Designing for Communication:  
From Orientation to Empathy  

by  

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ABSTRACT  

Beyond shelter, communication is the essential act of architecture. The construction of a building is the result of a dialogue  
between people and the natural environment where a building rises because it is the physical fulfillment of people’s needs and desires that  
are not naturally met. Because buildings are designed for people, it is reasonable to define a building’s success by the degree to which it  
is relevant to and usable by people. A building’s relevance, whether it be physical, historical, or spiritual, occurs through communication.  

This thesis proposes that architects should make communication a design priority. We have the ability to and should take upon  
ourselves responsibility for creating, maintaining, and heightening people’s physical and emotional relationships to their world.  

The design subject for this thesis is a retreat center for artists, writers, and musicians. Because visitors come to a retreat center for  
short periods of time (usually 2-4 weeks), the necessity for understanding and relating to one’s environment is concentrated and immediate. A retreat center must communicate quickly and meaningfully to its creative inhabitants in order for them to feel at ease, connected, and able to progress in their work.  

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and

Nancy, Mom, and Dad
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Figure 1
Nancy Reading on
East Brookfield Site
“Garden designers know how to amplify the sight and sound of flowing water. Pliant vegetation or banners make the wind visible... Tidal changes can be amplified...”
— Kevin Lynch (What Time is This Place?)

Beyond shelter, communication is the essential act of architecture. The construction of a building is the result of a dialogue between people and the natural environment where a building rises because it is the physical fulfillment of people’s needs and desires that are not naturally met. Because buildings are designed for people, it is reasonable to define a building’s success by the degree to which it is relevant to and usable by people. A building’s relevance, whether it be physical, historical, or spiritual, occurs through communication.

This thesis proposes that architects should make communication a design priority. We have the ability to and should take upon ourselves responsibility for creating, maintaining, and heightening people’s physical and emotional relationships to their world.

In this theoretical portion of the thesis, I study the content of architectural and environmental communications with people. I suggest that architecture has three basic modes for communicating with people: orientating, sympathetic, and empathetic. These correspond, as I see them, to the three essential levels of understanding that a person can have for his environment: physical understanding, intellectual understanding, and emotional or spiritual understanding. Later, in the design portion of this thesis, I apply the qualities discovered in this portion to the design the artists’ retreat center.
Orientation

A place can be communicative, in the most basic sense, in the way that a map is communicative. That is, it communicates to the person the factual knowledge of where he is situated within an environment.

In *Image of the City*, Kevin Lynch defines this type of communication as legibility:

By... [legibility] we mean the ease with which its parts can be recognized and can be organized into a coherent pattern. Just as this printed page, if it is legible, can be visually grasped as a related pattern of recognizable symbols, so a legible city would be one whose districts and landmarks or pathways are easily identifiable and are easily grouped into an over-all pattern (3).

For orientation to occur, awareness of some kind of spatial order in one's environment and the ability to know where one is within that order is essential. In this section, I contrast two planned micro-environments; the first, Sea World, San Diego does not succeed in orientation, and the second, the campus of Middlebury College in Middlebury, Vermont does. I have been to each of these places twice, and each of these places has made itself memorable to me for its particular qualities of orientation (or disorientation).

Sea World, San Diego is a highly planned community. It is designed for entertainment, as a pleasurable place for families to spend a day. Upon entering the parking lot of Sea World, each visitor is given a map with his parking ticket which shows a cartooned extruded plan of Sea World (Figure 4). Attractions are indicated with cartoons of the animals to be found in each building and paths are depicted as unobstructed blank routes from
The actual experience one has when walking around inside of Sea World, however, is not at all as understandable. The photographs in Figure 5 were taken from the points indicated in red numbers on the map of Figure 4. At every turn in the park, one has essentially the same experiential view—high shrubbery, white buildings, non-descriptive paths leading in all directions. The paths and the buildings which house the animals look so much alike that, from most places in the park, the only way to find one’s way around is by following the street-post like signs which name and point to the attractions or by looking at the map and deciding in which direction one should set out. The only sense of orientation one has toward the larger scale of the park is the presence of the tall observation tower rising from the center of the park (Figure 3). This tower, however, is uniform on all sides and can only give the viewer a sense of how far he is from it, not a sense of which side of the park he is on or where he is located within an even larger environment. On both of the visits that I made to Sea
World, I was able to find my way around only by comparing my map to the signposts which I happened to find myself next to.

