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Narrative Structures: 
The Creation of Meaning through 
Reference and Collage in Architecture

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ABSTRACT

The journey is a powerful catalyst wherein characters pass from one physical or personal place to another. However, the adventure and excitement of the literary journey is often lost in the monotony of the daily commute and through preoccupation with the destination. Public transportation can be a passive affair, and the nature of transportation can render the travelers personally idle despite the physical movement. This reveals an opportunity to engage with the path and transform the commute into a journey through which people may directly traverse or wander aimlessly. This thesis proposes that a narrative intervention can elevate an ordinary transportation route into a stimulating and challenging journey by layering into the architecture different meanings and multifaceted interpretations of the story and storytelling process that can be interpreted differently by each individual. This will use narrative content as a generator for the design of sixteen transit shelters along the new Cincinnati Streetcar route and will tell the story of White Hawk and the Sky Sisters, a Shawnee ethnoastrological myth originating in the Ohio River Valley. Transportation and movement require a study of sequence, which can be distilled into two contrasting approaches, linear and flexible, that engage the site differently. The development of a rich field of potential interpretations uses conceptual tools, such as reference, which links specific narrative elements to associative ideas, imagery and a broader cultural and collective identity. Collage layers the references together to compose a structure with an inherent meaning linked directly to the narrative that, like storytelling, can be understood differently by everyone. Travelers project their own personal fears and desires onto the story, and through this personal lens the narrative can enrich the journey by offering a parallel fictional world, an adventure, to explore.
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*What we call the beginning is often the end. And to make an end is to make a beginning. The end is where we start from.*
-- T.S. Eliot

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Furthermore, a few illustrations draw their diagrammatic material directly from the works of other authors. These must be properly credited.

Ill 2.3

Ill 2.4

Ill 2.5

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IN THE BEGINNING

[The] mythical value of the myth is preserved even through the worst translation. Whatever our ignorance of the language and culture of the people where it originated, a myth is still felt as a myth by any reader anywhere in the world. Its substance does not lie in its style, its original music, or its syntax, but in the story which it tells. -- Claude Lévi-Strauss

THE PREFACE

Storytelling is a uniquely human art. Communication is recognizable amongst animals. Wolves howl, bark or bare their teeth to communicate their raw emotions. Dolphins click, birds chirp, dogs bark. Chimpanzees have learned sign language. But only humans have a method of communicating, through sound or movement, which can acknowledge the past, present and future. We use storytelling to remember what has happened, to imagine what can happen and to explain how something may happen. Stories and myths offer a structure to the vast mysteries of life. We are told stories when we are young, and often it is not the content but the soothing sounds of our parents voices which capture our attention. Later, these stories can be interpreted for meaning. For children, they often offer a simple message. Always listen to your mother, finish your dinner, and don’t wander too far into the woods. As we age, the fairy tales of our youth can be reexamined. We see what we want to see. The interpretation is something personal, and we can project our own existential anxieties into the stories. We are constantly and continually recreating the meaning and
structure of the stories which capture our imaginations. It is a lifelong journey of telling and retelling.

The very nature of storytelling is that of a journey. These tales do not exist in stasis. They travel across the world and change through time as they are told and retold. Each listener hears the story differently. As listeners become tellers, story elements are inverted or reflected. Components are borrowed or stolen from other stories. The story exists as no one version, but rather as a compilation or collage of all these changes. It lives in the transitional space between mouth and ear. Each civilization leaves a mark upon their favorite tales. This changes the story enough to reveal something unique about that civilization. It records the fears or aspirations of the people within that culture. It reveals truths about humanity and our societies. The history of architecture walks hand in hand with the history of storytelling. A monument reflects the same concerns and desires of the culture that built it. Architecture is composed of a language which expresses ideas, just as in writing. The Greeks invented the articulated column, which formed a temple. The Romans defined the columns and wrote rules for their uses. The gothic style stretched these columns to the heavens, and the baroque distorted them to find to new meaning.

Victor Hugo speculated in Notre Dame de Paris that the book killed the building. He writes, “Architecture is dead, dead beyond recall, slain by the printed book.” The invention of printing and the accessibility of literature made the need to communicate through stone obsolete. This is, of course, debatable. Architecture continues to reflect the thoughts of
its makers, who are the product of a culture, regardless of the availability of print. These architectural stories can be consequential, like the wearing down of marble steps. They can be ritualistic, like a Japanese tea house. They can tell tales of construction, like the Ise Shrine. Or tales of destruction, like the Berlin Wall. Architecture may not be required to tell tales to the illiterate through statue and imagery, as gothic cathedrals once did, but it nevertheless tells a story. A story which can, by its nature, be personalized and examined by individuals for meaning.

Some architects have consciously explored this junction between narrative and architecture. Le Corbusier’s Ronchamp tells a layered, religious narrative. Douglas Darden invents a story and client based in literature and reference for his fictional, paper architecture. Daniel Libeskind’s Holocaust Museum offers a prescribed story. By contrast, Peter Eisenman’s Holocaust Memorial offers an experiential story. These buildings each exist as a product of their own inherited cultures, but the narrative inherently connects them to all the versions and variations of that story told at all points and places in time. Storytelling is something powerful and personal which layers meaning upon architecture that each individual can interpret differently and connect to through their personal and collective identities. The story may be captured in stone, but it always being told and retold as it is reinterpreted.
THE PROBLEM

The story exists in the in between – the transitional space between speaking and hearing, telling and retelling. It is an ancient tradition which connects us to the past, present and future. It is a shared journey through time and history that joins people together. The use of narrative in conjunction with another variation of a journey is appropriate, and binds the two journeys together. Through narrative intervention, the common journey can transform from a routine commute into an adventure, a voyage, and an exploration of sites and stories previously unknown. Today’s journeys are preoccupied with efficiency. The goal is to move directly from destination to arrival. The routine of the commuter may often fall into dull repetition. The tourist may unswervingly visit city sites unaware of the untold stories along the way. For many, the journey has become unadventurous and undeviating. Travelers are bombarded by advertisements, so they may introvert into their personal devices. Apprehension may distract from the opportunity to find pleasure in passing. The journey has become a passive affair, though full of potential, which needs to be activated. However, there is an opportunity in inject the in between space where story lives with narrative to activate and enrich the entire experience.

In Umberto Eco’s compilation of essays entitled *Six Walks in the Fiction Woods*, he proposes that people find comfort in fiction because a fictional world, unlike the actual world, can
be isolated, analyzed and understood in its entirety. In the real world, there are too many variables to consider and humanity always questions and proposes solutions to the underlying structure. This is why mythology is so engaging: it proposes a potential shape or form to the structure behind human experience. It constructs the real world as we perceive it as if it is dependent on the story and strategies of the mythical world. According to Claude Levi-Strauss in The Structural Study of Myth, “human societies merely express, through their mythology, fundamental feelings common to the whole of mankind, such as love, hate, or revenge or that they try to provide some kinds of explanations for the phenomena which they cannot otherwise understand.”¹ This is a powerful undercurrent that runs deep below the commonality of daily actions and can be utilized architecturally to calm an aggravated process or elevate a routine trip into a ritualistic journey by linking it to a collective history and a complete, interpretive fictional world.

The stories told along the journey are opportunities to find the “garden of forking paths” within the woods. The vast diversity of architectural techniques used to convey narrative must be carefully explored at these stops along the transit route. The intention and the interpretation of storytelling must be considered and balanced to invent a space that can challenge travelers to think or to relax, to explore or to ignore.

Le Corbusier once referred to architecture as “a series of plastic events,” which implies a sense of fluidity and free interpretation inherent to the narrative process. This thesis will engage narrative theory beginning with Eco’s walk in the wood, which advocates for the pleasure to be found within fiction and explicates the comforting power of literature. Fiction can reveal itself to those who linger in the woods, as in Le Corbusier’s Ronchamp. This lends itself to a referential narrative which can be open to interpretation, as in Douglas Darden’s diagrams from Condemned Buildings. The sequential nature of narratives will consult the writings of Bernard Tschumi from Architecture and Disjunction, and explore different techniques from Peter Eisenman’s Memorial to the Murdered Jews of Europe in Berlin and Daniel Libeskind’s Jewish Museum. The cinematic study of the Acropolis by Sergei Eisenstein in his article, “Montage and Architecture,” along with the narrative theory of Sophia Psarra in Architecture and Narrative will connect the study of sequence to narrative through place and perspective.
THE PROPOSITION

This thesis will propose that story and discourse can enrich program and function and that this can result in several small-scale, intimate structures placed at significant points along a journey to elevate an everyday experience into something meaningful. These small-scale structures will integrate an existing narrative with local histories to develop the narrative for experiential architecture. This will negotiate between the use of allegory and symbolism and manage the implications of form and materiality. The scale between furniture and architecture, or half scale space, provides unique moments and gaps for the human body and reveals positions and movements that are both strange and familiar. It also limits the size of the narrative and compels the design to become as concise and essential as possible to express what is most vital to the story. These narrative structures can exist independently, but will strengthen when viewed as a part of a whole within a larger network of structures found at several scales. The path traversed to visit these structures will have its own story to layer upon the external narrative. The structures, placed in their unique sites, will reveal hidden meanings within familiar landscapes and offer a point of significance for travelers and residents.

