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Environmentally sensitive architecture: A process of integration

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ENVIRONMENTALLY SENSITIVE ARCHITECTURE:
A PROCESS OF INTEGRATION

by

ANN VERNON

A THESIS SUBMITTED
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
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ABSTRACT

Environmentally Sensitive Architecture:
A Process of Integration

by

Ann Vernon

This thesis is in search of formal solutions to an environmentally sensitive architecture. Two facets of this pursuit exist: the technical endeavor and the philosophical and cultural endeavor. I believe the means already exist to solve the technical problems of sustainability and low impact. Rather, it is the problem of cultural change that is more difficult to resolve. By creating spaces that can bring the user closer to her environment, the architect can be a catalyst in a oneness that existed in pre-technological societies. This integration between human and phenomenological surrounds, between myth and nature is fundamental to our protection of the natural world.
ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

Abstract..............................................................ii
Acknowledgements..................................................iii
Table of Contents...................................................iv
List of Illustrations................................................v
Introduction..........................................................1
Myth and Science.....................................................3
Time and the Structure of Myth.................................7
The Bricoleur........................................................11
Non Site and Site...................................................15
Process and Program Proposals.................................26
Aging and Rebirth..................................................33
Bibliography........................................................37
Appendix 1: The Manifestations of Process...............39
Appendix 2: Conclusions.........................................51
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Amphitheatres of Muyu-uray</td>
<td>6</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Aerial View of Marrakesh</td>
<td>14</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Collage by Robert Smithson</td>
<td>19</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Spiral Jetty by Robert Smithson</td>
<td>19</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Non Site by Robert Smithson</td>
<td>19</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Sketch 1: Function</td>
<td>28</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Sketch 2: Isolation</td>
<td>29</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Sketch 3: Sun Path</td>
<td>30</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Sketch 4: Daily Path</td>
<td>31</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Sketch 5: Seasonal/Yearly</td>
<td>32</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Study Model of Site</td>
<td>36</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Photograph of Site Looking South</td>
<td>39</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Town Plan of Canton, China</td>
<td>44</td>
</tr>
<tr>
<td>Figure 14</td>
<td>Process Diagrams</td>
<td>44</td>
</tr>
<tr>
<td>Figure 15</td>
<td>Site Plan</td>
<td>45</td>
</tr>
<tr>
<td>Figure 16</td>
<td>Plan</td>
<td>45</td>
</tr>
<tr>
<td>Figure 17</td>
<td>Limonaie Terraced Gardens</td>
<td>46</td>
</tr>
<tr>
<td>Figure 18</td>
<td>Site Section A</td>
<td>46</td>
</tr>
<tr>
<td>Figure 19</td>
<td>Fishing Station in Vieste, Italy</td>
<td>47</td>
</tr>
<tr>
<td>Figure 20</td>
<td>Site Section B</td>
<td>47</td>
</tr>
<tr>
<td>Figure 21</td>
<td>Canvas Awnings in Sevilla</td>
<td>48</td>
</tr>
<tr>
<td>Figure 22</td>
<td>Building Wall Section</td>
<td>48</td>
</tr>
<tr>
<td>Figure 23</td>
<td>Aerial View Northwest</td>
<td>49</td>
</tr>
<tr>
<td>Figure 24</td>
<td>View Northwest</td>
<td>50</td>
</tr>
</tbody>
</table>
The characteristic feature of the savage mind is its timelessness; its object is to grasp the world as both a synchronic and diachronic totality and the knowledge which it draws therefrom is like that afforded of a room by mirrors fixed on opposite walls, which reflect each other (as well as objects in the intervening space) although without being strictly parallel. A multitude of images forms simultaneously, none exactly like any other, so that no single one furnishes more than a partial knowledge of the decoration and furniture but the group is characterized by invariant properties expressing the truth.¹

Primitive culture is often misconstrued to be counter logical, backwards and non-thinking. As modern society, we question the very existence of objective reasoning within the primitive perception and experience of the world. Since primitive people's means of communication are incomprehensible in the context of today's language, the way they interact with the world is also incomprehensible. To explain the world, these people used devices known as myth²; in our conception, the opposite of scientific truth. But, virtually identical to science, myth provides the person with a way of explaining the world, of influencing the universe. Seasonal and biological periodicity as well as life and death within the generations of people is explained through these stories.

