arm - Iconic Artifact

The prosthetic arm (Figure 12) represents the physical danger that comes with farm life. Many children as well as adults suffer amputations due to the dangerous nature of the work. This small piece of the overall exhibit tells the story of one ten year old boy who lost a foot and part of his leg to an auger accident. The family wasn't aware what a dangerous invention it was.

The prosthetic arm was identified by museum staff as one of the iconic artifacts of the entire *Farm Life* exhibit. It is an attempt to show the physical risks of farming and

explains the likelihood and result of such a serious accident. The arm is displayed in a glass case, situated strangely in front of a photograph of a man wearing a prosthetic on his right arm. It is situated just so that when viewing this from a certain angle, the man appears to be wearing this much too large arm on his left arm (Figure 12). This strange situation creates a visual distraction from the learning component. The narrative of this section tells the story of a boy, who is represented life-size near the arm, who has lost a leg to a grain auger accident. Though the overall narrative speaks of a boy who lost a leg, there seems to be almost no information about the arm. Since the arm is the *iconic artifact* that is meant to represent a part of the history, it seems strange to prioritize an arm when the narrative speaks about a leg.



Figure 12. Close up of prosthetic arm.

The story tells us about the boy in the picture, and goes the extra distance to show him life size on his crutches (Figure 13), but then places a waist-high pedestal in front of him obscuring our view of his missing leg. A visitor must get within a few inches and look straight down to realize that his pants are tied off about a foot and a half off the floor. It would appear that the significance of this story is lost to the design. According to the narrative many farmers suffers amputations, and many are children, but in this exhibit it seems that the prosthetic is given priority and the environment is scaled in significance to that artifact rather than to the personal aspect that the museum strives to accomplish. The section perhaps could be potentially more powerful had the photography of the boy with the missing limb drawn the visitor and created a more significant experience when understanding the trauma. There seems to be a disconnect and a missed opportunity in this section.



Figure 13. Prosthetic arm and image of Terry Kohlhepp.

Milking Night and Morning: Barn Section

The barn section of the Farm exhibit (Figure 14) contains a cropped full-size barn collected from the 1930s that was used on the Graff family farm until 1980. The silo dates back to 1914 on the Harriman family farm. The major concept behind the barn section was to move patrons from the past to the present as they continue through the barn. The minor concepts are to present the effect of changing technology over time, making do, and the changing role of animals. The exhibit includes a life-sized replica of a gurnsey cow attached to a milking machine. The barn itself is by far the largest artifact in this section, with the consequence that it defines the space for the rest of the section. Everything within the barn section must fit inside. Additionally, it assumes that this barn is representative of all barns since there is only room to show one. The barn also serves as a divider between the barn section and the rest of the museum exhibit, so visitors cannot see very much of what happens beyond the exterior wall of the barn without going in.

The significance of the large artifact to the storyline seems to be matched by its physical representation as it provides a very close up and personal view of the physicality of the barn structure and its significance to farm life. It limits the visitors' ability however, to imagine any other barn structure, or how it might have been different during other decades of that century. In this case, at least from the outside view, the barn becomes a very specific close-up view of a very specific time and place.



Figure 14. 1930s Graff barn and part of the 1914 Harriman silo.

Milking Night and Morning: Map Analogy

The interior of the barn section falls more in the center of the *detail-driven – data-driven* continuum. The section takes the visitor through a forced path through a barn and through time in order to demonstrate changes throughout the century. This section has numerous glass cases with artifacts, taking them out of context and displaying them as artifacts, as well as built sets demonstrating some of the specifics of topics such as milking; first by hand then by machine. A possible map analogy for this section would be that of an overview of a city map with a handful of close-up maps of certain prominent neighborhoods. The advantage of this section is the space itself. It is large enough to be a convincing immersive space, where the museum visitor is able to experience to some

degree what it is like to be in a barn and to understand what it might be like to work in one. Because of its huge scale, this section has the luxury of utilizing both *data-driven* and *detail-driven* display. Other sections, where physical size demanded more limitations, had to choose one over the other.

Comparing *Farm Life* Exhibit against map model

The geographical map analogy provides a framework to consider how decisions were made during the creation of an exhibit to represent or scale the history included in the narrative. Creating an overall *detail-driven* exhibit would mean that the history has been scaled to a handful of representative examples that speak for the larger whole. The disadvantage being that very specific information will be learned about the event and a broader understanding of the whole cannot be provided to the same degree. Creating a *data-driven* exhibit would mean that there was more information provided in addition to the artifacts, meaning that more context and more comparisons would be available to the museum viewer. The disadvantage is that less information about a specific artifact or specific part of a story would not be able to be included. The museum viewer gains a better overall understanding of the idea, but would not get any specific details about any section. There cannot easily be both, negotiations are inevitable and decisions must be made. One decision is not better than the other; each has certain advantages and disadvantages that have to be weighed when choosing one over the other.

When comparing *Farm Life* as a whole to the geographical map analogy there are several things that need to be taken into account. There are many things that very clearly situate this exhibit as a *data-driven* display. First, the intention of the museum is to

produce interpretive conceptual exhibits. This interpretive nature suggests that additional information including interpretive visuals and built sets are an integral part of the exhibition. When looking at *Farm Life* specifically, the geographical concept and theme is very clear. The gallery has been transformed into a scale-model farm for the museum visitor to experience. Although artifacts are incorporated into the exhibit and iconic artifacts have been identified, it becomes difficult to separate the historical artifact from the fantasy of the experience.

The second learning objective of the overall *Farm Life* concept is the change in farm life over the twentieth century. In the sense that there are one hundred years of information being scaled into one time and one place: the exhibit itself, the exhibit in that sense takes on a *detail-driven* approach. Many individual artifacts, and photographs as well as textual plaques described changes but the contextual experience of these changes was much less apparent, leaving us with a lot of artifacts but not as much context. It is apparent that decisions had to be made as to what extent information, context, and artifacts could be displayed. Certain things have to be sacrificed when *detail-driven* exhibits are created as there is never enough space to display everything at large scale and with an abundance of detail. In the case of the *Farm Life* exhibit, some of overall learning objective—the change over time—was sacrificed in order to present a more personalized history of farm life during the century.