The combination of a small-scale architecture, a sequence of sites and the nature of the journey aligns with a modern system: public transportation. The notion of narrative supplementing simple architectural structures can be recognized at the scale of the individual structure, but the journey must be made significant through a realistic host. The City of Cincinnati is currently designing a new Streetcar route, which is an
appropriate secondary scale for the journey. The structures will compose shelters at transit stops along the route.

Ill. 1.2 Stops Along the Route
THE PROJECT

The Cincinnati Streetcar has been a controversial issue since it was introduced in 2002. Many are very supportive of the full plan, which will connect Downtown, Over-the-Rhine, the University and Newport with a wider range of Cincinnati. To complete this range all at once would be expensive, so the process has been phased. The first phase will operate on a four mile loop which connects Downtown, Over-the-Rhine, and Findlay Market. This route is currently serviced by Metro buses, and some residents predict that the initiative will fail in its first phase because the route is too small. Other protestors fear the process will further gentrify Over-the-Rhine and erase the history and current sense of community in the contemporary African American neighborhood. This allows for an opportunity to engage the existing story of Over-the-Rhine and other areas of the route by revealing their stories through the integration of external narratives with local histories.

The external story to be told is both relevant and arbitrary. It is vital to generate the design of architecture, but it could be any story. However, some traits can be identified which strengthen the relationship between the story and the
environment. The theme of transportation or journey in literature is immediately relevant to public transit today. The idea of transportation can be thought of as the drive for unity, togetherness or completion across long or short distances overcoming obstacles such as time, place and geography. To narrow the search, stories with a relevant sense of place became imperative. I identified three avenues of investigation: folklore originating in the United States, traditional German folklore (a choice derived from Cincinnati’s predominantly German ancestry) and the stories of Native American tribes originating in the Ohio River Valley. Most of the state of Ohio was inhabited by the Shawnee People, and several myths born of the Proto-Algonquian culture became relevant. I ultimately choose the tale of White Hawk and the Star Sisters because of the quality of detail and the suitability of the subject matter.

The past, present, and future context of the site will be considered and interact with the streetcar architecture. The story will be anchored to important geographic areas along the route. These spaces will transform into a historic place for the fiction, and this attention will in turn recognize the importance of the spaces to the community. The renovated Washington Park and Music Hall will serve as anchors for the story, and this will influence the arrangement and sequence of the story. Other important landmarks will influence the tone and scale of their local shelters, like Findlay Market and Fountain Square. The present and future landscape of the city must be acknowledged as something constantly changing, and the architecture must respond to future plans, of which the streetcar development is an important part.
The methods through which story integrates with shelter to instill a building with meaning has been investigated by anthropologists and architects alike. The archetypal concept of the primitive hut as the origin of shelter has been investigated by philosophers as a source of meaning, architects as theory, archeologists as artifact, and anthropologists as a moment where nature and culture came together. The mythology of the primitive hut has expanded to address themes of dwelling, nature, culture, order, representation, place, site, technology, and craft. The myth of the first shelter is the original architectural narrative on which additional narratives are built.
Many primitive shelters integrated meaning through various methods. Techniques of decoration, anthropomorphism and symbolism will be explored in the next chapter, and many of these strategies will be considered and applied to the design of the transit shelters.
THE SYMBOLISM IN THE SHELTER

The study of mythology need no longer be looked on as an escape from reality into the fantasies of primitive peoples, but as a search for the deeper understanding of the human mind. In reaching out to explore the distant hills where the gods dwell and the deeps where the monsters are lurking, we are perhaps discovering the way home. -- H. R. Ellis Davidson

The history of station and transit stop design begins with an investigation of meaning and symbolism in shelter through the lens of mythology. Webster defines shelter as “something that covers or affords protection.” The basic function of shelter will be met in this project, but it is the relationships of mythology and symbolism in simple shelters that is of interest. Meaning is inherent in mythology because societies have used myth as a tool which defines the unknown as something tangible. Myths create order, though narrative, which can be applied to the seeming chaos of the world and can structure the broad and precise moments of our lives. Mythological structures from different societies across the world can be examined to discover how they understood the space around them. More importantly, techniques for infusing architecture with meaning can be distilled by examining samples of how myth is symbolically expressed through architecture by either decorative or spatial organizational methods.

Many cultures decorate their homes with paintings or carvings to mark their space and associate it with symbols which convey different meanings and add significance.\textsuperscript{3} The symbolic aspects of shelter can refer to myths, and thus infuse the homes with the meaning in the mythology. Painting is often the simplest means of expression and association. The Jodhpur houses in Rajasthan, India are painted blue to appeal to several connotations. Blue is the color of Krishna, the god of love; it also refers to houses belonging to the Brahmin caste (during the sixteenth century) and it was also believed that the blue color wash warded off termites. The wall murals of the Ndeble houses in South Africa are painted with motifs such as razor blades, abstracted buildings and skylines. The Ndeble women paint during important puberty-seclusion rites for women and circumcision for men, and the murals continue to be a symbol of culture and resistance against colonialism.

\textsuperscript{3} Paul Oliver, Dwellings, (New York, NY.: Phaidon, 2003).
The structural elements of the Mongolian Ger were richly painted to indicate wealth and status. The carved gables on Austonesian houses signify fertility, protection from bad elements, and allude to buffalo horns. The Maranoa torogan chieftain houses in the Phillipines display carved floor end beams which represent water serpents and various plant forms. The sculptural and painted decoration of houses in Kano, Nigeria refers to rabbit ears, which may have been derived from pre-Islamic fertility or ancestral symbols.

Although many decorative techniques are very useful tools of expression, spatial organization is perhaps a more pure architectural approach to communicate meaning through symbolism and narrative. According to anthropologist David Saile, “place implies spatial organization... the ordering of qualities which distinguish certain places from others or from nebulous undifferentiated spaces.” The physical elements that define and organize space include “floor surfaces, level changes, walls, ceilings, columns, a variety of fixed features (like fireplaces, benches) and a variety of movable or temporary objects.” The fixed elements are inherently architectural, but the movable, temporary objects lend themselves to the application of meaning through decoration. Together, these fixed architectural and temporary decorative elements can change the tone or temperature of an immediate climate, provide settings for distinct activities, describe the status of its occupants, and prescribe public and private spaces.

5 Ibid., 159.
Additionally, space, activities, and circulation patterns can be arranged to support the cosmological beliefs of its occupants.

Some societies have constructed their homes as a reflection of their understanding of the universe and the cosmos.\textsuperscript{6} Examples such as the Navajo hogan or the Kazakh yurt reveal a distinct pattern of movement and division of area within the small structures. The Tukanoan malocca, or community longhouse, is a manifestation of their views of a complex social, physical, and mythological universe as symbolized by a “cosmic gourd.” The Berber houses in Algeria explore perceived dichotomies in males and females through spatial arrangements. The Sakalava houses in Madagascar are divided to represent the zodiac calendar. Zones of activity within the space are defined by their astrological associations. The Balinese courtyard house is based on a grid composed of nine squares. A parusha, or primal being, is inscribed in the nine squares and activities are defined by their coordination with the anatomy of the parusha.

\textsuperscript{6} Edson Cabalfin, lecture for “Place and Dwelling,” University of Cincinnati, 15 February 2011.
Anthropomorphism is another thoroughly explored expression of decorative and spatially organizational techniques in the translation of myth to shelter. The idealized plan of the Dogon homestead in Mali has symbolic parallels with the human body: head (kitchen), hearth stones (eyes), central room (belly), goat houses and stores (limbs), water jars (breasts), grinding stones (sexual organs). Similarly, the Tausug house in the Philippines is composed of nine columns which refer to different parts of the body (the center is the navel). The Batmmaliba house in Togo, Africa refers to different parts of the human body through symbolic design elements and abstract gestures. The Maori meeting houses in New Zealand anthropomorphize the body through construction: the carved barge forms refer to the arms with fingers, the ridge as the spine, and the pitched rafter beams represent the ribs.
Ill. 2.4 Batmmaliban House

Ill. 2.5 Dogon Homestead
The role of symbolism as a method of communicating myth in shelter is highly important for this thesis. These are the techniques which will be applied to the shelters to express the narrative of this project. This will have to mediate between decorative techniques and spatial organization. Decorative techniques offer immediately recognizable symbols that can aid in collage or communicate the narrative. Perhaps the time or mode of application will be significant, like the murals of the Ndeble houses. The associative meaning through color and form, or painting and sculpture, is another useful method of communication meaning, as in the Jodhpur blue houses or the sculptured houses in Kano, Nigeria. Alternatively, techniques of spatial organization will allow the user to experience the narrative. This can be done either through patterns of movement, like the Hogan or Yurt, through association with mythical meanings, like the zodiac at the Sakalava houses, or through association with different activities in defined spaces, like the Balinese courtyard house. The use of anthropomorphism directly associates space to different body parts and to the various meanings attached to those parts, as in the Dogon homestead or the Batmmaliba house. This offers an immediate point of reference and understanding to viewers beyond what can be expressed through cultural codes because it is directly meaningful to each person. All these various means of expression can be isolated or combined to communicate a narrative within architecture.
THE THOUGHT AND
THE THEORY

*Every land mark is wedded to a memory of its origins, and yet always being born. Every animal and object resonates with the pulse of an ancient event, while still being dreamed into being. The world as it exists is perfect, though constantly in the process of being formed. The land is encoded with everything that has ever been, everything that ever will be, in every dimension of reality. -- Wade Davis*

A narrative is an account of events. In literature, there are clear components to the narrative. The basic structure of narrative is composed of story, which is the plot or pure chronology of events, and discourse, which is the means of expressing the events. To be told, the story must be filtered through narration, which is directly related to discourse.