These myths were often enacted in religious events. These events happened again and again in present time when

the actual myth, or the genesis of the ritual, was based in the past. These ever recurring events defined a cyclical time that was also the basis of the rhythms of the natural and biological worlds. Thus, these primitive people, by recognizing these ever recurring events and their place in the rhythms of the environment, were integrated with rather than separated from the natural and biological realms. This lack of separation between person and phenomena is crucial for an integrated world. By understanding this oneness\(^3\) with the natural environment and translating the understanding into contemporary culture, we can begin to reestablish a link between our man made world and the natural world that exists around us.

\[^3\]Whorf, Benjamin. ed. John Carroll. *Language, Thought and Reality* (Cambridge, Mass., M.I.T. Press, 1956.) p.79. The term "oneness" best describes the indeterminate integration that this document attempts to explain. Oneness is my own interpretation of Levy-Bruhl's "participation mystique" where there is a "special kind of psychological relationship with the object in which the individual cannot clearly perceive a separation between himself and the object." The term oneness encompasses this psychological link as well as a metaphorical link with site, community and spatial reality.
Myth and Science

The link between the physical environment and modern culture has been destroyed by the very scientific objectivity that allows us to understand this environment. The attitudes and processes exposed in the myths of primitive societies can reveal truths about the involvement with our phenomenological surrounds that we cannot find in our scientific truths of today. Through perceiving modern science in a different way, by seeing it as a category of myth rather than an unchangeable and absolute truth, a subjective exploration rather than an objective known, modern society can begin to be more integrated, where man and the natural world are inseparable from rather than exclusive of each other.

Science provides culture with a means of objective, methodological and rational ordering of ideas and entities. Scientific research has allowed us to make considerable technological advances within the last century. Yet, at present, this research supplies the scientist with only some of the fact; the rest of the "answer" is extrapolation or projection of behavior, in other words, myth. Scientific thinking, then, is a valid base and underlay to our thinking, built with logic in an ordered and methodical manner. This order is the premise on which modern culture understands its surrounds. Our culture understands the cycles of the universe.

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4Webster's Third New International Dictionary, ed. Robert B. Costello. (New York, Random House, 1991.) p.1201. s.v. "Science." Systematic knowledge of the physical or material world gained through observation and experimentation. This definition implies subjectivity through observation and experimentation yet through science these natural phenomena are, in actuality, objectified.
through a basically cause and effect rationale. It is an order that is inherent even in the most fundamental elements of our existence such as life and death, finite pieces within an infinite cycle.

This underlay of order in modern culture can exist within infinite and ever recurring surrounds. One can apply an expanding and contracting "skin" to this systematic "body". Contemporary culture tends to be closed, not recognizing this duality between the finite scientific order and the intuitive abstractions of myth making. These limitations of culture create a separation rather than integration between the person and their surrounds.

Since myth reveals many of the same relative truths as modern scientific research, these two modes of operation have the ability to enhance each other rather than being mutually exclusive agendas. We can understand science and myth as a totality by looking at them as pieces of each other, the body and the skin. While modern society sees the Cartesian truths concerning the universe as absolute, primitive society saw the timeless, fluctuating and mutable truths concerning their environment as essential to their existence. These people looked at linear order as only part of a whole. This way of understanding allowed them to have an integrated relationship or a sense of oneness with the natural environment.

Through seeing scientific thinking as the basis or a body where the mythical indeterminate and ephemeral becomes the detailing, one creates a crucial skin to a systematic
body. Intuition and subjectivity allow the base of a scientific order to be completed and fully integrated. The two elements describe a constantly fluctuating framework from rational and tangible to intuitive and personal. Through this mythic skin as the overlay of a scientific order, the decisive element in a structure, we can incorporate the natural environment as a connector rather than an aggressor.

Still, our contemporary scientific truths tend to objectify and separate us from our surrounds rather than integrate us with the environment. Since we now have the ability to transform our natural world, spirituality has been replaced by Cartesian limitations. Operations occur within a strictly defined time span. We build and change without regard for the larger, sacred and cyclical order. For the primitive people, the physical world was intrinsically tied to religious ritual. The natural elements that allowed a community to exist and thrive embodied their gods and provided the origins of their rituals. The relationship between person and nature was reciprocal and reflexive. Food, water and shelter had religious significance, especially when explaining the natural cycles that guided these elements of existence. Whereas primitive people had a linguistic and phenomenological connection with the universe, "a relationship between subsistence and the sacred,"\(^5\) modern culture no longer needs these basic elements to support our rituals and insure our existence.

Our world exists as it is because of our embrace of the modern scientific ideal. This whole ideal, we need to recognize, has to ultimately exist within the "timelessness" of both a linear progression and the "eternal return."\(^6\) Science and myth must evolve together to allow a more integrated world. By acknowledging the myth of the everlasting and the progression of constant decay, one can begin to develop a means of processing our surrounds within the dichotomy of time. By understanding the natural world as an extension of ourselves or vice versa, ruin and rebirth become part of the same process rather than opposing ideas.