Farm Life attempts to reconstruct history in both time and space resulting in two different compressed scales. This was necessary in order to best portray important aspects of the story. The progression of time for a hundred years was compressed into a static moment within the museum space, and miles and miles of farms and farmland were

reduced and reconstructed into 5,000 square feet of space. For example, near the turn of the twentieth century dairy farmers operated with only a handful of cows and less than a hundred acres of land (Cyril Vorwald, 2007), as compared to a dairy farm operating in the year 2000, having 40-60 cows and maintaining 250-450 acres of land. (source UW-Madison Program on Agricultural Technology Studies, 2005) To reduce even the smaller farm in this comparison from a mere 40 acres of land to 5,000 square feet requires compromises of scale, but then to include context about the 450 acre farm and all farms in-between those years into a 5,000 sf gallery space is even more of a construct. A diagram has been made (Figure 15) to chart the *Farm Life* exhibit from idea to execution in terms of how the event has been scaled into the exhibit, taking into account the processes through which the CVHM operates. This diagram shows how the museum begins with a complex narrative, but as a multitude of constraints are applied the narrative is necessarily simplified.

Intro to Neighborhoods Exhibit: *In the Neighborhood*

As a small scale, short term, smaller budget exhibit, *In the Neighborhood* was chosen as a comparison to the *Farm Life* exhibit to see whether the more severe limitations of time, money, space, and resources affected the representation of the artifacts, and in turn the message of the exhibit itself. *In the Neighborhood* is a conceptual, geographical exhibit that focuses on the changing faces of prominent Eau Claire neighborhoods and the formation of their unique identities.

The exhibit focuses on four distinctive Eau Claire neighborhoods: the Schlegelmilch Block, Randall Park, Putnam Heights, and the Melville Settlement. Of

these neighborhoods, three are urban and one is rural. Each neighborhood section of the exhibit is broken into three chronological sub-sections to explore the change and development of the neighborhood throughout time.

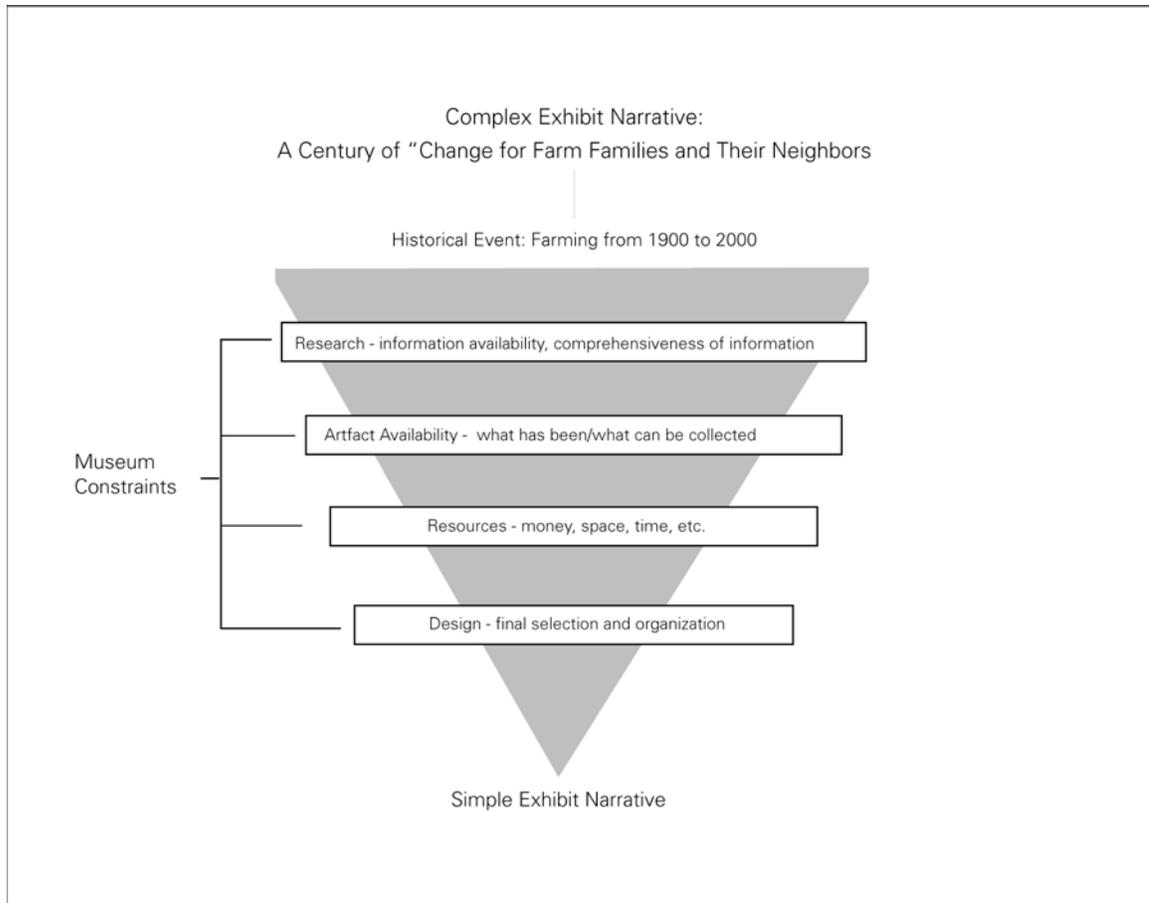


Figure 15. Diagram of how scale changes occur from complex exhibit narrative to simple exhibit narrative during exhibit development.

In the Neighborhood Exhibit Sections

Each section of the exhibit includes at least one iconic artifact: the rocking horse in the Schlegelmilch section, the patio table in the Putnam Heights section, and the large aerial map in the Melville Settlement. A full-sized 1956 car is also an iconic artifact

being shared by both Putnam Heights and the Schlegelmilch Block. Each of these artifacts can be analyzed using the scale comparison criteria to determine the role they play in the overall narrative of the exhibit, and to the larger question of the scale construction.

Schlegelmilch Block

The Schlegelmilch block stands in the historic downtown of Eau Claire and was once part of a family neighborhood. Over the years the neighborhood houses disappeared and were replaced by car dealerships, with the exception of the Schlegelmilch family home. Eventually the car dealerships, too, disappeared, leaving the Schlegelmilch family home standing alone on the block. This section of the exhibit is broken into three chronological sections representing these three major changes to the neighborhood: A Family Neighborhood, Taken Over by Cars, and Alone on the Block.