Contrasting with my experiences in Sea World, San Diego are my experiences visiting the campus of Middlebury College in Middlebury, Vermont. The Mead Chapel rises up on a hill at the highest point of the campus (Figures 6 and 7). A sloped path gracefully leads up the hill toward the chapel, continuing its line in the line of the spire. On both occasions of my visits, I was able to maintain a sense of where I was on the campus because I could tell where the chapel was in relation to me and which side of the chapel I could see. This chapel also acts as a landmark. When I first drove to Middlebury, although the surroundings were strange to me, I recognized the campus when I saw the chapel from my car, and, once I had parked a distance away, I was able to easily find my way back to the chapel again by foot and to locate my event. Middlebury describes Mead Chapel in this way on its web site: “Mead Chapel is located on the highest point of the campus, its spire symbolizing the aspiration of the College. The light which shines here nightly is seen in the entire valley....” (www.middlebury.edu). Mead Chapel, as landmark and reference point, is able to make Middlebury College communicative to a stranger.

Orientation begins the relationship of a person to his environment. When, by directly reading of the forms of an environment, a person is able to understand, navigate, and use his environment, he gains the appropriate power of self-determination within his environment. When a person understands where he is, he feels both more safe and more knowledgeable. The possibility for a deeper understanding of his environment is in place.
**Sympathy**

An environment that succeeds in sympathetic communication, reveals its physical means of construction and/or operation to the viewer. Environments that communicate in this way are usually called “tectonic.” The understanding that occurs in this stage is the understanding of the *other*. From sympathetic communication, people come to understand a building, not primarily in relation to themselves or to the larger context, but they see it mostly as a separate entity from themselves, as a self-supporting and uniquely understandable construction.

Two built examples of this are tensile bridges and caryatids. Tensile bridges like the Alamillo Bridge in Seville, Spain by Santiago Calatrava (Figure 8) express the forces that operate in them to the viewer through the lines of their tension chords. If there were no tension in the chords, they would be slack; because of this, the line of each chord specifically describes to the viewer the force that is being carried by that member. More metaphorically, the caryatids of ancient Greece, here shown on the Porch of the Maidens on the Erechtheum in Athens (Figure 9), express to the viewer the idea of compression. In the image of the women who hold the building’s roof on their heads, a person can understand that the force at work in the building is compression and that the roof is heavy and must be held. Through this replacement of standard columns with statue-columns, the idea that columns do the job of lifting and holding a building’s roof is conveyed in terms which humans can easily relate to. A person looking at the caryatids easily identifies that there is an effort which the columns expend in holding up the roof which is similar to the human effort of lifting. As modern caryatids, Gaudi’s turtles bear the weight of the Sagrada Familia’s eastern façade (Figures 10, 11 and 12). Shortly after Figures 10
and 11 were taken, a passer-by patted the turtle on its head on his way into the cathedral. This gesture, in my view, seemed to confirm the idea that the passer-by had transferred an emotion onto the turtle. He had seen the turtle, as Gaudi depicted it, as a figure, an understandable other, working to support the cathedral.

If a building achieves a level of sympathetic communication, a person has begun to not just read his environment for utilitarian purposes such as for direction-finding or simple use, but he has begun to think about his environment as an entity in itself. He relates to his environment as an other. The possibility has become available to him for understanding that it has had a life, it has had an origin, and that it has been responsible for withstanding a particular set of forces within its environment.

Figure 10 and
Figure 11
(Right and Below)
Turtle on Pediment of Eastern Facade Column;
Sagrada Familia, Barcelona, Spain;
Alicia Lewis.