In fine art, however, narrative refers to the representation of an event or story. The use of representation implies an indirect translation between the intent of the author and the interpretation of the reader or viewer. Anything can happen in the midst of that indirect translation. Roland Barthes suggested that these missing links can be filled through multiple codes which are interwoven within a text. Semantic code derives meaning through the connotation of a word. Symbolic code refers a deeper, structuring principle of a word which can provide meaning. Cultural codes link the collective knowledge, history and psychology of humanity to elements of the narrative.

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Symbolism is a cultural tool that can help to define the intention of the story, but often it is the multitude of interpretations that enriches the analysis. It is true that, in literature, the entirety of a scene cannot be expressed in complete detail. This allows readers to form their own conjectures through the application and understanding of Barthes’ codes which results in infinite personal interpretations. In architecture, the interpretation of narrative can result from the different means of representation in storytelling.

This section intends to explore several theories regarding the representation of narrative connected with themes such as time, collage, movement and sequence. Architectural precedence will then be compared with the theory as examples of those themes.
Narrative and time interrelate conceptually in such a way that they are codependent in a cultural context. A story requires the passage of time to explain events. Time needs human expression in order to be fathomed by society. The various methods in which the two concepts interact has been skillfully examined by Umberto Eco in *Six Walks in the Fictional Woods*. The text composed of a series of six lectures, or walks, and each walk is an extended musing on a larger theme regarding the elements of fiction, reading, and composition. As Eco weaves theory and literary reference, several themes reveal themselves which are relevant to architecture. Although the essays are prepared for a scholastic environment, all the esoteric and popular culture references cannot veil Eco’s true theme, which is to explore the simple joy of reading fiction.

In the first essay, “Entering the Woods,” Eco establishes the primary metaphor, borrowed from Italo Calvino, which connects the entirety of the book. The woods are a metaphor for narrative text. In a text, the reader is forced to make choices. Eco compares text to a lazy machine, because it asks the reader to do much of its work through imagination and deduction. This individual and personal conjecture may also be supported by Barthes’ codes.

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9 Ibid., 3.
As the reader makes choices, they follow apparent paths or forge their own. They can race quickly through the plot, or allow the author to slow them down and wander through the woods. The author can encourage the reader to take “inferential walks,” which invite the reader to impose themselves into the narrative. This allows the reader to walk within several different kinds of time.\textsuperscript{10} Story time is the time referred to in the content of the story. To say “one thousand years passed” would be one thousand years in story time. Reading time is the actual time it takes to read the passage. “One thousand years passed” would be about two seconds of reading time. Discourse time is a little more complicated, because it is the “result of a textual strategy that interacts with the response of readers and forces a reading time on them.”\textsuperscript{11} A very rapid discourse time can express a very long story time, as in “one thousand years passed.” The inverse is also true: a very quick story time can be expressed by a very long discourse time. Eco shares an example from Ian Flemings Casino

\textsuperscript{10} Ibid., 54.
\textsuperscript{11} Ibid., 57.
Royale, in which the two seconds it takes for James Bond to shoot Le Chiffre in story time is forty seconds of reading time. Discourse time slows down in comparison to the speed of the story. Eco also proposes hallucinating time, in which the
reader can transform into the narrator and imagine everything explained in story time at a personal pace. Trepidation time delays the arrival of a dramatic ending, and functions to keep the readers’ attention and stimulate the aesthetic enjoyment of wandering the woods. The final time Eco suggests is hint time or lingering time, which is similar to trepidation time in that it is a descriptive lingering. He suggests that lingering is one method of rendering the idea of space by allowing the reader to expand discourse time in relation to story time and explore a description of place.

Ultimately, Eco expands the fictional woods into a fictional universe, parasitic and dependent on the laws and conditions of the actual universe to exist. The fictional world is constructed by borrowing aspects from the real world. The real world thus becomes background to the fictional world. The fictional universe is infinitely more limited than the actual universe and this allows us to focus on a finite, composed world. He proposes that this is what we find so comforting about fiction: its understandability. The reader always knows without a doubt that there is an intention behind every message and that this can be deciphered. The real world is too complex to be structured

12 Ibid., 68.
13 Ibid., 73.
and dissected into clear, authoritative intentions. Since a fictional world is enclosed, the reader cannot wander outside its boundaries, and must instead explore its depth. This is the consoling function of narrative. And the foremost function of myth is to propose a potential shape or form to the structure that is behind human experience.

A true richness to fiction can occur when fictional characters begin to migrate between texts. At this point they are freed from the story that created them, and become citizens of the actual world. This can lend itself to a “disjointed” story. For example, Rocky Horror Picture Show lacks form, and can
be endlessly deformed.\textsuperscript{14} The scenes in the movie exist almost independently. Some can be displaced to occur in any order, like the popular Time Warp dance. The characters, scenes and logic are consistent with the confined fictional world, but the connections are ambiguous. The lack of structure allows for audience interaction and infinite interpretations of any narrative action. Eco suggests that disjointed works, like Rocky Horror or Casablanca, become cult classics because of their ability to be deformed. As readers or walkers, we are free to wander eternally within the infinite paths of these sacred woods, continuously deforming them as we walk. In order to become a cult classic, or sacred wood, “a wood must be tangled and twisted like the forests of the druids and not orderly like a French garden.”\textsuperscript{15}

The gaps between joints allow the reader to fill them with their own conjecture, brought from a tangle of individual and collective memories. Readers are constantly linking things and events through their own personal and shared memories, or through history and myth. In a way, this prolongs life itself, by extending each moment, as we try to understand it, to a

\textsuperscript{14} Ibid., 127.
\textsuperscript{15} Ibid., 128.
personal and collective past. Fiction allows a reader to do this endlessly, as they wander through the disjointed garden, structuring interpretations through past and present personal experience.
Some architecture lends itself particularly well to the fictional walk in the woods, and the intentionally cryptic nature of Le Corbusier’s late work is an appropriate example of this. The architecture can be endlessly disjointed and interpreted by different viewers through their own lenses of personal and collective history. Notre-Dame-du-Haut at Ronchamp can be dissected as a religious narrative, but also as a referential work embodying layers of meaning available to anyone lingering in its woods.

Ill. 3.7 Ronchamp Axonometric
Pilgrims assemble annually at Ronchamp for two events: the Feast of the Assumption on August 15, and the Virgin Mary’s birthday on September 8. The remainder of the year Notre-Dame-du-Haut serves as a local parish church, uniquely owned by many residents of the town. Mystery consumes the curves and forms of the church, but a solid narrative can be extracted. Le Corbusier continued to layer multiple, interwoven meanings over the narrative to create a densely meaningful architectural collage which simultaneously expresses multiple incarnations and interpretations.

According to Robert Coombs, the narrative at Ronchamp can be explored in three acts.\textsuperscript{16} They explain three events from the life of the Virgin Mary, to whom the chapel is dedicated, through form and function, light and shadow. The Annunciation refers to the announcement of the angel Gabriel to the Virgin Mary that she would immaculately conceive and become the mother of the son of God. This is manifested architecturally in the western tower chapels and their connecting wall (cyan). Le Corbusier intended the taller tower to symbolize God, the Father, and the shorter tower to represent the Virgin Mary.\textsuperscript{17} Their unity is emphasized by the sweep of the roof from the taller, dominant tower to the lower mate. At the center of the connecting wall a gargoyle drains into a circular cistern.\textsuperscript{18} The “cosmic intercourse” metaphor is represented in form through symbolism.

\textsuperscript{17} Ibid., 34.
\textsuperscript{18} Ibid., 30.
The cistern initiates the story, and is connected to the rest of Ronchamp through the inscribed cross on the floor, which ties together all three acts. The second act, the Assumption, refers to the “taking up into heaven of the Virgin Mary at the end of her life.” This translation is characterized by the nave and the great south constellation wall (green). The essential moment of the Assumption is revealed where the roof levitates above the wall and seemingly defies the laws of gravity. Le Corbusier refers to the roof as a crab shell, which according to Ad de Vries symbolizes death in astrological interpretations. The complete metaphor implies that the levitation of the roof represents the Virgin Mary’s bodily triumph over death.