Time and the Structure of Myth

Myth and science are both ways of explaining our world. While science operates in essentially a linear or diachronic manner, myth describes linear progressions within a larger cyclical structure. Many times, myth was a more believable way of explaining our "objective universe"\(^7\) than science itself. We can comprehend these smaller, linear progressions and explain them through a scientific methodology. Yet, this cyclical and recurring structure cannot be easily explained through objective reasoning. The application of myth is a way to explain these recurrences.

The device of myth is a means to explain both the order and the irrationality of the functions of life. Myth had the ability to make the cycles of the heavens tangible while also bringing biological processes into focus. The scale of the rhythms of nature was reduced by using understandable characters to embody these incomprehensible forces. This reduction in scale allowed people to participate in the story, to integrate with the larger movements of the natural world. Through myth, these people rationalized what was seemingly irrational through the arbitrary assignment of attributes to these natural forces.

The characters that embody natural phenomena in these stories return and act in the present even though their genesis exists in the past. The events that these characters enact are sacred because of their return. These returns

impart religious significance to the periodicity of the natural world as well as to the biological cycles of animals and people.

We use time as the regulator of our existence. Yet, a perceptible difference exists between linear time and the recurrence of religious and sacred time. "By its very nature sacred time is reversible...it is a primordial mythical time made present." The time is recoverable by means of rites. If one can comprehend this type of time, folding back on itself, in a repercussive effort, one can also begin to understand the lack of separation between the subject and the phenomenal world within this perception of time. This oneness is intrinsic in myth because of the periodic and cyclical rhythms of the natural world. Myth is about the explanation of these periods of nature through the devices of ritual and time. And within this grand cycle, there is the constant ebb and flow of chaos and order. Time fluctuates between being linear and diachronic and being synchronic, sacred and cyclical. One engages in a process of breaking down and building up of time, history and the phenomenal world.

As time progresses linearly, there is an anticipation of a religious event, the occurrence of the event and the folding back of time in anticipation of the next event. The events form the theater in which religious time occurs.

These sacred moments exist within a diachronic set of

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circumstances and are reenacted in present time. These moments and the combination of sacred moments are the essence of the myth making process. The model of the actual event becomes everlasting and incorruptible because it is not reliant on time. The religious occurrence, the ritual, becomes repeatable and immutable time by the reenacting of the actual event. The event is realized again and again. Memory and action become inseparable.

Linear time and cyclical time are two different manifestations within the same system. These times are imperceptible when the world is actually operating within this system. For example, death is indicative of the finite life span of a generation in biological time. Yet, in religious time, death is generally defined as cyclical. This definition of death as a returning element within the cosmos arises from observing the periods of the sun and the moon every day. "Every periodic phenomenon could serve as the model of a myth of the negation of death, such as the daily course of the sun."\(^9\) The west is associated with the end of the day, death, darkness and grief. The east then represents light and images of paradise.\(^10\) These things die and are then reborn. Life, then, is looked at as periodic also. One dies and is then reborn, again and again, comprehensible only

because time is comprehensible as a periodic entity, returning infinitely, folding back on itself.

Through the devices of myth, time is realized in a periodic manner as the same celebrated event that continues to happen over again in memory and action simultaneously. The whole operation of time is understood in a linearly progressing continuum. Within this continuum, there is the constant reflexivity of simultaneity at work. Perspective fluctuates between the abstract and the concrete. Time is essentially an edge condition, expanding and contracting between an ever recurring and immense scale and a finite, tangible and linear scale.
The Bricoleur

The fluctuation between abstract and tangible, between diachronic time and a simultaneity of events allows mythical thought to be immensely large and minutely specific. Myth making as an intellectual exercise can be compared to "bricolage on a technical plane." There is clearly a mytho-poetical nature to the act of bricolage, the putting together of found pieces or using what is there. The bricoleur has a finite number of tools to use. Unlike the engineer, he/she must use what is at hand, resulting in a heterogeneous composition. This composition is "heterogeneous because what it contains bears no relation to the current project, or indeed to any particular project, but is the contingent result of all the occasions there have been to renew or enrich the stock or to maintain it with the remains of previous constructions or destructions." The bricoleur and the myth maker engage in parallel actions but within different realms. The building of an object using available

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11 Atkins, Beryl, Alain Duval and Rosemary Milne. Collins - Roberts French-English English-French Dictionary. (London, Williams Collins Sons Ltd., 1978.) p.83. s.v. "bricoleur, bricoleuse" and "bricolage." The bricoleur or bricoleuse is defined as a "handyman" or "handywoman." Bricolage is "tinkering about" or to "do it yourself." Levi-Strauss, Claude. The Savage Mind. (Chicago, University of Chicago Press, 1966.) p.16. (Translation note.) "The 'bricoleur' has no precise equivalent in English. He is a man who undertakes odd jobs and is a Jack of all trades or a kind of professional do-it-yourself man, but, as the text makes clear, he is of a different standing from, for instance, the English 'odd job man' or handyman." p.17.


materials is much like building a story with available phenomena, both based on the contingencies of the situation.