Schlegelmilch Block: Map Analogy

The Schlegelmilch Block section is overall *data-driven*. Two of the three sub-sections emphasize a multitude of textual plaques, maps, descriptions, and identifications to provide the context for the objects to drive the narrative of the changing neighborhood. The first sub-section, in contrast, which is a built set looking through an outdoor window into the original Schlegelmilch living room (Figure 16) has, in comparison, the most focus on specific details of any of the Schlegelmilch sections. We are voyeurs into a frozen moment in the past, looking into the Schlegelmilch living room. The room is much too small to provide a convincing living room space, but it creates a very powerful

affect on the objects within the space. The upholstered chair and rocking horse seem larger than life in comparison.

Within the living room space, life-sized and reduced-size photographs are mounted on the walls and on the furniture; tables are set with personal objects from the Schlegelmilch family. This section, though it has some designed and textual information added, is largely overwhelmed with the personal objects, making this particular sub-section pull towards the *detail-driven* side of the continuum.

The advantages of designing the overall Schlegelmilch section (with the exception of the first sub-section) with an emphasis on data rather than detail allows the exhibit to reduce objects to just those that tell the story of the narrative most clearly. It allows space for informational plaques, explanation signs, and maps to speak for the larger neighborhood context. For example, using the large road construction fixtures when telling about the restructuring of the neighborhood rather than flooding the small area with smaller artifacts gives the visitor a sense of visual hierarchy and in turn, storyline hierarchy. In this way certain objects appear more important and demand more attention. The visitor gets an ordered (hierarchical) sense of the importance to both the storyline and to the history being presented. It has immediate impact and draws the viewer in, inviting them to engage in reading the extra interpretive visual material to fill in the areas of context for the larger neighborhood history.



Figure 16. Schlegelmilch Living Room in first sub-section of Schlegelmilch Block section.

Rocking Horse – Iconic Artifact

The rocking horse (Figure 17) is located in the Schlegelmilch section in the *A Family Neighborhood* sub-section. It sits as part of a living room scene viewed by museum patrons through the glass of a windowpane. The horse was hand made by one of the original residents of the Schlegelmilch house for his children, and is meant to show the number of generations that the same family occupied the house.



Figure 17. Rocking Horse in the Schlegelmilch Section

The rocking horse is situated among many other large-scale artifacts such as an upholstered armchair, framed family photographs, and a table. The space is very small, perhaps no more than 20 sf. This small space in comparison to the large objects makes the space feel very crowded and makes the objects seem larger than they actually are. This increases the impact that the objects have on the visitor. The rocking horse was identified by the museum staff as the iconic artifact, but in comparison to the large armchair, the horse has less significance. This is also partly due to the placement of the horse compared to the chair. The chair sits square to the visitor and the horse is placed at an angle, so visitor has only a limited view of the artifact itself. When the window is

approached, it would seem the narrative should speak about the chair and its significance to the storyline rather than the horse.

These problems are caused by a lack of attention to visual communication techniques. Since the rocking horse was identified as being the *iconic artifact*, rather than the chair, certain visual organization methods needed to be utilized to give the horse the visual dominance it required to become the focal point of the exhibit. As it stands, the chair remains the primary focal point and the rocking horse barely competes for dominance. Placing several larger items all within a small confined space makes it difficult for the viewer to establish a hierarchy, or order of importance, within that space. There are some missed opportunities within this space to use proximity and contrast to create visual hierarchy and clarity within the space.

Randall Park

Randall Park was a neighborhood that served as its own self-sufficient mini city because it was surrounded on all sides by water. The neighborhood changed when the logging industry came through, when it became home to many transient workers and eventually the home to a different kind of transient: the university student. This is known as the ‘Water Street’ area and is home to many of the University of Wisconsin-Eau Claire students. Many of the residences in this neighborhood change occupants from year to year. The loggers have gone, but the area still remains a high traffic area for students, shoppers, and cultural events. The three chronological sub-sections of this exhibit are: A Mini City, An Unsettled Life, and Same Old Neighborhood.

Randall Park: Map Analogy

The Randall Park section, although it incorporates designed materials, leans toward the *detail-driven* end of the continuum. A lot of information, largely transmitted through objects (artifacts), is displayed without context for the viewer to interpret largely on their own. The entrance to this section remains a bit peculiar, as we are not introduced to the neighborhood until the second sub-section of Randall Park. We enter and see a lone wooden bench and four photographs from the late 1800s against a cream colored wall. (Figure 18) No context is given for the photographs aside from a small artifact id label.



Figure 18. Beginning of Randall Park Section.

The second and third sub-sections *An Unsettled Life* (Figure 19) and *Same Old Neighborhood* (Figure 20) provide more intimate details of specific events or people to

tell the story of the neighborhood and less about the overall context. This situates these sub-sections on the *detail-driven* end of the continuum. We briefly enter the life of a university student living in a student rental and that of a lumberman spending a logging season in a boarding house. We see a replica of a storefront window on Water Street and a large photograph of a statue with a garbage can on his head. These are all enlargements of small details that attempt to add up to the historical past of the neighborhood.



Figure 19. Exhibit display from sub-section *An Unsettled Life*.



Figure 20. Exhibit display from sub-section *Same Old Neighborhood*

Putnam Heights

Putnam Heights, located opposite the river from Randall Park was once nothing more than an airfield, but has become a full-fledged family neighborhood. As a relatively new neighborhood established in the 1950s after most families owned a car, it never had a small market or any of the other amenities common to older neighborhoods. People were happy for the opportunity to drive their cars to retrieve these necessary items. The three chronological sub-sections in the Putnam Heights section are Mainly Tickle Grass and Sand Burrs, Gold in the Flats, and Putnam Heights today.

Putnam Heights: Map Analogy

Putnam Heights is *data-driven* in two of three of the sub-sections. The first two sub-sections, *Tickle Grass and Sand Burrs*, and *Gold in the Flats*, provide several means of providing context to drive the narrative. *Tickle Grass and Sand Burrs* (Figure 21) relies very heavily on designed objects to contextualize the few artifacts that are displayed within the section. No single artifact in this section seems to take priority; the overall intention of this section is to provide information about how the neighborhood went from being an airfield to one of the most prominent Eau Claire neighborhoods without focusing on and one person's individual story.



Figure 21. Exhibit display from sub-section *Tickle Grass and Sand Burrs*.