Figure 12
(Above)
Eastern Facade of Antonio Gaudi's Sagrada Familia; Barcelona, Spain (Blue Circle Indicates Turtle);
Cover from brochure distributed at Sagrada Familia; Vivas, Pere.
Empathy

Through empathetic communication, a building communicates to the viewer not primarily about how it works or about how it is put together, but, instead, the building uses itself to show how the inhabitant’s larger environment (built or natural) works. A person may realize the existence of a connection between his city’s history and his own; he might see explicitly how a natural force such as time, wind, or sun works in the area where he lives and remember that he is affected by this force as well; or he might, in a structure, be reminded of a physical phenomenon, such as the strength of the tides or the laws of perception—things which he intimately knows and has always lived with but which he may not think consciously about each day.

Environmental forces can be brought to a viewer’s attention by several means. For example, a built form or city space can receive a particular force. This window (Figure 13) in the class of 1945 Library on the Exeter Campus in Exeter, NH, receives sunlight on its smooth concrete faces. It allows the intensity and movement of the light to be clearly and powerfully read on its own surface. In the same way, this desert plain in Utah (Figure 14), as viewed from a cliff above), in its flatness and vastness, allows the patterns that the sunlight makes through the clouds to be read across its surface. Plazas or town squares act in this way in cities. They receive the activity of people and demonstrate the changing life of a town. Peter Lynch, in What Time is this Place?, describes the changing nature of activity in the Piazza del Campo in Siena, Italy (Figure 15). Sometimes this piazza is calm and empty, and sometimes it is filled with life and activity especially during the event of the annual horse race (175).
for the empty space of the Siena’s piazza, the action of the clouds, the sun, and the natural city life might be obscured and not noticed.

A built form can also reveal an environmental force by interrupting it. This path in the Basque country of Spain runs from the shore to a small island (Figures 16-19). It submerges and reemerges with the changing tides. It is an interjection into the water that, by interrupting the movement of the waves, visually reveals the force of the waves. At high tide, the force of the waves becomes visible as a subtle line of turbulence that lies above the path in the water; the motion of the waves is disrupted, and the regular crested pattern of the surface is altered. As the path re-emerges from the water at low tide, waves continually wash over the path’s concrete surface, and the action of the waves is revealed as repetitive and forceful. The path also acts as a visual marker for the height of tides because it is a stable entity in a changing environment; it becomes a stable point of reference.

Figure 16
(Left)
Path through the water; Basque country, Spain.

Figure 17 and 18
(Right)
From a distance, the path appears as a faint ridge of turbulence in the water.

Figure 15
(Above)
Piazza del Campo; Siena, Italy. (Lynch, Time 175).

Figure 19
(Right)
Path through the water; taken from path.
An environment can also frame or point one's attention toward a natural event. The architectural notion of the "borrowed view" is present in this temple in Kyoto, Japan (Figure 20). The doorway in this image, frames a very specific exterior view of the garden space. It highlights the positioning of the trees and captures, as an image, the filtered light resting across the ground. The placement of this door allows various qualities of the garden landscape to come together as a visual composition which is presented to the viewer on the interior of the room.

Other natural events such as the experiences of human perception can also be framed or called into attention through building. The entry sequence of the Hagia Sophia in Istanbul, for example, reveals its interior to the visitor slowly and dramatically (Figure 22). The small dome of the asp at the far end of the cathedral is the first interior space seen as one enters. As one continues inside, larger and larger domes, each containing the one before, are revealed to the viewer until he is completely inside and the dome of the large roof arches up so high that it surpasses his view and cannot be seen in its entirety until he looks behind himself. This experience is a demonstration of both the event of time and the quality of human perception. Kevin Lynch describes this same kind of time-based perceptual experience being designed into procession sequences leading to thrones or altars and in experiential pathways through cities (Time 185).
As the viewer moves around the Hagia Sophia, the dome overhead seems to shift size and orientation. (Rotch Visual Collections).

Exterior of Hagia Sophia. (Rotch Visual Collection).