This process of collecting provides a heterogeneous kit of parts. Since there is not a predetermined use, an indeterminate way of gathering and making is implied. The bricoleur and the myth maker stay within the constraints of civilization\(^\text{14}\). He/she is using what is available and creating a composite, open and integrated piece. The bricoleur uses culture's earlier ends as part of the means. The earlier ends are evidenced through the recurrence of cyclical time. The subjective aspect of this composite is revealed by the way that things are put together and built up. The construction is a creation that is personal and intuitive. Yet, the parts are collected from the culture as a whole so that the resulting composition reflects a personal agenda as well as a collective memory.

Myth making and bricolage are acts of putting together rather than taking apart. Yet, this collage is a cycle of picking up remnants and building up again, the process of rejuvenation and decay. Integration and juncture are important as means of constructing. One cannot build only by breaking down into constituent parts like science does through categorization, as this leads to the disjunction of culture. Rather, the construction should be an effort to bring up events and structures to deal with at a holistic level.

A balance exists, then, between science and myth, between the engineer and the bricoleur that can be translated into the realm of creating forms and space. One can begin with a predetermined ordered and rational system and create a fiction with the indeterminate, spiritual and subjective aspects of thinking. Intuition, as well as a predetermined set of ordering devices, is used. The myth maker and the bricoleur, in their collections of ideas and natural phenomena, are essential to the making of a space that would provide the experiences needed to precipitate oneness.

Like time fluctuating between the abstract and the tangible, the bricoleur's activities occupy the overlay between the two realms. By remaining on the edge between a scientific order and a mythical world, the bricoleur can create a duality between the organic and the mechanistic that constantly wavers between immensely large to infinitely small. The distances created in these two realms become reflexive and cohesive through the order set up by the overlay of cyclical and diachronic time. The sacred or mythical events of the cyclical world provide the rhythm that directs the user through a seemingly arbitrary conglomeration of parts. This rhythm is established by a return of events, building up and breaking down through the passage of time.

By acting as the bricoleur, one can establish this rhythm and juxtapose it with the order of science. By using materials that reflect this duality between the determinate and the sacred, one can make a heterogeneous structure that
is therapeutic to and a reflection of our modern culture. The built form, then, becomes ordered through the actual process in which the bricoleur engages. By working within this space between the abstract and the concrete, between indeterminacy and order and between linear and cyclical time, one can create a structure that is understood on multiple levels. The understanding of these vacillating scales is crucial to the oneness needed for the integration of our world. Through creating architecture that attempts to bring these vacillating scales together through the act of bricolage, we can begin to educate and heal experientially through forms and spaces.

Figure 2: Aerial View of Marrakesh.
From Architecture Without Architects
Non-Site and Site

Technology is essentially a mythology. Through using scientific language and "facts" to create a story about the indeterminacy of natural phenomena, culture and the natural world can reintegrate. In his writings and art, Robert Smithson attempted to reconcile this growing schism between nature and culture by using a language that incorporated both the rational and the indeterminate. Through the use of science to describe both the natural and the man made, he engaged in modern myth making.

Robert Smithson used both the danger and violence of the wilderness and the subversiveness of rational manipulations as a basis for his creative endeavors. Using "scientific terminology consistent with the factual nature of the geological travelogue," Smithson contrasted natural phenomena and the urbanization of culture. This scientific terminology separated the natural processes of erosion and decay from the actual indeterminacy of these processes by assigning them an order; in essence, he controlled the wild. This control transformed these processes into manageable and limited pieces of the larger and incomprehensible whole. Yet, by gathering physical data and categorizing it in a scientific manner, Smithson immersed himself into the very specific not allowing for the wilderness to overcome him. "There's always this sense of reducing something in scale...like through the airplane, that cuts down

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distances."¹⁶ Through assigning these scientific attributes to elements caught in the evolutionary cycle of decay, Smithson achieved a reduction while maintaining the vastness of the cycles at hand.

In the same way, primitive people were able to immerse themselves in their environment and at once see the immanent danger of the vastness of nature, the "taker-away" of life and also reap the specific benefits of nature's cycles. The evil of nature presents itself at a large and incalculable scale. This danger is indeterminate, explained in myths and given over to the gods. Life is taken away arbitrarily but given methodically through the movement of the sun and the moon. Although the cycles of nature remain beyond the human reach, the physical evidence of life is always surrounding and presenting itself both tangibly and visually.