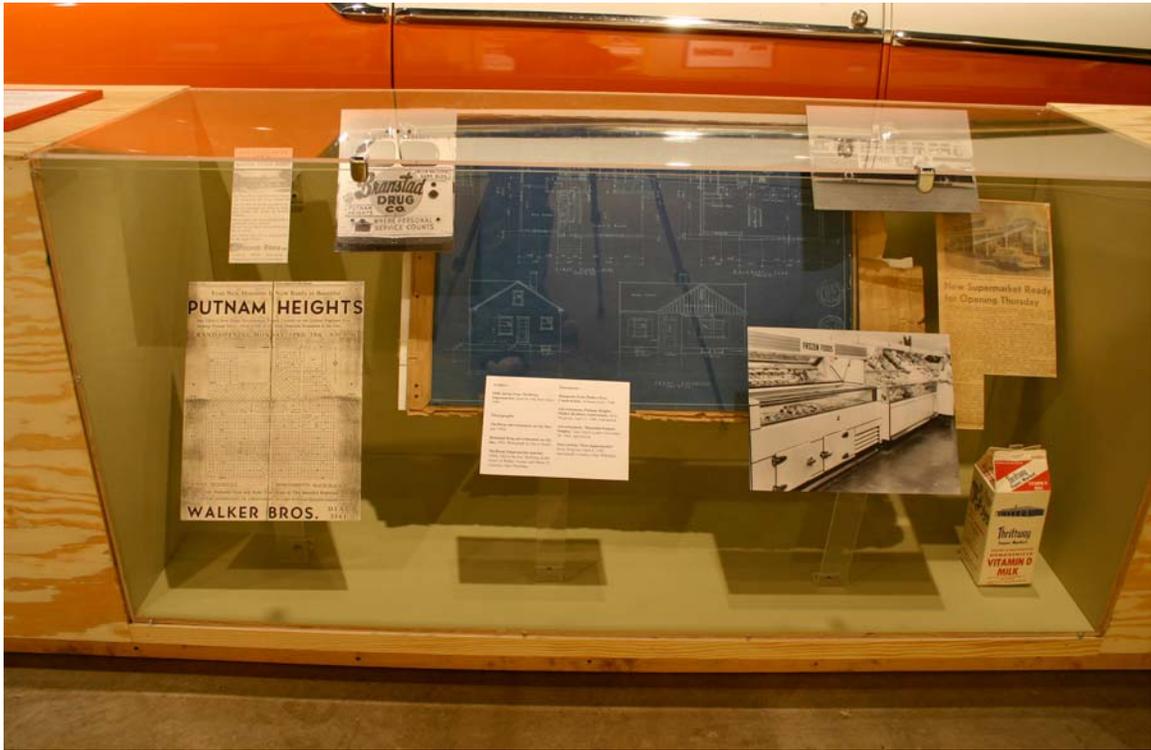


Figure 22. Close up of glass case from sub-section *Gold in the Flats*.

Gold in the Flats (Figure 22) provides the museum viewer with a lot of written information explaining the changes that occurred in the neighborhood during the mid-20th century. Architectural sketches, documents, narrative informational signs are included among the numerous photographs to provide context and understanding of the neighborhood as a whole. A 1956 Dodge Custom Royal is among the few artifacts of this subsection.

The third and final sub-section, *Putnam Heights Today* is *detail-driven*. (Figure 23). The entire sub-section is largely reliant on one large artifact to drive the narrative and doesn't provide a lot of information as to the larger context of the overall change in

the neighborhood. A patio table and a grill situated near a fence are the main emphasis of this section. Included also are some contemporary photographs of the neighborhood.

The two dimensional objects included in this sub-section, in comparison to the large three dimensional objects, suffer from an extreme contrast between the large and the small, the three-dimensional and the two-dimensional, the eye-level and the near floor-level display. The two-dimensional objects, such as the maps, the drawings, the photographs, and the newspaper clippings (seen in figure 22) are easily overlooked though they hold much of the intended message of the storyline. These items need design treatment that give them significance and apparent importance to the museum visitor. A visitor cannot be expected to understand that these items are important if required to kneel on the floor and read very small text to receive the intended message. A museum visitor has come to a museum not to read, but to experience events of the past in a three-dimensional context.

Patio Table – Iconic Artifact

The patio table (Figure 24) dates back to approximately 1985 and is significant to the more contemporary Putnam Heights neighborhood. The table is meant to represent the backyard barbeques and the friendly neighborhood gatherings to grill and to evoke camaraderie. The patio table is representative of backyard fun among neighbors.



Figure 23. Exhibit display from subsection *Putnam Heights Today*.

In the case of the patio table, the size of this artifact matches its significance to the storyline without question. Second in size only to the automobile, the patio table stands almost lonely in this sub-section. Though a fence was constructed behind it and grill complete with plastic food is placed near it, the table feels awkward within the space. The informational panels that could assist the museum visitors to contextualize this artifact are placed in the shadows of its umbrella and behind the artifact itself. They are difficult to notice, and especially difficult to read without nearly crawling over the table. Though the information speaks about friendly neighborhood barbeques, the table without the context of chairs serves to enhance the sense of loneliness within this space. The lack of actual patio or the feeling of being outdoors contributes to this disconnection between

artifact and intended significance. It may be the case that the patio table matches in physical size its significance in the storyline, but it does not drive the narrative in the intended way. On the contrary, this item may stand for its very opposite intention, making it appear that the neighborhood is a social void.



Figure 24. Patio table from sub-section *Putnam Heights Today*.

1956 Dodge Custom Royal – Iconic Artifact

The car serves a dual purpose, referring to both the invention of the car and the ways that the introduction of the automobile into the lives of private citizens changed

many neighborhoods. The introduction of the car was important in the Schlegelmilch section (Figure 25) as it spoke to the destruction of the family neighborhood to build automobile dealerships, and it was important to the Putnam Heights neighborhood (Figure 26) because cars arrived around the same time as the area began to develop, affecting the planning of the neighborhood. Because almost all families owned an automobile, houses were beginning to be built with garage structures for the first time. The introduction of the car also meant that services and amenities such as markets no longer needed to be within walking distance, so the neighborhood had no need for self-sufficiency.



Figure 25. Car as viewed from the Schlegelmilch Section



Figure 26. Car as viewed from the Putnam Heights Section.