This wooden structure acts as an instrument for measuring movement and perception. As people walk by the installation, they observe that the buildings on the outside of the window change position and shape in reference to the installation. Because the viewer knows that the outside is, in reality, stationary, this instrument works to reveal to the viewer the way his own perception works. It communicates empathically because it causes a person to recognize something that is already part of himself.
Another way that an environment can communicate empathetically to its inhabitants is by displaying elements from history within a context of the present. Trace or vestigial parts of the past contained in present space allow the occupant to feel that the place which he occupies has had a history and that his time there will be part of the place’s future history. The feeling of connection to past occupants and past times reinforces a sense of empathy in the user by allowing him to feel that he is a participant in an on-going story. Peter Lynch describes numerous examples of how historical facts can leave visible impressions in the cities where we live. This wall, made of fossilized ammonites (Figure 28), connects a person with his town’s natural, geological past (Time 172), and this neighborhood of Rome (Figure 29), through the arching of its streets, reminds the occupant of his city’s historical past. The present day streets are formed in the shape of the former footprint of the ancient theater of Pompey (Lynch, Time 46). An inhabitant or a passerby can see a trace of the past within his present, and, because of this, he develops an understanding, a sympathetic feeling which, though use and occupation, becomes an empathic feeling for a place or a town.

Figure 28

(Left)
“The Stones of a field boundry, locally quarried, display the giant ammonites that are part of the geological history of the site”
(Lynch, Time 172).
In essence, empathetic communication reveals to a person something that is, on some level, already known by that person or already a part of a person. When one person feels empathetic toward another it means that he sees, in the other, something that is part of himself as well. Thus, when architecture intervenes in an environment, and, by doing so, reveals something that is already known or that already exists in a heightened way, it creates an occasion of empathy in the inhabitant who re-recognizes this environmental fact.

When an environment achieves empathetic communication, it becomes a comfortable place to be. Empathy, by definition, includes the fact of self-recognition. The occupant goes beyond a simple understanding where his is and how his environment holds itself together, and, he comes to feel as though he is also a part of what is around him. An empathetic environment is fully fitted to the people who it serves, and gives a sense of belonging and security by conveying to the individual that he is both a part of his environment’s history and a part of its physical reality; he is, he realizes, part the environment itself.

Figure 29

(Right)
“A surviving fragment... indicates the theater of Pompey... Looking down on the same area of Rome today, we see the persistent trace of the former structure” (Lynch, Time 46).
The design subject for this thesis is a retreat center for artists, writers, and musicians. Because visitors come to a retreat center for short periods of time (usually 2-4 weeks), the necessity for understanding and relating to one’s environment is concentrated and immediate. A retreat center must communicate quickly and meaningfully to its creative inhabitants in order for them to feel at ease, connected, and able to progress in their work.
Retreat Center Total Square Feet: 27,625

OCCUPANTS

6 Writers, 6 Painters, 6 Musicians
3 Guest Teachers (1 writing, 1 painting, 1 music)
1 Director, 2 Permanent Staff (1 office, 1 maintenance)

RESIDENCES

Total Residential Space: 10,100 total s.f.

21 Bedrooms (Including 1 Bathroom Each)—250 s.f. each
2 Lobby/Receiving Areas at Each Entry—950/700 s.f.
Indoor Circulation—3,200 s.f.

OFFICE, KITCHEN, AND MAINTENANCE

Total Office, Kitchen, and Maintenance Space: 2,150 s.f.

General Office with Reception—650 s.f.
Kitchen—800 s.f.
Storage and Cleaning Supply Space—300 s.f.
Restrooms—400 s.f.
COMMON AREAS

Total Common Area Space: 9,625 s.f.

1 Dining Space—1,525 s.f.
1 Lecture/Recital/Performance Space—1,525 s.f.
1 Gallery Space/ Circulation—1,525 s.f.

1 Library / Reading Room—1,400 s.f.
1 Lounge area (away from bedrooms)—1,400 s.f.

1 Exercise/Meditation Space—325 s.f.
1 Planned Garden—1,925 s.f.

STUDIOS

Total Studio Space: 5,750 s.f.