Smithson engaged in this dialectic between the vast and intrepid natural world and the specificity of the cataclysmic and real. This understanding precludes any notion of the idealized landscape. Instead, within this ever-changing arena, Smithson highlighted these monuments of change, essentially creating myths through the assignment of scientific characteristics to the indeterminacy of the natural world. The sites were ones that had been "disrupted by industry, reckless urbanization or nature's own devastation."¹⁷ These myths of Smithson, through their

¹⁶Tsai, p.106.
recognition of the present day cycles of natural phenomena that are controlled both by the heavens and by the rational progress of humans, are made accessible to our culture and act as a means of integration within this dialectic.

The beautiful and the sublime become a subset of this duality that Smithson used as his palette. In writing about the beautiful and the sublime, Smithson talked about these ideas functioning as a "thesis of smoothness, gentle curves and a delicacy of nature, and as an antithesis of terror, solitude and vastness of nature, both of which are rooted in the real world."\(^{18}\) Smithson, then was trying to deal with these ideas that have been separate throughout time. The beautiful and the sublime are conceived of opposites, just as nature and culture. By dealing with ever fluctuating scales, Smithson recognized both of these extremes, the tangible and precise and the blurred and indeterminate. He expressed that we, as a culture, are simultaneously within and without. Smithson's art and writing were, in essence, creating a present day mythology by recognizing the coexistence of these extremes.

Smithson used a process similar to the myth maker and the bricoleur. Through the tools of culture, time and nature, he manipulated perspective using existing pieces of the landscape. He was focused while creating abstractions of culture and the world. He attempted to reconcile the gap

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\(^{18}\)Holt, p.119.
between individual and universe and between science and the seeming irrationality of the phenomenal world.

The bricoleur's creations also have this tendency to vacillate between the limited and the endless. While he/she is picking up the remnants of what is surrounding, these pieces are caught in an evolutionary cycle that is immense. Therefore, the significance and scale of these pieces is magnified to outside the realm of the bricoleur or mythmaker. But the specificity of the unique hand of the maker results in an inherently intuitive and personal piece while also being a reflection of the world that provided the parts.

Rather than ordering an existing set of parts, Smithson sought to abstract and diffuse the scientific preconception of culture's view of the natural world. Through using scientific language to recreate mythological structures, Smithson was able to build a dialectic in his works between that which is seemingly ascertainable and logical and that which is indeterminate and incomprehensible. Whereas his earthworks operate at a scale that is not immediately comprehensible to the eye (Figures 3 & 4), Smithson's "Non-Sites" were working at the scale of the tangible earth and the cultural establishment of the exhibition space. He uses both scales of projects to describe situations that are constantly fluctuating in size and are not as obvious in content as they may seem.
Figure 3: Collage. From
The Writings of Robert Smithson

Figure 4: The Spiral Jetty.
From The Writings of Robert Smithson

Figure 5: Non Site. From
The Writings of Robert Smithson
The "Non-Sites" consisted of a topographical map and a container filled with material from the site and displayed in a gallery. The "Non-Sites" were the opposite of the site. Contents became the container and the contained. (Figure 5)

The bins or containers of ...[the] Non-Sites gather in the fragments that are experienced in the physical abyss of raw matter. The tools of technology become a part of earth's geology as they sink back into their original state.¹⁹

Using time as the mediator between that which is immediately accessible to the viewer and that which is beyond comprehension, Smithson began to create an integration within the site/non-site relationship. While these places and things were conceived of as being non abstract and tangible gestures, they also abstracted the site and its contents. Smithson, then, created a dialogue between the vast and tangible and the wild and urbanized.

These "Non-Sites" were attempts to make real landscapes fictional.²⁰ By relegating this reality of site into a mythic idea, Smithson was able to reconcile the linear existence of order and this other cycle of chaos and calm. The fictionalized and reality itself became overlays of each other. The studies were overlays within time. Although he was operating in a linear form of progress, Smithson was interested in dealing with the simultaneity of opposites occurring in the present. "Order and disorder,

¹⁹Holt, p.85.
²⁰Tsai, p.28.
disintegration and reconstruction were understood as basic to
the workings of the universe and life itself."\textsuperscript{21} Challenging
the relationship of the cyclical processes of nature and the
linearity of diachronic time, Smithson was essentially
fabricating contemporary myths. Through creating both a
distance and an overlay, his reconstructions provide the
crucial link between the vastness and the intimacy of the
natural world.

Robert Smithson's earthworks illustrate the precarious
natural world as it sits on an edge between the center and
periphery of human experience. Through using a different set
of tools than the "Non-Sites", Smithson again created a
critical overlay that challenges culture's perceptions of
scale. Our preference for a rational order is brought into
question through the display of the vastness and
indeterminacy of nature. This display incorporates both the
manipulated landscape and the untouched wilderness. The
ordered and the wild describe a distance between the universe
and the individual. This distance is created by the inherent
contrast between the existence of the heavens and biological
functions that are an integral part of living things.