The car matches in stature its comparative significance to the storyline. It is the largest artifact in the exhibit and cannot go unnoticed. This section speaks about the introduction of cars to the Putnam Heights neighborhood and how it changed the way people understood distance. This car is representative of the introduction of both the change of architecture, in terms of building garages, and the change of behavior patterns of neighborhood residents. People, who were used to walking to neighborhood markets, and entertaining neighbors, we starting to commute to grocery stores and shopping centers and began to widen their circle of close friends. This car, too, may represent the rise of the middle-class lifestyle, as there was a large separation between the people who could afford a car and those who could not. The car, then, also represents a status symbol

within society. The history of middle-class culture, the reconfiguration of architecture, the evolving technology, and city and regional planning have been scaled and reconstructed to be represented by this car, situated in the context of a garage under construction.

Comparing *In the Neighborhood Exhibit* against map analogy

When comparing the *In the Neighborhood* exhibit as a whole against the map analogy, there are several things that situate it on the *data-driven* side of the continuum. The exhibit itself is based around the geographical scheme of neighborhood development in the Eau Claire area, and thematic scheme of the significant changes that give each neighborhood its own unique identity. These create a very conceptual timeline that focuses more on the changes than the display of artifacts.

To display four neighborhood sections and twelve sub-sections in the limited space of 1,500 square feet, the material and number of artifacts that could be displayed had to be severely reduced and each item had to hold a larger significance. Yet, the storyline including the graphics and textual documents play a significant role in the exhibit, and in some cases even a more important role. Some of the sub-sections rely almost entirely on photographs and text to deliver the message and only have a few objects to root the story in the material history.

Similar to *Farm Life*, the *In the Neighborhood Exhibit* attempts to compress both time and space resulting in two very significant changes in scales: timescale and physical space. In real life, each neighborhood occupies a physical space in some cases of less than a mile and in others several miles, and each had to be reduced to an exhibit that only

allows for a little over 300 sf each. With three different representations of each neighborhood throughout time, this reduces the space to approximately 100 square foot per sub-section. In this case the construction and representation of the history of that sub-section needed to be chosen very carefully.

It is not a coincidence that there are fewer artifacts and more photos and text used in this exhibit to convey meaning. The extreme scale construction (reduction) in both time and space to a very limited exhibition space meant that decisions had to be made about how best to represent each neighborhood and each era within each neighborhood. The use of large artifacts that took up precious exhibition space had to be limited to only those that were decidedly most important to drive the narrative. Next, smaller artifacts had to be carefully chosen to for their representative qualities but also had to be restricted because *data* (context) was needed in order to give these items the representative qualities that the the storyline intended. The remainder of the space had to be configured to provide context for both the small and large artifacts to create a cohesive narrative. Because of the restricted space and need to tell a story, the desire to show ‘real objects’ was in conflict with presenting a coherent narrative. ‘Real objects’ had to be sacrificed to textual panels and descriptive photographs in order to ‘fit’ the story within the space.

A diagram (Figure 27) similar to Figure 15 of the *Farm Exhibit* has been made to help visualize, from idea to execution, how the event has been scaled into the exhibit, taking into account the processes through which the CVHM operates. It takes into consideration the external and internal constrains on the design. This diagram shows how the museum begins with a complex narrative, but as a multitude of constraints are applied the narrative is necessarily simplified.

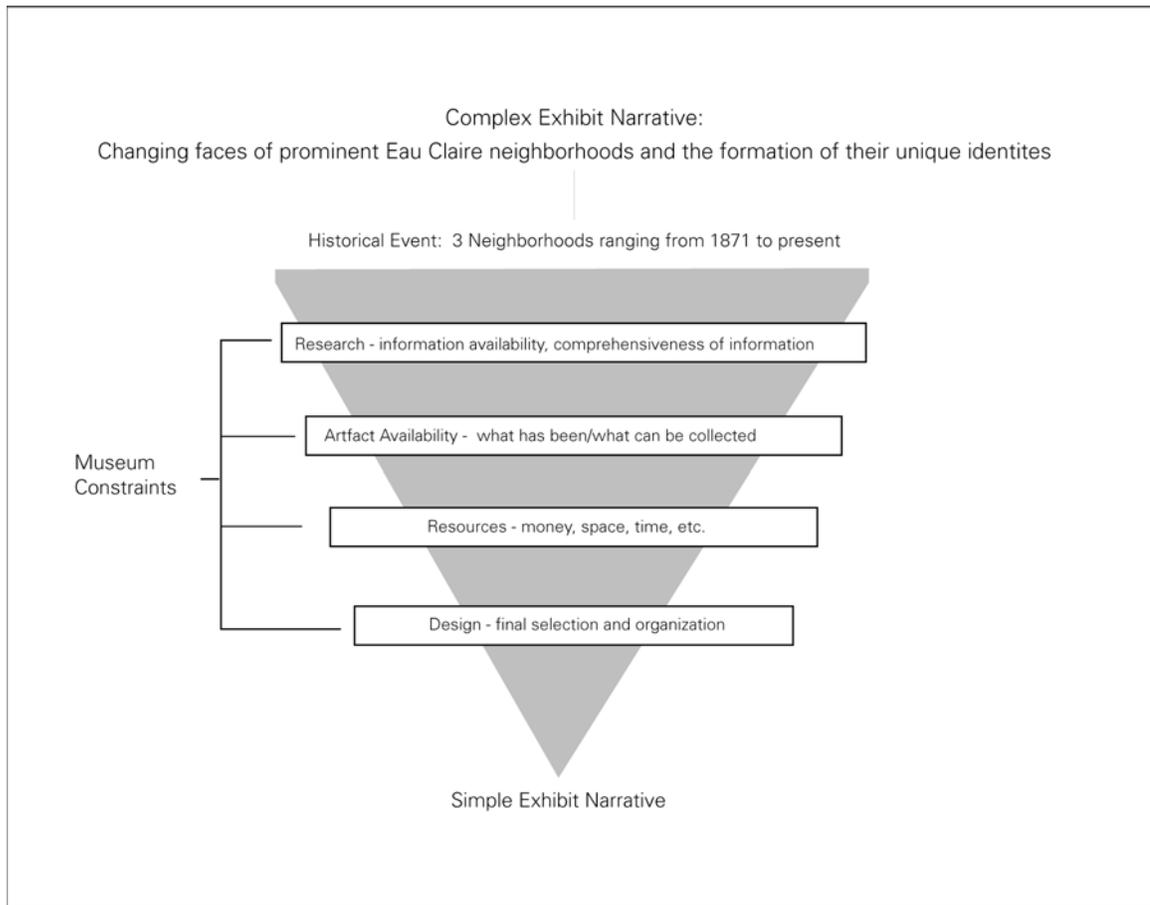


Figure 27. Diagram of how scale changes occur from complex exhibit narrative to simple exhibit narrative during exhibit development.