19 Ibid., 35.
The dramatic downward swoop of the roof can be interpreted as a crescent moon, which J.E. Cirlot, in a *Dictionary of Symbols*, connects to the Virgin Mary. In medieval art she is often “depicted above the moon, thereby denoting that eternity is above the mutable and transitory.” And so the roof encompasses the building beyond the story of the Assumption, and even Le Corbusier acknowledged that the Virgin Mary presides “over the country side and the nave.”

The red chapel symbolizes Christ’s Passion, Death, and Resurrection, and prepares for the Assumption. This leads to the culmination at the eastern wall, which swells inward to emphasize the burst of western light surrounding the statue of the Madonna. This relates the Coronation of the Virgin Mary as the Queen of Heaven. During the annual assemblies, pilgrims face the eastern wall from the outside where it becomes the west wall, which has been associated with the Last Judgment in medieval cathedrals. This would symbolize the ultimate moment of need for the Virgin Mary’s mediation with God.

The punched openings in the north and south sanctuary walls comment on the dramatic acts, just as the stained-glass windows of medieval cathedrals. Le Corbusier utilized the potential of architectural reference in various ways which are interwoven with the story at different moments. The roof presents a perfect opportunity to examine the notion of architectural collage at Ronchamp. It represents the moment of the Assumption, a crab shell, the moon, and through association the Virgin Mary Herself. The roof has also been

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20 Ibid., 36.
21 Ibid., 33.
associated with the lid of Mary’s sarcophagus, with the nave serving as the container.\textsuperscript{22} It can also be interpreted as an ark, a pair of praying hands, a nun’s cornette, and the blades of a propeller. From different vantage points the roof can be any one of these things to any person who finds it relevant.

Le Corbusier also references the “ghosts of Ronchamp’s past,” as Coombs explains.\textsuperscript{23} Elements from Ronchamp I and II were scattered and morphed to influence the form of the modern Ronchamp. A superimposition of Ronchamp I, II, and III reveals a gestural relationship in elevation.\textsuperscript{24} The chapel clearly responds to the historic site conditions prescribed by the previous buildings, but Le Corbusier references other architecture as well.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Ill.3.10_Ghosts_of_Ronchamp_Past}
\caption{Ill. 3.10 Ghosts of Ronchamp Past}
\end{figure}

\begin{itemize}
\item \textsuperscript{22} Ibid., 36.
\item \textsuperscript{23} Ibid., 39.
\item \textsuperscript{24} Ibid., 43.
\end{itemize}
Some instances of reference are more direct. The Church of St. Mary, also known as the Tomb of the Virgin, is one of two sites said to be the location of the Annunciation. It has a clear formal relationship to the southwest tower. The south processional entrance into Ronchamp also parallels the entrance into the Tomb of St. Mary.\textsuperscript{25} The two also share a reversed Latin cross, which is inscribed in the pavement. There are also dimensional comparisons too similar to ignore. The other site, the Crypt of the Annunciation in Nazareth, could have been a model for the west and north chapels at Ronchamp.

Comparisons have also been made to the commune of Montsegur in southwestern France.\textsuperscript{26} The relevance of this structure involves another layer of meaning which connects Le Corbusier’s personal interest in Catharism. He saw himself as a descendent of this lost Christian sect. This layer of meaning is complicated and, along with the exploration of alchemy, will be separated from this discussion related to reference and narrative. However, Montsegur is still relevant as a component of the architectural collage. The transformation from Montsegur to Ronchamp in plan reveals the potential of reference to connect architecture through form and imagery to a new realm of connotations and associations that enrich the primary narrative.

Le Corbusier also examines the associative powers of reference in narrative through the exploration of mystical mathematics and sacred geometry. In his work, numbers and

\textsuperscript{25} Ibid., 45.
\textsuperscript{26} Ibid., 93.
geometry act as proportioning systems and symbols themselves. Through the application of symbolic number systems, Le Corbusier associates himself with medieval architectural traditions employing the power of numbers. Sacred geometry at Ronchamp utilizes the Golden Section, which is considered to be a Divine Proportion through its irrationality and mystery.27 The architecture explores geometries involving isosceles triangles, dodecahedrons, pentagons, circles and squares – all of which carry symbolic associations and were chosen for their form and relevancy.

However, the application of reference and collage can also be explored as something more personal to Le Corbusier as an artist. Moments in the building refer clearly to architecture in Le Corbusier’s sketches. The processional approach to the south entrance recalls the Acropolis and Le Corbusier’s documented, personal crisis experienced at Mount Athos.28 The gargoyle drain resembles a sketch of the

27 Ibid., 131.
28 Ibid., 37.
dam at Chastang. The texture of gunnite, the design of the chapels and the relationship to the crypt sites correlate with Le Corbusier’s known fascination with caves. The interior approach of the southwest tower recalls a hidden dome lighting technique that Le Corbusier photographed and sketched at the Serapeum Hadrian’s Villa. More interestingly, a look up into the window of the dome reveals an angry face, which recalls Borromini’s baroque dome at the Church of Saint Yves at La Sapienza in Rome.

Ronchamp presents itself with a primary, functional narrative: the three act story of the Virgin Mary. However, it is considerably enriched as it is dissected, disjointed and analyzed. The structural metaphors which divide the building into acts are composed of layers of symbolic and literal references which combine with Le Corbusier’s history and identity. The result is a collage of religious narrative, architectural history, personal crisis and symbolic elements embodied in sacred geometry, astrology and artistic reference. These rich layers can be, like Eco’s sacred woods, wandered and explored endlessly as the viewer chooses their interpretations.

29 Ibid., 42.
30 Ibid., 46.
Ronchamp composes “an architectural promenade through a series of formal and spatial symbolic relationships, revealed by light, to express the Marian drama.” The power of collage comes from a series of associated symbolic meanings, which coalesce into a fluid, interpretive, and referential unity. This can be compared with the work of Douglas Darden, who explored the linked practice of drawing and design, text and image. Darden’s book, *Condemned Buildings*, is a collection of ten fictional projects documented only through complex graphite drawings on hot pressed Strathmore board or black and white model photographs. To develop the project, Darden composes diagrams which he calls Dis/continuous Genealogies. These consist of images which relate to the written narrative through association and collective meaning. The images are collaged together to compose the forms of the building in plan, section, and elevation drawings. The connection between text and image or architecture and narrative is associative, referential and interpretive, but still fixed to an inherent meaning.

Darden’s most recognizable project from *Condemned Buildings* is the Oxygen House: A Near Triptych on the Act of Breathing, in Frenchman’s Bend, Mississippi. The project is presented with a brief paragraph explaining the site and the factors which precede the architectural design. The client’s name is Burnden Abraham, a disabled signalman for the Southern Pacific railroad who must live in an oxygen tent.

Ill. 3.12 The Oxygen House
Abraham was injured in early 1979 during a routine operation when a train ran off-track and sent metal debris through his right lung, causing its collapse. There is a reproduction of his x-ray included with the images of the project. Three years later Abraham purchased the exact plot where his near-fatal accident had occurred. He requested that the house be built upon that exact scene, and that upon his death the house which sustained him would transform into his tomb.

A passage follows which acknowledges that the client died as the footings were poured and the construction was abandoned. This is followed by a letter written by the client to the architect, Douglas Darden, from his hospital room in Byhalia, Mississippi. The letter introduces Abraham’s nurse, Jewel, as they visit the site for the third time since the accident. Abraham describes the site, which includes a willow tree, a spring, a dry wash, and rail tracks. All of these become elements of Darden’s design. At the end of the letter Abraham gives his permission to Darden to build the house.

However, the nature of this book maintains that all the projects contained within it are condemned. They are condemned from the start, created and destroyed through their own fictions. This particular project is based on a passage from William Faulkner’s *As I Lay Dying.* Darden has dissected the first chapter of Faulkner’s novel, isolated the characters and landscapes, subtly changed them, and recomposed the story as a work of architecture to form the client’s letter. The

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settings Darden has composed are reflections of the settings in Faulkner’s life and literature. The letter from Abraham to Darden was composed in Byhalia, Mississippi, the same place where Faulkner died. The fictional Frenchman’s Bend, Mississippi is located in the same county where Faulkner was born.

The dissection of the primary narrative to form the secondary architectural narrative can be seen most directly through the development of characters. Abraham’s nurse, Jewel, is a transformation of one of Addie Bundren’s sons, also named Jewel. His gender and attributes have been inverted. In the book he is described as “not care-kin” and self-centered. In Darden’s version Jewel is a caregiver. The fake and dying client, Burnden Abraham, is a transformed and inverted version of the dying Addie Bundren. Furthermore, the book’s plot accounts the death and journey to bury Addie Bundren. In Darden’s project, this is reflected in the transformation of

the architecture, which is designed to live with Abraham and convert into his tomb upon his death.