Smithson's mappings of natural elements, creating
monuments through erosion and decay show one scale, of
vastness beyond the human grasp. But when he takes a section
of this earth described, a hand full or shovel full and

\textsuperscript{21}Smagula, Howard. \textit{Currents: Contemporary Directions in the
displays it within the confines of a gallery, the earth becomes completely tangible and civilized. At once, this earth is amplified beyond its natural setting and contextualized in the display area. The earth is meant to be seen at a distance, in a photograph or from an airplane, effectively reducing its scale. The containers in the gallery, however, are meant to defy the confines of the exhibition space and allude to a vast and unmanageable space that exists outside. The scale of the work is simultaneously enormously large and succinctly finite. A distance between these two realms is both created and defied. Smithson achieved the reduction of these immense distances by recognizing and incorporating this world that exists in both a state of limited containment and vast wilderness. Thus, he allows the viewers' perceptions to continually vacillate between order and confusion.

Smithson worked within the constraints of civilization. He was using the technology, land and culture that was available and creating composite, open and integrated pieces. He utilized culture's earlier ends as part of his means. Through the tools of culture's refuse, time and nature, Smithson's works manipulate our perceptions using existing pieces of the landscape in compositions much like collages. He was focused while creating abstractions of culture and the world. He attempted to reconcile the gap between individual and universe and between science and the seeming irrationality of the phenomenal world.
These creations have the tendency to vacillate between the limited and the endless. While Smithson was using remnants of existing conditions, these pieces were simultaneously evolving as part of an infinite cycle. Therefore, the significance and scale of these pieces is magnified beyond the realm of the artist and the myth maker. But the specificity of the unique hand of the maker results in an inherently intuitive piece while also being a reflection of the world that provided the parts. The creation of mythology is essentially allowing for this reflection of the culture that supplied the pieces for the composition while simultaneously allowing the composition to expand in magnitude beyond the culture.

Smithson engaged in myth making through abstracting and diffusing the scientific preconceptions of culture's view of the natural world. He could construct reversals of the present situation by studying the world as it existed. Smithson observed that "the jungle grows only by means of its own negation - art does the same."\(^{22}\) In other words, geological and biological time had appropriated earlier ends that are used as tools in the present process. He uses the geology of linear time to render the rusting pieces of the city, unearthing within this geology remnants of the cyclical process. Through the display of this dichotomy between decay and rebirth, his creations begin to describe a condition of continuity and wholeness.

\(^{22}\text{Holt, p. 99.}\)
Smithson used his artwork within the natural world to span the distance between the human and the phenomenological world. He attempted to reconcile this duality between city and earth, culture and nature and the beautiful and the sublime. This artwork provides a translation between a contemplation of the natural world and a commentary on an industrial age. Smithson undermined our rational processes by using them to compose myths about the indeterminacy of the natural world. The ordinary, then, becomes exemplary rather than ignored by being used to build a myth within the order of science and the constraints of modern time to highlight the present natural state. By operating on an edge between the mythic and scientific, Smithson was essentially within this duality of indeterminate and rational systems at work creating a multiplicity of readings which actually bring together these divergent realms.

This edge is defined by the overlay of cultivated and natural landscapes. Within this overlay, Smithson mapped and explored the stratas of geologic time as well as the history of the land and the natural elements. This twofold purpose expands the specificity of the site and the natural elements at work to include the destruction and reconstruction of the landscape through time. Working with these ideas simultaneously brings the dialectic of nature and the city back into focus. The beautiful and the sublime are manipulated and transformed into a comprehensible whole, a myth.
These myths attempted to bring clarity to the constant changing of the natural landscape against the backdrop of the invincible city and against the forces of the reasoning human. Through the transformation in scales between his "Non-Sites" and his earthworks, Smithson created a dialectic between the opposing forces of nature and culture. Through the use of scientific rationality to explain the indeterminacy of these vacillating scales, a mythic structure began to evolve. Smithson's artwork and writing is about a modern myth, a way to explain the desecrated and reconstructed landscape in the terms of the present culture. He supplies an outlet for our need to order a highly unpredictable world. By confusing our rational preconceptions, he exposes a reality of nature and culture in balance, at once being tangible and limited and infinitely incomprehensible.
Process and Program Propositions

The bricoleuse and the myth maker use tangible building blocks, not abstractions or general rules. Yet, the completed form becomes a collage, an abstraction of the physical pieces used. The composition is accessible, but remains abstract. Generalities such as time and the structure of myth carry these ideas to a specific setting. From this site, the collector can gather the tangible items and specific ideas needed for construction. The natural elements situate the pieces and inform the structure. Through the building process, one abstracts these environmental pieces and creates a complete form that is more far reaching than the specificity of the site.