Comparing the two exhibits: *Farm Life* to *In the Neighborhood*

When comparing the two exhibits at the CVHM, one can see that there can be discrepancy between the idea (narrative/storyline) that needs to be conveyed and the amount space available to tell that story. Larger spaces such as the *Farm Life* exhibit allows for both a greater number and larger-sized artifacts, whereas smaller spaces such as the *In the Neighborhood* exhibit severely limits the amount and the sizes of objects placed within that space. This does not necessarily mean that a larger space means a better exhibit; rather it suggests that the certain exhibits are more easily placed within

larger spaces than smaller ones. Museums have always prided themselves on the display of the 'real object' and in the case of displaying farm machinery, for example, it would seem obvious that more space would be demanded than for matter of argument, precious gems. This argument, however, holds more merit for object-oriented displays as Dean suggests in his model discussed earlier.

In the case of narrative museums, scaling a history down to any space for display is a matter of decision-making. Each item chosen to display is no longer that item, but representative of something much greater from its own time. The hammer on the workbench in the farm exhibit is not a hammer but a symbol of work, of ingenuity, or a person who held it and all others like him. It describes the methods used, the tools used, and the technology available to perform farm work. It may also symbolize a tool that has been passed from generation to generation (my grandfather's hammer) which suggests personal history that has nothing to do with a hammer. Space, in this case is very important for each item that fills the space, may it be large or small carries with it much more than its physical size. Design techniques in combination with its symbolic referents; demand that the viewer see the object in a certain way. Contrast, focal point, emphasis, and proximity to the viewer change the way the visitor sees and prioritizes the object within the display. It is not about the size of the space but about the construction within that space. A smaller space works, if the idea fills it appropriately and vice versa. In a narrative museum it is how the space is used and the idea scaled that determines the understanding. That is to say, the larger the narrative/idea/storyline, the more significant each decision becomes. Fitting it in the space is a matter of decision and intention.

Narrative museums have to negotiate the balance between the 'real object' and the storyline. Both take up valuable space in the exhibit.

One could conclude that the *Farm Life* exhibit has achieved a higher-level of success because the museum visitor believes that they have participated in the experience of being on a farm and experiencing, at the very least, some aspects of farm life. This is partially due to the luxury of space, nearly full-scale replicas could be created, and actual scale artifacts such as the barn and the silo could be brought in to be experienced. But in some way, this too is deceiving. All the literature at the beginning of this study made clear is that context is everything and placing an object inside of a museum changes context. The question could be asked whether or not it is possible that the museum visitor leaves with a false understanding of farm life since it is obvious that the actual historical experience cannot be achieved within a museum space.

One might argue that the smaller exhibit, *In the Neighborhood*, is more successful because it does not attempt to make the visitor believe he/she has experienced the past but rather has a more generalized understanding of it. It is this author's argument that it is the decision-making of all parties involved that provide the representation, not the availability of space, however, it would seem that the decision-making may prove easier when a larger space is available since less emphasis has to be placed on each object included.

CHAPTER 4. CONCLUSION

The well-intentioned museum

The purpose of these case studies was not to point out the flaws in the exhibits of the CVHM, in fact, quite the opposite. This paper was an attempt to study the decision-making process of exhibit design and the resulting effectiveness of representation. It was an attempt to study how it is that an exhibit designer, with the help of the museum staff, can scale a historical event into a limited museum space; how it is that a limited number of artifacts presented within a limited space can begin to construct a representation of a historical past. This study attempts to see what gets emphasized and what gets lost in the scale translation.

It is this author's understanding that the CVHM, and all museums of its kind are well intentioned institutions that aspire to present to the public the most accurate representation of history that is possible. It is important to note that all museums operate with external constraints such as budget, time, space, and resources. It is how the museums work within these external constraints and how they use creative strategies to construct this representation that is of interest. By examining these issues it is possible to develop a conceptual framework that can help to negotiate the decision-making process of constructing a history for public display in the limited space of a museum for public display.

Negotiating the continuum

The *detail-driven* versus *data-driven* continuum was devised to show that there is always a balance between how much information is included about the larger context of the historical event and the amount of detail that can be shown about any individual artifact or situation. There cannot be both, since there is only a limited space and it has to be decided how to represent the historical event. In the case of *detail-driven* a handful of close ups of specific pieces of the history are presented as representative of the larger context. Lots of detail can be provided about individual artifacts and each can be contextualized into its own personal history. The real advantage to *detail-driven* display is the comprehensive understanding about how an individual artifact fits into the historical record. We see the artifact, in a context that begins to speak about the specific significance of that artifact. We begin to understand why it may have been important and to whom and in what context, however, there is little ability to show the larger historical context. For example, in a *detail-driven* display, showing a dinnerware set that belonged to a certain family on a table that belonged to that same family along with a narrative that explains the individualized significance of the artifacts becomes the priority and becomes representative of all families without the ability to compare other situations or contexts with the same level of priority. A more narrow view of the historical record is the result: the museum visitor learns a great many things about some very specific events or items, but leaves unable to understand how these items may relate to the larger story.

In the case of medium sized regional historical museums, the history provided is often then the genealogical history of the people who visit. At the CVHM, for example, many of the museum visitors come to contextualize their own private histories, looking

for how their grandparents and great grandparents lived. The visitor comes armed with memories and nostalgia for their place in the historical record and using a *detail-driven* display may provide a certain power of suggestion to people a history that they might not have shared in. It may be easy for someone who carries with them a faint memory of sitting at their grandparent's farm to situate their memories to the artifacts and information available at the museum rather than to understand that only one family, however representative, is just that—representative. The visitor is not provided the extra information that may be necessary to understand the similarities and differences between the details shown and his own reality. It is possible that the viewer may walk away with a false understanding of his family history mistaken for reality. In addition, the visitor begins to understand the larger history in terms of a handful of representative moments rather than as an ever-changing reality of the past. A close-up full immersion kitchen within a museum display stands in for a century of domestic life within the farm family. To scale this to the size of a three-quarter scale room within a museum is a matter of strategy. Issues of what should and can be included are of utmost importance, and in the end are responsible for the impression the viewer takes away of the farm life domestic sphere in the 20th century.