Faulkner composed *As I Lay Dying* through a distinct narrative structure which collages the views of multiple characters to tell the complete story of the death and burial of Addie Bundren. Darden parallels this through his own character development, the integration of the project within Faulkner’s fictional Yoknapatawpha County, and through his own invention of the dis/continuous diagram methodology. The diagrams collage associated imagery to compose architectural form. This serves as a compass which guides the project through the sacred woods as each of the layers images connects to a new series of associative meanings. The collection of transformations and reflections form rich layers of meaning which connect Darden’s architecture to a realm of existing and altered literature.

However, Darden also collaged an autobiographical layer into the project. His own fascinations with literature as an agenda for representation generated his projects, and his particular interest in the maps of Yoknapatawpha County controlled much of the design of the Oxygen House. However, two years after completing the project Darden was diagnosed with Leukemia. He wrote that he did not consciously know of his cancer while he was designing, but was convinced that his subconscious did.34 The invention of Burnden Abraham is not just a parallel of Faulkner’s Addie Bundren. It is a reflection of Darden himself as he eagerly searched, without knowing the urgency, for a relationship between life and death.

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The Darden method of composing narratives through association is a comfortable architectural technique because it escapes the inflexible realm of literal and prescriptive meaning in favor of what Le Corbusier refers to as “a series of plastic events.” This method of storytelling is rich at Ronchamp, where reference engages the immediate Marian story but also connects it to architectural expressions of time, history, and Le Corbusier himself.

Ill. 3.14 A Series of Plastic Events
NARRATIVE AND MOVEMENT

Le Corbusier’s notion of space as a “series of plastic events” has been echoed by other theoreticians. In *An Introduction to the Structural Analysis of Narrative*, Roland Barthes defines sequence as “a logical succession of nuclei bound together by a relation of solidarity: the sequence opens when one term has no solitary antecedent and closes when another of its terms has no consequences.”

This suggests a very linear path with direct links between moments. Regarding the narrative experience of a sacred wood, Eco writes that, “a wood must be tangled and twisted like the forests of the druids and not orderly like a French garden.” To engage the metaphor, a true wood is representative of the actual world, whereas a garden is more comparative to a fictional world which is dependent on the rules of the real world to exist. It is something constructed by man, confined and defined by its understandability. Everything is intentional. We can walk through neoclassical French gardens, characterized

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by symmetry, linear paths, dominant geometries, and a frontal approach to moments of architectural respite along the path. Or, we can wander through picturesque English gardens, which offer a “contemplative consolation” amongst their wooded paths and oblique, idealized views of architecture. The sequence of the winding, forking paths of the English gardens can be, like the “sacred woods,” endlessly disjointed and interrupted with personal agendas and daydreams. The implementation of illusion and perspective in French gardens reflect a manicured and composed “sacred wood,” wherein a path which is already askew may be discovered and rediscovered.

A composite of approaches to sequence and narrative from Sergei Eisenstein, Bernard Tschumi, Roland Barthes and Umberto Eco will be distilled into two approaches to sequence for this project: linear sequence through movement and the disjointed sequence of periodic moments of narrative. In the project, the sequence of the narrative will manifest itself as the lingering time at bus stops, between arrivals and departures. The linear sequence through movement will engage the overall process of the journey, on and off the streetcar.

According to Russian film theorist Sergei Eisenstein in “Montage and Architecture,” Auguste Choisy’s analysis of the Acropolis at Athens from *Histoire de l’architecture*, published in 1889, first demonstrates the priority of the first impression of space and the importance of the view of the

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moving spectator within the visual sequence of montage.\textsuperscript{38} Choisy proposes that the lack of formal symmetry in plan or elevation at the Acropolis is compensated for by a carefully composed perspective symmetry that evolves and balances itself as a viewer travels the prescribed path across the Acropolis. For Eisenstein, this is immediately relevant to a cinematic application. According to Anthony Vidler, Eisenstein positions himself by describing two “paths” of the spatial eye: a cinematic eye, through which an immobile spectator follows the lines of sight prescribed by the camera, and the architectural eye, where “the spectator moved through a series of carefully disposed phenomena which he absorbed in order with his visual sense.”\textsuperscript{39}


This architectural eye evokes the simple ideas of walking, journeying, and wandering. The idea of the journey, for this project, involves the route of a public transit line.

The journey itself is a linear process, confined to a vehicle which operates as a discrete world within our actual universe. The real world is framed through windows. In *Architecture and Disjunction*, Bernard Tschumi defines the frame as “the moments of the sequence.”

He makes a distinction between the frame as a framing device, which is “conforming, regular, [and] solid” and the framed material, which is “questioning, distorting, and displacing.” Through the vehicle’s windows, the city becomes Tschumi’s framed material. This allows for the collective identity of the city to be questioned, distorted, and displaced. The themes, particularities and narratives can be momentarily hung, like a painting on a wall, to be admired and analyzed. Frame by frame, the collective identity of the city can be questioned. Velocity and acceleration further distort and displace the identity.

This correlates with Eco’s notion of trepidation time, which delays the arrival of a dramatic ending through excessive description. It builds up energies and reinforces an excitement of approach to the interruptive moments of pause along the journey. In “Montage and Architecture,” Eisenstein proposes that the montage developed at the Acropolis functions for the same effect. According to Eisenstein, Choisy suggests that the

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41. Ibid., 166.

42. Eco, *Six Walks in the Fictional Woods*, 64.
Ill. 3.17 The Acropolis Site Plan
buildings at the Acropolis were designed and arranged on the hilltop for the first impression that the moving spectator views and experiences.\textsuperscript{43} The Acropolis is carefully composed for the architectural eye, and rejects a formal and symmetrical balance in plan and section in favor of a balance of perspectives that are experienced as the viewer journeys through the Acropolis. Eisenstein considers the complex compositions of balance to be the first construction of “montage from the point of view of a moving spectator.”\textsuperscript{44} According to Tschumi, all spatial sequences “emphasize a planned path with fixed halting points, a family of spatial points linked by continuous movement.”\textsuperscript{45} At the Acropolis, the first impressions of the halting points are carefully constructed to express the essence of the structures at different moments along the journey.

Regarding the Parthenon, Sophia Psarra in \textit{Architecture and Narrative: the Formation of Space and Cultural Meaning} claims that the building is positioned obliquely upon approach so that a single viewpoint captures the order and construct of the temple.\textsuperscript{46} The building is therefore legible through stasis rather than movement, and emphasizes conceptual unity over a diversity of views obtained through embodied experience.\textsuperscript{47} The Erechtheion is far more irregular, and the gathering of

\begin{footnotes}
\footnote{Eisenstein, “Montage and Architecture,” 120.}
\footnote{Eisenstein, “Montage and Architecture,” in Introduction by Yve-Alain Bois, 111.}
\footnote{Tschumi, \textit{Architecture and Disjunction}, 155.}
\footnote{Ibid., 26.}
\end{footnotes}
various shrines and sites in one structure is only understood through movement. The complex circulation loops and perforated walls reinforce the transformable, multifaceted essence of the goddess Athena, whereas the formal, axial nature of the Parthenon reinforces a single compositional logic. At the Parthenon, myth is applied through sculptural narratives which allegorically reinforces the heroic history of Athens and expresses the political goals of democracy and state. At the Erechtheion, the variant, collective nature of myth is embodied in the aggregated architecture and the informal routes.

According to Eco, the consolation of fiction is due to an inherent understandability, especially when compared to the disorder and complexity of the real world. Myths are one of humanity’s way of trying to understand the actual world through a reverse fiction. Just as the fictional world is dependent on the laws of the actual world, the actual world is to be understood through the parameters of the mythical world which attempts to structure it.

Ill. 3.18 The Erechtheion and The Parthenon

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At the Erechtheion, the interpretive variation of myth is experienced only through movement. At the Parthenon, the semantic expression of narrative is understood upon approach. This is the essence of narrative that must be instantly communicated through the montage of approach.

The careful construction of perspective from the framing device in order to convey an immediate meaning combined with the descriptive lingering and dramatic delay of Eco’s trepidation time allows the traveler to examine the depths of the framed city, which, like a myth, is composed of all its variations, and “involves a successive reading of events that unfold diachronically.” The distortion of history and place provides an opportunity to interrupt, or disjoint, the urban narrative at moments of pause along the journey. To Tschumi, these would be fixed halting points linked by continuous movement. In an English garden these would be architectural nodes for “contemplative consolation”. For this thesis, they are streetcar stops.

49 Psarra, Architecture and Narrative, 35.
50 Tschumi, Architecture and Disjunction, 155.
The transit stops, or fixed halting points, cannot be experienced linearly by the nature of the journey. This is the nature of the contemporary public transit route, but the fixed halting points can occur in any order according to the needs and whims of the traveler. The stops do not need to be viewed in their entirety to be understood or experienced. The sequence of halting points must be disjointed, like a sacred wood, which allows them to be deformed, rearranged and engaged with the discourse time of the narrative. This can be architecturally studied at Eisenman’s Holocaust Memorial in Berlin, which embodies a disjointed sequence.
The Holocaust memorial in Berlin, designed by Peter Eisenman, is composed of 2,711 concrete slabs arranged on a grid over an undulating ground plane. The slabs are exactly the same width as the passageways between them and of equal length. Some are slightly tilted, and they vary in height over the changing ground below so that no view is the same. There is no discrete beginning or end to the story or the site, and visitors are free to wander in and out from any direction. At the edges, the slabs are low and the smoothness of the stones insinuates a deceptive softness, as if inviting passersby to sit or wander inside. The apparent monotony and rhythm of the grid draws people inward, and they are free to choose a path and lose their way in the site. Once inside the stone forest, people must decide where to turn and where to continue as they move deeper into the narrative. Every step forward presents another corner and the threat of collision with another wandering soul. The free path of people and the unsettling stones undermine the normality and regularity of the grid. The security of pure geometry is disrupted, and the paradox challenges visitors to question the meaning of the site.