In this abstraction of environmental pieces, as an example, the general angle of the sun demarcates a specific place on the site, a precise situation of the form. These forms can also take on elements of time, reflecting the cyclical life and death of both the day and the sun, once again becoming abstract and mythic. Thus, the technical and scientific underlay is achieved by recognizing specifics of the site. However, the spiritual and the mythical aspects of the rational underlay are addressed through different representations of the same natural element, the sun.

This interchange between the abstract and the tangible creates an integration within the process. It could be inferred that the abstract and the physical actually are
congruent facts that become identical and diverse at the same time from different viewpoints. The effort in the process of construction exists in a simultaneous or ever recurring time. This simultaneity suggests that it is an integrated process; that polar concepts can become one and the same. Yet, the site is cataclysmic, not conforming to the rationality set up by the order of the natural world. The structure made from the pieces of the site and its memory, then, requires a constant ordering and reordering. This process moves from the grasping of objects on the site to the translation and incorporation of general myths of the natural elements. In the product, abstract and the tangible become indiscernible overlays that represent the holistic yet ever-changing scope of the work.
Figure 7: Sketch 2 Isolation
Figure 8: Sketch 3 Sun Path
Figure 9: Sketch 4 Daily Path
Figure 10: Sketch 5 Seasonal/Yearly
Aging and Rebirth

Life and death are ever recurring events that define the cyclical nature of our universe. Our elderly population defines that edge between cyclical and linear, between birth and death, being old and wise and needing the constant care of an infant. This biological progression has its corollaries in the changing of the seasons, the sun and the moon.

We define time through the passage of generations in our families. It is an integral part of a child's nurturing to interact with its grandparents and great grandparents. The forum in which these events occur is going to have increased importance in the ensuing years as the population of the world grows older. The link between these biological cycles and the periodic phenomena in the natural world is a strong one, yet one that has not been adequately explored through the devices of architecture. The thesis will attempt to define this link using formal and structural ideas.

The elderly occupy this edge that is defined by Robert Smithson's work; between decay and the constant marching of progress. They also are the finite pieces that the bricoleur constantly is reordering in his/her infinite world. The elderly hold our myths and long to share them yet they are confined by the limits of science. They are not encouraged to produce and to share through art and storytelling. Rather, they are kept as inert bodies through medication and
modern appliances. Modern science has, in effect, cut our culture off from grounding within the infinite cycles of the cosmos by looking at life and creativity as finite entities, subject to decay but not to rebirth. Through making a connection between nature's constant renewal in the passage of seasons, the daily arrival and departure of the sun and the moon and the possibility of rebirth in the elderly population, one can begin to integrate a scientific agenda with a mythic frame of time. This integration of science and myth opens the possibility of architectural form as a determinant in an environmentally sensitive culture.

The conditions of the elderly today only serve to emphasize the linearity of the world without taking into account the cyclical nature of our religious and phenomenological lives. Spaces created for the elderly, taking into account the indeterminate and natural cycles of our universe yet providing adequate facilities for modern medicine, may provide insight into our heterogeneous world. By incorporating spaces for storytelling exchange and arts and crafts between the young and the old, an intergenerational understanding can exist. These spaces can become sacred through the repetition of events.

By incorporating natural phenomena into the design of the facility, a realization of the impermanent and cyclical nature of the world can arise. By evoking a collective memory, the process of rejuvenation and decay can be understood. One can also understand the elderly facility in
a variety of scales. Birth, aging and dying are universal while the coming together of children and geriatrics within a community is essentially at the grass roots level. The new millennium increases this expansion of scales by a regained understanding of a generation in the scope of linearly progressing time. The concept of Christian time is huge but anchored by the specific events, many of which are celebrated year after year.

There is a gathering and reorganizing of parts that takes place. This bricolage occurs both in the architecture and in the creative processes that happen in the shelter of the architecture. Within the built form, a variety of collective memories are reorganized and represented in the forms of oral histories, paintings and crafts. The participants are constantly dealing with what is there through creativity, humility and a sense of humor and curiosity. The representation of these basically biological concepts can bring about a new awareness to the cyclical ideas of erosion and rebirth as corollaries to the cycles of life and nature.
Figure 11: Study Model of Site
BIBLIOGRAPHY


The Manifestation of the Process

This project is about an architecture of integration. Through this project I have made an effort to integrate not only the person and their surrounding environment but also building and the natural world. The physical and biological cycles of nature have informed this project from the start. The program of daycare center and elderly home was chosen simultaneously with the site which exists on Buffalo bayou several minutes from downtown Houston. (Figure 12) These choices set up a juxtaposition between the young and the old as well as the natural and man made.