In the case of *data-driven* display, as much information about the entire event is presented without the ability to elaborate on the specific detail of any one thing. The advantage is being able to present a more comprehensive overall understanding of more aspects of the event. It allows the ability to provide comparisons, highlighting changes, similarities, and differences. It allows interpretive visual materials such as textual signs, photograph plaques, etc to provide much of the contextual information to fill in some of

the gaps in the storyline. The viewer receives a more generalized, or one could argue, a less political construction of history because no one prominent family is given priority in the exhibit, but it also becomes a bit generic and is also difficult to apply to one's own personal history that he/she may have come to learn about.

Data-driven display, too, relies on the decisions made by the exhibit designers and museum staff as to what should and can be displayed, and more importantly what interpretive visual materials need be included to 'fill the gaps' in the story. Informational signs are included, but what should they say? Problems arise in inclusion because a generalization of the past is no more informative than a personal representation of the history. The question becomes quite rhetorical: is it better to show to whatever extent possible what we know about specific artifacts, events, people, which serves to alienate those who did not share in that history, or to over-generalize, creating a generic view of our history so as not to exclude? In the case of *data-driven*, it would seem that the power of the museum as an expository space for the 'real objects' of the past is no longer the goal. As Hooper Greenhill put it, "Museums pride themselves on being places where 'real objects' can be seen. This notion of 'the real' is a powerful and enduring one" (Hooper-Greenhill, 14). If museums no longer choose to center on the 'real objects,' and instead prioritize text, photographs, and other interpretive visual materials to tell the story, how is a museum any different from a book on the subject? Is the power of the 'real' more important than that of the accurate? Objects have what meanings we provide them, once placed in a museum they become rhetorical and with that comes responsibility.

Achieving detail driven or data driven design

When museums begin considering whether to work towards *detail-driven* or *data-driven* display, there are several things that need to be considered in achieving the storytelling objective.

When working to achieve *data-driven* display, the overall goal is to add additional information and interpretive visual material as context for a broader understanding of the history presented. There is a need for the exhibit designers and museum research staff to carefully consider what information most accurately represents the aggregate and what the learning objectives for the display are. In the case of *data-driven* display the sum of the whole is worth more than the sum of its parts, meaning that the collection of individualized histories do not add up to the history as a whole. It is what is most common to the greatest number of people that needs to be considered and it must be evident to the museum visitor that this is the case.

When working to achieve *detail-driven* display, the overall goal is to give emphasis and significance to particular artifacts (iconic artifacts). Individualized histories and significances are presented to show a very personalized and detailed account of what an example of that history might have been for a certain group, family, or person. In the case of *detail-driven* display the sum of the parts adds up to more than the whole, meaning that there is more to be learned from the emphasis on the ‘real object’ and the information that can be gained from examining that object very closely than there is to studying the broader context in a more generalized fashion. What is of utmost importance in this type of display is to be very careful about what the learning objectives are for the exhibit; in a *detail-driven* exhibit less ‘overall narrative’ understanding will be

achieved so the broadness of the topic must be very closely compromised. It is possible that *A Century of Change for Farm Families and their Neighbors* is too much to expect from a *detail-driven* display. Because of the twofold shifts in scale as previously discussed (physical space and timescale) too much information needs to be considered by the museum staff. The idea of a century of change suggests comparisons of the evolving technology and personal relationships yet within a limited space how much physical space can be dedicated to any one artifact or situation? A more narrow topic such as farm life in rural Wisconsin in 1930 would be considerably much more manageable in this display style as it would be more appropriate to have one large 1930s kitchen, barn, silo, etc to give a detailed account of a more reasonable scope. Individual artifacts become more significantly representative in this context, and therefore are more appropriate in an exhibit that attempts a smaller scale historical event.

Future projections

This assessment of exhibition design could offer a new perspective on the creation of historical exhibits in medium-sized historical museums where the history offered is that which is very personal to the regular museum visitors. This new perspective offers a way to assess the decision-making process of creating an exhibit. Choosing items that are accurately representing the personal or the generalized history and in what capacity is absolutely essential to the exhibition and the reflection of the history of the people to for the people who specifically belong to that history.

When considering history, an irretrievable entity as it was experienced, the re-experience process that happens within a museum space needs to scale that event both in

time and in space. This study hopes to make known the powerful implications of social construction, as well as the power that the designer has when creating a representation of the past as we are to re-experience it. This is especially the case in interpretive museums. It is hoped is that exhibit designers will take this knowledge to heart when beginning the design process. Two assessment tools have been created for designers to use when both creating and evaluating exhibit design techniques and their implications on meaning and understanding by museum visitors within these exhibits. Whether in retrospect or in exhibit planning, exhibit designers may find these tools useful in examining the constructed meaning and significance of the exhibit and the items chosen for display.

As noted earlier in this volume that there has been relatively little written on exhibition design from the perspective of design implications in a social/political sense and this study is an attempt to provide a starting point for these modes of inquiry. This study has expanded the knowledge about exhibit design and the relationship between the exhibited items and exhibit narrative to the larger social context that can be applied in both the planning stage and the evaluation stage to analyze the exhibits created. There is room, too, for the application of this knowledge to expand beyond the design of exhibits in historical museums; science and children's museums along with other institutions that attempt to create an immersive learning environment could also benefit from the type of analysis proposed in this study. Additionally, this study contributes to the small but growing pedagogy of exhibit design education in the schools of graphic design, expanding and reestablishing the role of the graphic designer to an active participant in the creation of culture.