51 Max Page, “Memory field (Peter Eisenman’s Memorial, Berlin)”. Architecture 94, no. 6 (2005), 42.
The simplicity and smoothness of the slabs offer little direct meaning, but the associations are free for the visitor to explore. For some they may recall megalithic stones, as at Stonehenge. Others may recount Mount Olives in Jerusalem. Some have said the parallel experience of the open and the narrow evoke the Jewish Cemetery in Prague. The geometry recalls cubist paintings. The stray saplings, which have taken root amongst the passageways, recall surrealism to others. The referential narrative is infinite because nothing is named, and this interpretive character can be disjointed and interactive for visitors. The sequence is completely open and free to the whim of the traveler. The moments where the stones are short or tall and the ground is low or high can be experienced in any order and any repetition. There is no prescribed path, and people are free to linger in the stone forest.

Ill. 3.20 The Holocaust Memorial
A place where nothing is finished or presented is appropriate for the memorial. It is located in the heart of Berlin’s economic, political, and symbolic core.\textsuperscript{53} In the past, the site has seen Goebbels official villa and bunker. East German prefabs, the federal states offices, the Hotel Adlon and the Akademie der Kuenste are all visible through different grid lines in the site. The placement of the memorial at such an important historical part of Berlin emphasizes the importance of the memorial and connects the architecture to history. The physical experience of walking through the site connects remembrance to a collective identity. People must decide individually how they interpret the memorial, how they walk the site, and how far they dare to venture into the landscape of stone.

Daniel Libeskind’s Jewish Museum, also in Berlin, relates the same unfathomable story through a prescribed narrative composed as a linear sequence. The program explores the relationship of Jews in Berlin from the 4th century to the present. Users follow paths through the building titled “Axis of Continuity”, “Axis of Exile”, and “Axis of the Holocaust.” The “Axis of Continuity” leads the users through the majority of the museum, which is largely educational and informative. The “Axis of the Holocaust” leads users into the “Holocaust Tower.” The tower is a tall, dark, caustic space flooded with steel shaped like hollow, screaming faces. A small oculus at the farthest point lets in a bright stroke of light but no view of the city. It is a cold and lonely space. The “Axis of Exile” is intended to be experienced last, and leads users into the “Garden of Exile,” which is composed of a series of pillars.

\textsuperscript{53} Page, “Memory Field,” 42.
raised upon a shifting surface. It is a disorienting space similar in concept to the layout of Eisenman’s memorial.

The structured axes of the Jewish Museum cannot be disjointed. They are solid and named, with precise definitions and experiences. Libeskind intends for users to feel exiled and tortured and lonely, which is appropriate to the topic. Libeskind has a precise emotion contrived for each space. Visitors should feel like a prisoner: disoriented, lost, cold and alone. They should feel the weight and the light and the sharpness of each space. Emotions associated with the narrative are prescribed through the names of spaces and recorded on exhibit signage, and there is little room for referential narrative. We cannot project ourselves into the story or get lost in the woods. We must examine the narrative as if on the streetcar, confined and linear, but this museum has no framing devices to engage the urban context.

Ill. 3.20 The Holocaust Museum
The design methodology will treat the street car experience as similar to the Jewish Museum – precise and prescribed. However, the sequence experienced by users will be closer to the Memorial – interpretive and flexible. The formal approach to the transit stops must be considered from streetcar itself. The shelters must express the essence of each particular stop as at the Parthenon – static and regular. This will align with Eco’s explanation of trepidation time, and allows the user to examine the city as if it is Tschumi’s framed material. However, the approach of users at street level must be considered as at the Erechtheion – multifaceted and irregular. This aligns with Eco’s description of the sacred woods and together with the trepidation time experienced on the street car allows for a story which can be disjointed and interpreted as something unique to each user. The story told will employ narrative in two ways – through experienced architectural narrative and through a collage of associated imagery which will engage a collective past, present, and future for all users. The application of story to shelter will calm the aggravated journey, just as narrative comforts a distressed reader by offering a structure to chaos.
THE METHODOLOGY

The only way of expressing emotion in the form of art is by finding an “objective correlative;” in other words a set of objects, a situation, a chain of events which shall be the formula of that particular emotion.

– T.S. Eliot

The design project seeks to transform architecture into discrete narrative structures which tell a disjointed story along a defined route that will contrast two modes of sequence, open-ended experience and prescribed movement, in order to convey a narrative which enhances the daily journey for commuters and tourists alike. A simple trip can become a walk in Eco’s woods, and time can be slowed or stretched to accommodate the wandering. The site is the proposed Cincinnati Streetcar Route which will travel through Over-the-Rhine and the Central Business District. The narrative structures will form the sixteen transit shelters along the route.

The selected narrative, *White Hawk and the Sky Sisters*, a Shawnee ethnoastrological myth has been divided into sixteen parts – one section for each shelter. The methods for dividing the story partially follow the structure of the archetypal Hero’s Journey, as described by Chris Vogler in his book *The Writer’s Journey: Mythic Structure for Writers*. The text is based heavily in the work of Joseph Campbell, the author of *The Hero with

a Thousand Faces, which engages the field of comparative mythology. Vogler proposes a twelve stage adjustable journey which is a summary of narrative patterns that appear in drama, myth, storytelling, historic rituals and psychology:

The Ordinary World
The hero, uneasy, uncomfortable or unaware, is introduced sympathetically so the audience can identify with the situation or dilemma. The hero is shown against a background of environment, heredity, and personal history. Some kind of polarity in the hero’s life is pulling in different directions and causing stress.

The Call to Adventure
Something shakes up the situation, either from external pressures or from something rising up from deep within, so the hero must face the beginnings of change.

Refusal of the Call
The hero feels the fear of the unknown and tries to turn away from the adventure, however briefly. Alternately, another character may express the uncertainty and danger ahead.

Meeting with the Mentor
The hero comes across a seasoned traveler of the worlds who gives him or her training, equipment, or advice that will help on the journey. Or the hero reaches within to a source of courage and wisdom.

Crossing the Threshold
At the end of Act One, the hero commits to leaving the Ordinary World and entering a new region or condition with unfamiliar rules and values.
Tests, Allies and Enemies
The hero is tested and sorts out allegiances in the Special World.

Approach
The hero and newfound allies prepare for the major challenge in the Special world.

The Ordeal
Near the middle of the story, the hero enters a central space in the Special World and confronts death or faces his or her greatest fear. Out of the moment of death comes a new life.

The Reward
The hero takes possession of the treasure won by facing death. There may be celebration, but there is also danger of losing the treasure again.

The Road Back
About three-fourths of the way through the story, the hero is driven to complete the adventure, leaving the Special World to be sure the treasure is brought home. Often a chase scene signals the urgency and danger of the mission.

The Resurrection
At the climax, the hero is severely tested once more on the threshold of home. He or she is purified by a last sacrifice, another moment of death and rebirth, but on a higher and more complete level. By the hero’s action, the polarities that were in conflict at the beginning are finally resolved.

Return with the Elixir
The hero returns home or continues the journey, bearing some element of the treasure that has the power to transform the world as the hero has been transformed.
One prevailing technique in creative writing is to begin with familiar scenarios or characters, and invert or reflect their qualities until something unique and compelling arises. Vogler’s Twelve Stages of the Hero’s Journey have been developed for writers, so they are particularly adaptable to this process of adjustable story composition. Steps can be repeated, neglected, expanded, or minimized to effectively convey the story. Themes in Vogler’s stages such as crossing the threshold, the call to adventure, tests, and rewards are pertinent to *White Hawk and the Sky Sisters*, and these moments, combined with natural breaks in the story, divide the narrative into program.

The selection of this story was the result of a research process based on the decision that the story told should be about a journey. The selection process narrowed as some cultures were deemed more relevant. American folk lore was initially studied. German folk lore was examined because of Cincinnati’s German history and population. Finally, Native American mythology was studied, specifically the legends of the Shawnee because they are indigenous to the Ohio River Valley.

This chapter will present the myth of *White Hawk and the Sky Sisters*, adopted from Gloria Dominic’s retelling in the Native American Lore and Legends series. Some titles and phrasing have been updated to conform to other versions of the myth. An analysis will follow which dissects major themes and revelations about how the Shawnee view the cosmos and how these topics will be relevant for the design process. The site will then be explained through conceptual forces which link narrative to site at a large scale, and through physical site forces which are composed of a more traditional local site analysis.
White Hawk, the story’s hero, is the greatest hunter of the Shawnee. One day, he stalks his prey far into the forest, further than ever before.