6 Painting Studios (w/ sinks)—250 s.f. each
1 Life Drawing Studio—700 s.f.

6 Writing Studios—200 s.f. each
1 Conferencing Studio—360 s.f.

6 Music Studios—240 s.f. each
1 Group Practice Studio—550 s.f.
East Brookfield, Vermont is located in central Vermont near the town of Chelsea (see the blue shaded area of Figure 30). The site itself is very rural and is located a short drive from Vermont Route 14 which runs parallel to Interstate 89 (the blue shaded area of Figure 31 -- red road is Route 14).
The site is a 72-acre plot of land located on the southern slope of a mountain in East Brookfield, Vermont (Figure 32). I think of this site as a peninsula boarded by two small streams.

The photo-collage above shows what it is like to stand at the base of the site and look up toward the mountain's top. The photo-collage below shows the view from looking down the mountain from the tree-line.
To me, the experience of Vermont is the experience of change. The seasons bring dramatic swings in temperature and visual surroundings; the wet green fields of summer become bright snow banks in winter, and the trees, which are full and green in the spring, have color in autumn, and then go completely bare in the winter. When one moves in Vermont, either by walking or driving in a car, view and perspective continually shift. A walk through the deep woods can develop into an experience of wide mountain views and open fields, and the rises and falls of topography can create the experience several environments within one trip.
As I made this drawing, I realized that, at times, within this environment, there are no horizontals. Verticals can be read from the growth of the trees but, to look in a general way, across unbuilt land, one has the impression of being in a sea of shifting earth without understanding where horizontal might be.
As I made this drawing, the sun was alternately bright and hidden behind the clouds. The shadows of the trees on the ground were sharp and the shadows of the clouds on the mountains in the distance shifted quickly.
Other Views from the Site
For me, the design of the retreat center began with a desire to communicate the changefulness of the Vermont landscape to a newcomer. On the preceding page, a sketch that I made at the beginning of this study shows an impulse that I had to set up a system of horizontals within an environment that I saw as containing no horizontals. With the presence of horizontals, the shifting land has a point of reference from which to be read and understood.

On the following two pages, are images from two experiments that I did on the site that continue to work with this idea. In both experiments, I hung sheets in the woods to see if I could create stable datum from which I could better read that environment. Before I hung the sheets, everything seemed green and brown. The elements of the environment were less legible because they mixed together and did not have anything that I could compare them to. Once I hung the sheets, I saw that I had created a reference point from which I could more easily read the existing condition of the woods.

The first experiment was inspired by a stone wall that runs through one part of the woods. Stone walls are common in Vermont. Many are very old because they were built at an earlier point in the United States’ history when a very large part of the northeast was deforested and farmed. In the area of the stone wall, I noticed that the slope of the mountain seemed the most clear to me. I set up a wall of my own to experiment with this idea. The sheets can be seen as an extrusion and amplification of the lower, older wall (their white is unlike anything else in that environment). From their presence, I was able to better read the depth of the space and the verticality of the trees. In the second experiment, I placed the sheets parallel with one another instead of end to end on different part of the site. This also improved the conditions for reading depth in this area and emphasized the mounding action of the land that dominates that particular place.
As I began to design, I thought about the changes that one experiences when moving across the site which can be registered in terms of light and dark. On this site, a person can walk from a high place to a low place, from dark to light, from the woods to a clearing, and, later, from inside to outside.
At the outset of the design for the retreat center, I decided that I should discover and introduce strong elements of stability into this landscape as the principle means for communicating its beauty and changefulness to the visitor. The first site planning decision that I made under these guidelines was the design of a constant sloping road. From this road, the three programmatic elements of the center (the common area, the residential area, and the studio areas) could be accessed.