BIBLIOGRAPHY

- Agnew, John. "The Rhetoric of Regionalism: The Northern League in Italian Politics, 1983-1994." *Transactions of the Institute of British Geographers*, New Series 20.2 (1995): 156-172.
- Baxandall, Michael. "Exhibiting Intention: Some Preconditions of the Visual Display of Culturally Purposeful Objects." *Exhibiting Cultures: the Poetics and Politics of Museum Display*. Ed. Ivan Karp and Steven Lavine. Washington DC: Smithsonian Institution, 1991. 33-42.
- Belcher, Michael. *Exhibitions in Museums*. Washington, D.C.: Smithsonian Institution Press, 1991.
- Bennett, Tony. *The Birth of the Museum: History, Theory, Politics*. New York: Routledge, 1995.
- Bertron, Aurelila, Ulrich Schwarz, and Claudia Frey. *Designing Exhibitions: A Compendium for Architects, Designers and Museum Professionals*. Basel: Birkhauser-Publishers for Architecture, 2006.
- Brawne, Michael. *The Museum Interior: Temporary and Permanent Display Techniques*. New York: Architectural Book Publishing Company, 1982.
- Celant, Germano, ed. *Claes Oldenberg, Coosie van Bruggen*. Milan: Skira Editore, 1999.
- Dean, David. *Museum Exhibition: Theory and Practice*. New York: Routledge, 1996.
- Debord, Guy. "Separation Perfected." *Visual Culture: the Reader*. Eds. Jessica Evans and Stuart Hall. London: Sage Publications, 1991. 95-98.
- Delaney, David. "The Political Construction of Scale." *Political Geography* 16.2 (1997) : 93-97.
- Dernie, David. *Exhibition Design*. New York: W.W. Norton & Company, 2006.
- Dubin, Steven. *Displays of Power: Memory and Amnesia in the American Museum*. New York: New York University Press, 1985.
- Falk, John H. *Learning from Museums: Visitor Experiences and the Making of Meaning: Visitor Experiences and the Making of Meaning*. New York: AltaMira Press, 2000.

- Falk, John. H. and Lynn D. Dierking. *The Museum Experience*. Washington DC.: Whalesback Books, 1992.
- Gosden, Chris and Karola Kirsanow. "Timescales." *Confronting Scale in Archeology: Issues of Theory and Practice*. Eds. Gary Lock and Brian Leigh Molyneaux. New York: Springer. 2006. 27-37.
- Hansen, Ann. "Museum Seeks Photos and the Stories Behind Them for New Exhibit." *Country Today*. March. 2000 : 2A.
- Hein, Hilde S. *The Museum in Transition: A Philosophical Perspective*. Washington DC.: Smithsonian Institution, 2000.
- Herod, Andrew. "Labor's Spatial Praxis and the Geography of Contract Bargaining in the US east Coast Longshore Industry, 1953-89." *Political Geography* 16.2 (1997) : 145-169.
- Hooper-Greenhill, Eilean. *Museums and the Interpretation of Visual Culture*. New York: Routledge, 2000.
- Hutcheon, Linda. *The Politics of Postmodernism*, London: Routledge, 1989.
- Klein, Larry. *Exhibits: Planning and Design*. New York: Madison Square Press, 1986.
- Lavine, Steven D. and Ivan Karp. "Introduction: Museums and Multiculturalism." *Exhibiting Cultures: the Poetics and Politics of Museum Display*. Eds. Ivan Karp and Steven Lavine. Washington DC: Smithsonian Institution, 1991. 191-205.
- Linenthal, Edward T. *Preserving Memory: The Struggle to Create America's Holocaust Museum*. New York: Viking, 1995.
- Loewenthal, David. *The Past is a Foreign Country*. Cambridge: Cambridge University Press, 1985.
- MacDonald, Sharon and Gordon Fyfe. *Theorizing Museums*. Cambridge: Blackwell Publishers, 1996.
- MacLeod, Susan. *Reshaping Museum Space: Architecture, Design, Exhibitions*. New York: Routledge, 2005.
- Marston, Sallie. "The Social Construction of Scale." *Progress in Human Geography* 24.2 (2000) : 219-242.

- Molyneaux, Brian Leigh. "Topographical Scale as Ideological and Practical Affordance: The Case of Devils Tower." *Confronting Scale in Archeology: Issues of Theory and Practice*. Eds. Gary Lock and Brian Leigh Molyneaux. New York: Springer, 2006. 67-87.
- Prown, Jules David. "In Pursuit of Culture: The Formal Language of Objects." *American Art* 9.2 (Summer 1995) : 2-3.
- Prown, Jules David. "Mind in Matter: An Introduction to Material Culture Theory and Method." *Winterthur Portfolio* 17.1 (Spring 1982) : 1-19.
- Ridges, Malcolm. "Scale and Its Effects on Understanding Regional Behavioural Systems: An Australian Case Study." *Confronting Scale in Archeology: Issues of Theory and Practice*. Eds. Gary Lock and Brian Leigh Molyneaux. New York: Springer, 2006. 145-161.
- Sandall, Richard. Ed. *Museums, Society, Inequality*. New York: Routledge, 2002.
- Velarde, Giles. *Designing Exhibitions: Museums, Heritage, Trade and World Fairs*. Burlington, VT: Ashgate Publishing Limited, 2001.
- UW-Madison Program on Agricultural Technology Studies, 2005. March, 2007.
http://www.cias.wisc.edu/archives/2006/02/15/grazing_in_the_dairy_state/index.php.
- Vogel, Susan. "Always True to the Object, in Our Fashion." *Exhibiting Cultures: the Poetics and Politics of Museum Display*. Eds. Ivan Karp and Steven Lavine. Washington DC: Smithsonian Institution, 1991. 191-205.
- Walsh, Kevin. *The Representation of the Past: Museums and Heritage in the Post-Modern World*. New York: Routledge: 1995.
- Weil, Stephen E. *Rethinking the Museum and other Meditations*. Washington, DC.: Smithsonian Institution Press, 1990.
- Weinberg, Jeshajahu and Rina Elieli. *The Holocaust Museum in Washington*. New York. Rizzoli International Publications, 1995.
- Wobst, Martin H., "Artifacts as Social Interference: The Politics of Spatial Scale." *Confronting Scale in Archeology: Issues of Theory and Practice*. Eds. Gary Lock and Brian Leigh Molyneaux. New York: Springer, 2006. 55-64.
- Zimmerman, Larry J. and Joe Alan Artz, "Scale, Model Complexity, and Understanding: Simulation of Settlement Processes in the Glenwood Locality of Southwestern Iowa, 1976 and 2000." *Confronting Scale in Archeology:*

Issues of Theory and Practice. Eds. Gary Lock and Brian Leigh Molyneaux. New York: Springer, 2006. 129-144.