He walked through the dark, shadowy forest and the trees gave way to the bright sunlight of a grassy meadow. In the middle, a circular path is worn into the grass.
White Hawk waits to see what made the path. He soon hears music and an intricately woven basket floats down to earth. Twelve maidens jump out of the sky and drum and dance around the basket.

He admires their dance and falls in love with the youngest sister, Morning Star. He reaches out to grab her from his hiding place, but she is frightened and retreats with her sisters into the basket and they return to the sky.
White Hawk returns to the meadow the next day disguised as a woodchuck. Morning Star sees him crawling in the grass and, alarmed, calls to her sisters to leave. They quickly jump into the basket and rise to the sky.

White Hawk finds a den of mice and a hollow stump and places it outside the circle. He turns into a mouse and waits. When the sisters arrive, they chase the mice but White Hawk turns into a man, grasps Morning Star and the sisters escape.
Morning Star returns home with White Hawk and he clears a path through the forest for her. She falls in love with him, and soon they have a baby boy and live in joy together.

Despite her love for White Hawk, Morning Star misses her father and sisters and their home in the sky. She decides to secretly construct a basket to carry her and her son to the stars.
Morning Star collects special gifts from the earth, takes her son and climbs into the basket when White Hawk is hunting. She sings and the basket rises into the sky.

White Hawk returns home to find his family gone. He looks to the sky and sees the tiny speck of a basket. He falls to the ground, heartbroken, and weeps. Time passes and he cannot forget his loss.
Meanwhile, Morning Star is greeted by her father, Bright Star, and her sisters. They joyfully accept her gifts and love her young son.

As the boy grew older, he longed for his father. Bright Star told Morning Star to take her son, return to earth and invite White Hawk to live in the sky lodge. He must first kill one of each kind of animal in the forest and bring them to the sky.
White Hawk is waiting at the circle when the basket descends. Tears of joy flow as they hug once more. Morning Star explains what needs to be done and White Hawk rejoices.

White Hawk sets out for the hunt. He searches the forest and patiently captures each creature. He keeps a small part of each - a rabbit’s tail, an owl’s feather.
The family is welcomed by Bright Star when they reach the skies. All the star people join them for a feast, and Bright Star lays out White Hawk’s gifts. Bright Star invites all the sky people to each choose one of the animals.

When they choose an animal, they instantly turn into the creature. The sky people fly, scurry, or run to the forests of earth. White Hawk and his wife and son choose a hawk feather. Reunited, they now live not in the land nor in the sky, but they are free as the wind and can travel to either home.
When I began investigating the myth, it was under the assumption that it had ethnoastrological roots. Several sources proposed that the star sisters represent the constellation Corona Borealis.² Others claim the final transformation of the star people into animals form all the constellation arrangements. Some suggest the story references another constellation. Similar myths among other cultures refer to the Pleiades, a constellation which was important for developing the calendar. The truth is that the identity of the star sisters is unknown. It is likely that the origin of the myth is ethnoastrological, but today the analysis and star searching continues. The ultimate, current meaning of the myth, as the sum of all of its versions, is still open-ended. This allows the reader to disjoint the story at its most basic level, which can carry through to the architecture.

Although the meaning may be open-ended, important themes and rules in the Shawnee culture can still be distilled from the myth:

The sky and earth are separate realms

Birds are mediators in the middle realm

Those who know the right songs can transcend the middle realm at will

These themes will affect large scale site strategies and have design implications for the narrative structures as the process narrows.

Despite her love for White Hawk, Morning Star misses her father and sisters and their home in the sky. She decides to secretly construct a basket to carry her and her son into the sky.

THE STORY

The Shawnee view culture and cosmos:
- The sky and earth are separate realms.
- Birds are mediators in the middle realm.
- Those who know the right songs can transcend the middle realm at will.

THE RULES

SITE FORCES

local site factors influence shelter design; factors include
- pedestrian movement
- sidewalk space
- streetcar orientation
- local facilities

DESIGN PROCESS

Design guidelines act as a secondary lens for the body.

SHELTER GUIDELINES

NARRATIVE STRUCTURE

LOCATE AT SITE

Based on metaphorical anchor to Washington Park, Music Hall, the School for the Creative and Performing Arts, and the cross-over point, which represents the narrative transition between realms in parts two to three and nine to ten and ties them to the anchor zone.

THE ROUTE

A journey is the process of moving between destinations, the passage from one place to another. The middle realm is the route, the interface between realms.

Main
- Liberty Central
- 12th
- 5th
- Walnut
- Vine
- Race
- Elm

THE STORY

translates through the human body positions, movements, gestures, and expressions.

PRIMARY GENERATOR

SECONDARY GENERATORS

layers of imagery pulled from the story and applied for spatial, material, and tectonic expression.

FORM

SPATIAL MATERIAL TECTONIC
THE PROCESS

The design process begins with the selection and dissection of the story as generative material for the narrative structures. The following procedure identifies primary and secondary generators from the story. The primary generator is constant for all sixteen designs. The operation summarizes each of the sixteen story parts to one or two words. The essence of each section is then filtered through the movements, gestures and expressions of the human body. At this point, anthropomorphism becomes a useful tool. People have evolved over time to recognize human form and facial expressions as a means of communication. This means that a human-like form is instantly recognizable and the reference is quickly associated with a meaning. As travelers experience the transit shelters from the prescribed, isolated path of the streetcar, the forms of the narrative structures will communicate the essence or summary of that story passage.

Secondary generators are also pulled from the story as keywords or layers of imagery that do not influence form, but rather spatial, material and tectonic characteristics. The associative, referential meanings are comparable to Darden’s Dis/continuous Geneologies. They add layers of meaning which enrich the narrative and the architecture. The secondary generators are variable, but the means of representation will be repeated as they repeat in the story. A motif may reappear between structures. This will result in a cohesive collection of structures which exist independently and as a united whole.
The hero, White Hawk, is the greatest hunter of the Shawnee. He stalks his prey far into the forest, further than ever before.

One day he walked through the dark, shadowy forest and the trees gave way to the bright sunlight of a grassy meadow. In the middle, a circular path is worn into the grass.

Ill. 4.18 The Ordinary World

Ill. 4.19 The Call to Adventure
White Hawk waits to see what made the path. Soon, he hears music and an intricately woven basket floats down to earth. Twelve maidens jump out of the sky and drum and dance around the basket.

He admires their dance and falls in love with the youngest sister, Morning Star. He reaches out to grab her from his hiding place, but she is frightened and retreats with her sisters into the basket and they return to the sky.
White Hawk returns to the meadow the next day disguised as a woodchuck. Morning Star sees him crawling in the grass and, alarmed, calls to her sisters to leave. They quickly jump into the basket and rise to the sky.

White Hawk collects a den of mice and a hollow stump and places it outside the circle. He turns into a mouse and waits. When the sisters arrive, they chase the mice. White Hawk turns into a man, grasps Morning Star and the sisters escape to the sky without her.
Morning Star returns home with White Hawk and he clears a path through the forest for her. She falls in love with him, and soon they have a baby boy and live in joy together.

Despite her love for White Hawk, Morning Star misses her father and sisters and their home in the sky. She decides to secretly construct a basket to carry her and her son into the sky.
Morning Star collects special gifts from the earth and her son and climbs into the basket when White Hawk is away hunting. She sings her chants and the basket rises into the sky.

White Hawk returns home to find his family gone. He looks to the sky and sees the tiny speck of a basket. He falls to the ground, heartbroken, and weeps. Time passes and he cannot forget his loss.
Meanwhile, Morning Star is greeted by her father, Bright Star, and her sisters. They joyfully accept her gifts and love her young son.

As the boy grew older, he often longed for his father. Bright Star told Morning Star to take her son and return to earth and invite White Hawk to live in the sky lodge. He must first kill one of each kind of animal in the forest and bring them to the sky.
White Hawk is waiting at the circle when the basket descends. Tears of joy flow as the hug once more. Morning Star explains what needs to be done and White Hawk rejoices.

White Hawk sets out for the hunt. He searches the forest and patiently captures each creature. He keeps a small part of each—a rabbit’s tail, an owl’s feather.
The family is welcomed by Bright Star when they reach the skies. All the star people join them for a feast, and Bright Star lays out White Hawk’s gifts. Bright Star invites all the sky people to each choose one of the animals.

When they choose an animal, they instantly turn into the creature. The sky people fly, scurry, or run to the forests of earth. White Hawk and his wife and son chose a hawk feather. Beautiful, they now live not in the land nor in the sky, but they are free as the wind and can travel to either home.
THE CONCEPTUAL SITE

The Conceptual Site will explain the connection between narrative, program and site. Large scale site strategies evolve from this connection, and continue to influence more localized site factors as the design process expands.

The narrative sequence can be experienced in two ways, one of which is an ordered, prescribed movement, as noted in Libeskind’s Holocaust Museum in Berlin. On the streetcar, the shelters operate and are experienced in order. It is the experience which disjoints the sequence.