The new road (the brown system on the model shown above) was designed so that it could travel to several different heights, passing through several different microenvironments within the site. This would create the possibility for a changeful experience for the visitors over the course of their day. In order for all of the buildings to be accessible by foot, I designed the road at a constant slope of 10% (which is reasonable for daily walking and only slightly steeper than the accepted handicapped accessible 8.3% grade). Because the slope of the road stays constant, the topography of the mountain itself designs the road’s general course.
The artists’, writers’, and musicians’ studios are located along the stream, at the lowest point of the retreat center road. From the studios, the retreat center road rises a short way up the mountain to the common areas (dining, library, offices, small performance area, etc). At this point, a short access road joins the retreat center road and leads to the existing town road. After passing through the common area, the retreat center road continues to rise and, then, enters the woods. After a short distance in the woods, the road emerges onto a clearing which is designed (not existing) for the residential/sleeping area. The bedrooms all face south looking toward the mountain view across a field. This is the highest built point of the center.

After the residential area, the road continues on and enters the woods again. The road maintain its slope as it rises, switching back at one point to include a turnaround. Eventually, the road becomes horizontal for a short time and breaks onto another clearing, this time, one that is deep in the woods. A visitor, after a fairly long walk up the mountain, through the woods, would emerge here and experience a long view down an oval shaped clearing. This view is oriented toward a mountain range in the distance. After passing this clearing, the road re-descends on the eastern side (still at 10%) and ends, again, in the valley, a short distance up stream from the studios where the road began. A small foot path along the stream connects the two end points.

The following sections show the drawings and models of the three designed areas of the retreat center: the residential area, the studio area, and the common area. The central feature of this retreat center is a system of horizontal pathways and stairs that connect each function to the others. Once a person is walking on one of the three sets of horizontal walkways, he is maintained at a constant level while the land rises up around him or else falls out from beneath him depending on where he goes. The self-determined motion of the individual along horizontal pathways puts in motion a dramatic demonstration of the topographic changes of this site. When a visitor sees that he can walk, for example, from the library which is dug into the ground to his studio’s front door (which is perhaps 12 feet above the ground) without himself changing levels, he realizes how dramatically the land is changing around him.
FINAL PRESENTATION MODEL AND LARGE SITE PLAN
VIEW OF COMMON AREA AND STUDIO AREA
The common area consists of two buildings. The larger of the two houses an office and reception area, a kitchen, and a cafeteria on its upper floor and a space for recitals, readings, and gallery exhibits on its lower floor. Along the stream, in the studio areas, the artists, writers, and musicians can visit one another’s work spaces and experiment across the disciplines on an individual basis; this main space on the other hand allows everyone the opportunity to come together at once, to share meals and exhibit work in a more public format.

The smaller of the two buildings in this area houses a small reading library on the bottom floor and a lounge area on the upper floor. Just below this building, a small, plot of land holds a patio and a flower garden.
PLAN OF MUSIC, WRITING, AND ART STUDIOS
The studio complex is divided into three sections, each of which serves the needs of a particular artist group: painters, writers, or musicians. Each area has a common activity building which sits at its threshold and individual studios beyond.

The studio area is accessed by a walkway system that is entirely horizontal. Within this system, a person can find himself standing within a sunken courtyard whose walls retain 15 feet of earth; without changing levels, that person could also stand on a foot-bridge that is 15 feet above the water.
This is the musicians’ area. A small building for work-shopping, rehearsing and small gatherings is located at the threshold. When accessing the writers’ and artists’ areas by the foot bridge, people need to pass next to this building where maybe they hear music that is being rehearsed as they head to their own studios.

The six musicians studios are located in groups of three behind this rehearsal building. Three of the studios open onto a small courtyard that looks across the river toward the other artists’ areas; the other three studios open onto a more inward facing courtyard which looks up toward the mountain which pitches toward this complex and is retained by its walls.
The artists’ and writers’ areas are located across the river from the musicians’ area and can be accessed by a small footbridge that passes by the musicians’ common space.
The artists’ area has a life-drawing studio at its entry point. Artists as well as musicians and writers experimenting in painting and drawing can gather in this place and draw together. There is also a private back porch on this building for outdoor modeling. The artists’ individual studios are located in a row behind the life-drawing building. All face the stream and have 250 sq. ft. of space and ample pin up area.
The writers' area is arranged more privately than the other two studio areas because of writers' specific wish for solitude. A conferencing and work-shopping building is located at the threshold of this area. The writers' individual studios are accessed by walking beyond this building on a path that carves into the earth and emerges again at three different places where paired studios face the stream.
PLAN OF RESIDENCES
The residential area is a simple building divided into three levels and housing 21 people (18 guests and 3 visiting instructors). Each bedroom has a small vaulted ceiling and its own bath. The rooms are arranged in three stepped rows which gives each bedroom a south-facing mountain view. Two lobbies are located in this complex: one receives people traveling up from the main road and the other receives people who come in by way of the elevated walkway in the woods.
EXPERIENCE
Works Cited