The site is situated in an area flanked on the south by the bayou and on the north by two midrise buildings and the speed of Memorial Drive. On the land are remnants of built form and much washed up trash signifying the cycles that have taken place, the giving and taking away of the flood. The program for the elderly and the children consists of about 36,000 sq.ft. of dwelling units, health care, communal facilities, gardens, play areas and hospice units.

I started by looking at the natural cycles as ways of transforming the site, especially the erosion and rebirth implicit in the flood flowing on to the site. (Figure 11) I also looked at the way these natural variables could inform the beginnings of a building design.
I first looked at functional proximity or the idea of the monolith. (Figure 6) I also looked at what happens with extreme isolation of the programmatic elements or dispersal into the landscape. (Figure 7) This study brought up several issues: whether to design a structure as a monolith off of which one can read the natural cycles as something different and to be appreciated or to make something that mimics the natural landscape and spreads itself over the site. Also there is the idea of the perimeter or the city wall that sets the monolith off from the natural landscape. These two notions were combined with the results of the other variables that were studied. (Figures 8, 9 & 10)

The grid came to represent the microcosm of the city while the topographical survey represents the natural landscape. (Figures 13 & 14) This central duality, then, involves the universality of the grid with the self generating and singular site. I have taken the topographical map, which is a translation of the natural landscape and established a set of terraces off of these contour lines which are yet another translation. (Figures 15 & 16) Then the grid is projected from these terraces, creating a transformation from natural to manmade. The terraces and the grid situated partially in the flood plain sets up this transformation in section as well as plan. The ideas of temporality and permanence inform this development within the flood plain. The materiality of the pieces is a way to distinguish between levels of permanence. I used reinforced
concrete, wood, aluminum and a breathable and waterproof fabric to render these degrees.

Three distinct relationships with the ground arise. First, there is complete engagement with the ground, the building actually digging into the ground as it can only do above the flood plain. The monolithic health care facility occupies this zone as well as the entry areas to the facility as a whole. The two circulation routes through the project also originate in this zone. The users actually inhabit the foundation walls that are dug into the ground. Then, the retaining walls for the terraces fold up from the ground plane and provide the structure for cantilevering the built form. The second zone, then, has a tangential relationship with the ground, growing from an extension of the earth. The programmatic elements in this zone are spaces for both groups of users, where the overlay in these cycles actually occurs. The third zone is completely separate from the ground plane, sitting on pilotis and hovering above. This zone houses the most temporary of the programmatic elements and sets up the flood as a major determinant of form along the bayou and one that aligns itself with the program of day care and nursing home. On the east side is a storytelling area for the young and the old, a place where imagination is a means of integration and on the west side, the hospice units, where death is about to be overcome by renewal. These elements were conceived of as pieces that could be washed away by the
flood and gain a sense of liveliness by the immanent rising of the waters.

The project, then, consists of moments, some safe, some volatile, some isolated, some public, some sheltered and some exposed. The order is inherent and experiential rather than defined. By engaging the user in these experiences, this sort of blending between the earth and what man makes can evolve. There is no singular experience, rather one continues to have different experiences throughout the day and night, year and lifetime.
Figure 13: Town plan of Canton, China.

From Architecture Without Architects

Figure 14: Process Diagrams
Figure 15: Site Plan

Figure 16: Plan
Figure 17: Limonaie Terraced Gardens.

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Figure 19: Fishing Station in Vieste, Italy.
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Figure 20: Site Section B
Figure 21: Canvas Awnings in Sevilla.
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Figure 22: Building Wall Section
Figure 23: Aerial View Northwest
Appendix 2

Conclusions

The jury consisted of Gordon Wittenberg, Mark Wamble, Jim Blackburn and Jeffrey Inaba. Our discussion centered around the idea of using both a specific program and a unique site to test a thesis. Mark questioned whether the program was essential to the development of the project. The architecture, I believe, was a result of having the duality of the biological cycles juxtaposed with the natural flux of the site. The inclusion of the city as a proximate element provided the opportunity for a richer reading of the built form. By choosing a site on the edge between the city and the natural landscape, I exposed a way to develop the grid of the city and the natural topography as overlays.

We also discussed the unplanned moments of the scheme, the places where the grid and the contour line collide, as potentially the most potent connections within the site. These connections were described as haptic moments or places where all the conditions of the thesis potentially become overlays of each other. Jeffrey brought up the vertical circulation pieces and the space around them as viable yet accidental places that, through use, would become enlivened. These residual spaces, the jury agreed, would actually be the exciting pieces of the scheme rather than the planned outdoor spaces. The question then arose about the architectural creation of these accidental or residual spaces that result in being an interesting component of the design. We
concluded that one could only carry through an idea methodically and the residual develops unplanned and is fortunate for the architect. Yet paradoxically, it within these accidents that an architecture can truly test itself experientially. Only through this dense experiential rendering can one gain a haptic sense of all the elements at work.