The story is anchored to a relevant geographic zone containing Washington Park, Music Hall and, to a lesser extent, the School for the Creative and Performing Arts. This area also contains the crossover zone, where the route crosses itself in opposite directions (from Stops 2 to 3 and 9 to 10). In these instances, the traveler departs the ordinary world and crosses the threshold into the special world. Stops 3 and 9 are particularly integral to the story structure and are specifically about the transcendence between realms. It is fitting that they are anchored to Washington Park, which can now represent the meadow in the story where the crossover between realms occurs. This transition is always facilitated in the story by song, which is one of the rules of Shawnee culture that can be taken from the myth. Music Hall and the School represent the connection to song in the myth. The tethering of the two stops to this zone connects the narrative to the site and allows for the sequence of the shelters to operate in order.
A journey is the process of moving between destinations. This facilitates the movement from one realm or place to another, like earth and sky. In this project, the journey is the middle realm, which allows each shelter to become both ends of the journey. Each shelter has components of arrival and departure, or earth and sky. This treats the prescribed experience of sequence as a unique realm of movement in between halting points.
The second means of experiencing sequence is based in free will and explored conceptually through Peter Eisenman’s Holocaust Memorial in Berlin. The sixteen sites have been selected by the City of Cincinnati, but based on local conditions the program can be expanded to enrich and enlarge the site.

Shelter 3, the ‘Descent I,’ is one of the anchor points in the story which connects narrative to site. It is located at the border of Washington Park where Elm Street and West Fourteenth Street intersect. Music Hall sits to the immediate west, and is the tallest structure in the area. The new Washington Park design must be considered, and design geometry can evolve from the site lines of the new park. Other site forces include the movement of pedestrians on sidewalks, from Music Hall to the shelter and through the park. The scale of buildings at the park, small one-story service and circulation buildings, contrast the scale of Music Hall, which towers over them in height and outstretches them in length. Vehicular circulation, streetcar orientation, vegetation and visibility are also factors which must be considered.

Shelter 8, entitled ‘The Wanting I,’ is sited at the corner of West Liberty Street and Race Street in Over-the-Rhine. The locator provided by the City of Cincinnati is placed directly in front of a vacant lot, which informed the decision to expand the design of this shelter. The narrow infill site is located between a one story and three story building, and the streetcar approaches from the north so that the lower building is layered in front of the taller, with the new proposed shelter in between.
Ill. 4.36 Site Forces at Shelter 3
Ill. 4.37 Site Forces at Shelter 8
This allows the existing architecture to serve as foreground and background for the inserted narrative context as viewed from the prescribed route.

The site clears through to an alley on the opposite side and faces an abandoned lot followed by of a series two, three and four story residential buildings. There are several businesses across Liberty Street and a few churches, but this area is largely residential consisting of the typical Italianate architecture found in Over-the-Rhine. The selection of additional program must consider the tone and needs of the neighborhood as well as the function for streetcar users. This informed the decision to expand the shelter into a coffee shop with multiple layers of waiting areas which serve neighbors and travelers alike.

The third design, Shelter 13, is located in the Central Business District next to Fountain Square at East Fifth Street and Walnut Street. Entitled ‘The Descent II,’ the design focuses on the concept of a reunion or embrace. The height of neighboring buildings is very different from Shelters 3 and 8, which are both in Over-the-Rhine. The Fifth-Third Center is 129 stories and the fifth tallest building in Cincinnati. However, the main transit hub of the Cincinnati busses is located outside the US Appeals County Court at the south-east edge of the intersection. The scale of the shelters and their amenities is an important relationship to consider when the size of neighboring buildings is not relatable. Pedestrian circulation is likely to come from the bus shelters, and it is probable that this stop will act as a transfer station. The volume of passengers can also be estimated to be higher than other stops due to the proximity of large office buildings and attractions like Fountain Square.
This informs the decision to lengthen the shelter to a size which is more comparable to the neighboring bus shelter hub and develop layers of waiting and seating areas which invite travelers to stay at varying intervals depending on their personal timetables.
The final informing phase of the design process is a consultation of shelter design guidelines to add another layer of human utility and use to the designs. The application of guidelines serve as a control point which preserves the utility of the shelter designs and integrates other amenities. They are based in the ergonomics of the human body and the transaction between shelter and vehicle. The guidelines regulate size parameters, placement, distance from the curb, abutting tenant distances, seating conditions, transparency, lighting, safety, and security. They also make recommendations regarding maintenance, landscape features, signage, and passenger amenities. Amenities may include newspaper and vendor boxes, benches, intelligent transportation systems, bicycle parking, heaters, and trash receptacles.
DESIGN DEVELOPMENT

After the design guidelines are considered, the iterative process can begin. All three designs were considered individually at the same scale, and reassessed in isolation and together as the scale increased and more detail became necessary.

Shelter 8, the Wanting I, began with an investigation of scale. The site study revealed an opportunity to insert the structure within a small infill. Three strategies were examined as small, medium or large interventions. The larger design was ultimately selected to proceed and incorporate additional program. In this case, it became a coffee shop.
The design of Shelter 3, the Descent I, focused on the connection between Music Hall and Washington Park. The design considered site geometries and guidelines to frame the proportions and placement of the shelter. A bar and a curved scheme were considered before selecting a modified curved design.
During early modeling of Shelter 13, the Descent II, it became clear that the site scale was much more challenging because of the relative height of nearby buildings.

This design was then developed at a larger scale, though it retained the site geometries and guidelines which informed the placement and size of the shelter. Secondary generators could now be examined.
The other designs were then considered at the same larger scale as different formal, structural and programmatic decisions were studied.

Shelter 8 grew longer and taller in order to incorporate new program and fit within its infill.

Shelter 3 continued to explore a modified curve, which responds to park geometry and gestures towards the Music Hall entrance. At this scale, new motifs were examined which incorporate secondary generators such as the feather and basket weaving. Other elements, like the roof, respond to the geometries derived from these motifs.
The next step of the process examined the designs at a larger scale. Models were developed for all three designs which sought to solve structural, material, formal, and programmatic content. Secondary generators continued to influence design decisions, particularly in regard to material selection.

After studying different structural systems including concrete and wood, a steel structure was chosen for its durability in public spaces. The decision was made to keep the structure uniform across all the designs to act as a constant and govern the tectonics of the shelters. By painting the structure white, the color and bones of each building refer directly to the main character and motif of the Shawnee legend.

The focus then jumped back and forth between structures as decisions were made in one which informed the next or the former. The following model images are in progress but nearing completion.
Shelter 8 is organized so that different zones on the first floor offer different settings for visitors waiting for the streetcar. The second floor is designed for customers who wish to stay longer. The front half of the second floor will be uncovered and open to the elements. This means the space will be marginally used in the colder months but it will be unique and open in the warmer parts of the year.

The structural steel arches form the primary structure of Shelter 8, and a cable supported point fixing curtain walls wraps around the building to form skin and shell. The shell will be composed of insulated metal panels which structurally respond to the weaving of the cables. The finish material will contrast the cables, which should form a graphic pattern within the space. Because of the nature of the infill, only the back of the building, the immediate top, front, and second floor north will receive light. Glazing will respond to these locations.

The decision to weave steel cables as the tertiary structure informed the material palette which developed for the other designs. In Shelters 3 and 13, the woven material between the structural walls was imagined as the same steel cables which in this case would act as a windscreen and offer no structural support. To diversify the material palette, the decision was made to collage an array of materials which are either woven or interlocking. A variety of cables, ropes, chains, woven glass and woven aluminum will form the windscreens. These elements each carry within them their own potential for reference and association, which at once relate to the Shawnee legend and connect the design to a broader, collective and historical narrative.
The material palette below demonstrates the scope of materials which will be collaged to compose the windscreens. They will be woven vertically through the secondary structure in Shelter 3 and horizontally in Shelter 13. Weaving is the dominant motif engaged with these two designs, as it relates directly to the context of these shelters where the characters descend inside of the magic basket.

Ill. 4.51 Material Palette
CONCLUSIONS

The design process begins with the story and distills from it constant primary generators which influence form and variable secondary generators which facilitate the development of material, spatial and tectonic characteristics. These conditions result in a preliminary design which is then applied to the site. The site is considered conceptually as a two-fold experience. It is a prescribed journey which operates sequentially and acts as the middle realm between earth and sky, or arrival and destination. It is also a disjointed, open-ended experience found locally through arrival and departure. The conceptual site forces connect the narrative to the site through a metaphorical anchor point, which transforms Washington Park into the meadow, or the place that facilitates transcendence between realms. Local site forces mold the designs, within the conceptual framework, to accommodate pedestrian conditions, scale and function. Finally, shelter design guidelines act as a checkpoint to reconnect the design to the utility and ergonomics of the architecture. The process requires a series of iterations which integrate further layers of detail until the narrative structures can take root in their sites and grow into woods worthy of wandering.

Caballin, Edson. Lecture for “Place and Dwelling.” University of Cincinnati. 15 February 2011.