Image Credits

All images beyond those noted here are by the author.

Theory

Figure 1— Nancy Reading on East Brookfield Site; Gretchen Fricke.

Figure 2— Sign Outside of Manatee Exhibit, Sea World, San Diego; Gretchen Fricke.

Figure 3— Observation Tower, Sea World, San Diego; Gretchen Fricke.

Figure 4— Official Sea World, San Diego map.

Figure 5— Five Locations from Figure 4 Map, Sea World, San Diego; Gretchen Fricke.
Figure 6— Mead Chapel Front View, Middlebury College campus; Middlebury, VT; from www.middlebury.edu.

Figure 7— Mead Chapel Side View, Middlebury College campus; Middlebury, VT; from www.middlebury.edu.

Figure 8— Alamillo Bridge, Seville, Spain; Heinrich Helfenstein, photographer. Jodidio, Philip. Santiago Calatrava. Spain: Taschen, 1998.

Figure 9— “The Porch of the Maidens,” the Erechtheum; Athens, Greece; MIT Rotch Visual Collections #31930.

Figure 10 and Figure 11— Turtle on Pediment of Eastern Façade Column, Sagrada Familia, Barcelona, Spain; Alicia Lewis, photographer and friend.

Figure 12— Eastern Façade of Antonio Gaudi’s Sagrada Familia, Barcelona, Spain; Blue Circle Indicates Turtle; Cover from brochure distributed at Sagrada Familia; Vivas, Pere.
Figure 13— Stairwell in Class of 1945 Library; Exeter, NH; Gretchen Fricke.

Figure 14— View from Route 70, Utah; Gretchen Fricke.

Figure 15— "Dramatic alterations in the sense of a place as its activity changes: the Piazza del Campo in Siena, Italy, as it appears when empty and on the occasion of the wild Palio, or annual horse race" (Lynch 175).

Figure 16-19— Path through the water; Basque country, Spain; Gretchen Fricke.

Figure 20— Temple in Kyoto, Japan; Gretchen Fricke.

Figure 21— Hagia Sophia, Istanbul, Turkey, Exterior; MIT Rotch visual collections. (K9785, J. Plunte).

Figure 22— Hagia Sophia; Istanbul, Turkey, Entry Sequence; MIT Rotch visual collections. (Reference Numbers of Slides from Left to Right.)
1—A30070, Kähler.
2—A96846, Kähler.
3—A96842, Kähler.
4—A30072, Kähler.
5—A30071, Kähler.
Figure 23— Hagia Sophia; Istanbul, Turkey; MIT Rotch visual collections. (Reference Numbers of Slides from Left to Right.)
1—26803.
2—20798.
3—A52400, Bunak, 1982.
4—K16106, BadShah.
6—59425.

Figure 24— Hagia Sophia, Istanbul, Turkey, Exterior; MIT Rotch visual collections. (26835, Smith).

Figure 25-27— Installation; M.I.T.’s Building 7, 4th Floor Corridor, Gretchen Fricke. Fall 2001.

Figure 28— “The stones of a field boundary, locally quarried, display the giant ammonites that are part of the geological history of the site” (Lynch, Time 172).

Figure 29— “A surviving fragment of the contemporary marble map of imperial Rome indicates the theater of Pompey...Looking down on the same area of Rome today, we see the persistent trace of the former structure” (Lynch, Time 46).
Site

Figure 30—Official Vermont State Map.

Figure 31 and Figure 32—East Brookfield, VT Area Topographic Maps: www.topozone.com