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HEIGHTENED REALITIES, ELEVATED VIEWS

by

Marilyn Christine Bridges

Submitted in partial fulfillment of the  
requirements for the degree  
MASTER OF FINE ARTS

MFA PHOTOGRAPHY PROGRAM

School of Photographic Arts and Sciences  
Rochester Institute of Technology  
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## DEDICATION

This work is dedicated to the Sufis  
who first gave my heart wings so that  
I might realize a "heightened" perspective.

INTRODUCTION

It was my intention in this body of photographic images to show man and his environment from an aerial viewpoint and to capture a "heightened" perspective in which through juxtaposition selected fragments assume a unique totality. In taking my camera airborne I wished to reveal a more encompassing reality, not just a documentation from above but a penetration into what has always been seen from the perpendicular.

Although it is thought that certain ancient civilizations possessed the ability to ascend into the heavens, it is only recently, with the advent of technology that we have explored in depth the vastness of the skies.<sup>1</sup> With this ability has come a perspective hitherto unknown. In the past one could only imagine a view from "above". Today, with the evolution of aerial photography, the world can be rendered in a new and exciting dimension.

Seen from the sky, ancient and contemporary artifacts take on similar appearances. For instance, spirals made by

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<sup>1</sup>Erich Von Daniken, Chariots of the Gods (New York: Bantam Books, 1968), p. 17.

tractors plowing fields take on the look of spirals made by the Nazcan culture in 500 A.D. The major difference between the two is that contemporary earthworks are in the form of markings hidden on a modern landscape, never intended to be viewed from above, such as playing fields, construction sites, high tension wires, roadways, and tracks on sand and snow. Fleeting shadows skimming across the ground producing negative images are seen as if drawn by an artist's brush in black ink.

The ancient earthworks, however, were intended to be viewed from the air, if not by those who made them, then by their Gods.

My first encounter with aerial photography began in Nazca, Peru, photographing ancient earthdrawings visible only from an elevated view. While there were many sites to choose from, (seventy-eight zoological figures often reaching dimensions of over one thousand feet, colossal triangles, rectangles and trapezoids all geometrically perfect) the difficulty was not in finding them, but in making the proper selections which coincided with my visual aesthetics.

It was the Nazca figures that stimulated my interest in making aerial images. From there I began seeking out unacknowledged earthworks made by modern man hidden from a surface viewpoint.

## PROBLEMS AND SOLUTIONS



## Developing a Visual Aesthetic from the Air

### Black-and-White Vs. Color:

A choice of black-and-white rather than color was established after viewing early and modern day aerial photographs. For instance, I was influenced more by the black-and-white aerial images of Edward Steichen than the recent color aerial work of William Garnett. I found color offered a "pretty picture" concept of the earth's surface, while black-and-white rendered the landscape more dramatic and intense.

Landscapes of national parks, beaches, suburbs and shopping centers took on a sameness as they were transformed into multicolored designs. Color aerial photographs often have a washed-out appearance due to poor haze penetration, surfaces would be rendered flat, textures lost. Although this could be a problem with black-and-white film as well, more adjustments are possible: filters can change tone rendition, different exposure and development combinations can be used to boost contrast, and a wider variety of printing paper contrast grades is available.

When photographing an area of only one hue, black-and-white can hold one's interest with form and contrast while sometimes color will render the same scene as a drab monotone.

Black-and-white works well with light and shadow, bringing a sense of depth and contour to an aerial image that might otherwise be graphically unexciting.

### Composition:

The earth from above can be cluttered with infinite details, particularly where man has settled, or repetitive and monotonous, where simple landscapes abide. I decided to work on the edge of the two, showing traces of man left in the natural environment, paying particular attention to small details that would give the hint of man's presence in a natural setting. Intricate subject matter from a standing position may become an abstraction made up of large geometric patterns when viewed from above. I used these shapes in my compositions, while including a hint of something recognizable to provide for scale.

### A Way of Seeing:

From above one's perception of the earth is altered. I had to learn the process of seeing the tops of things. Very often familiar objects took on a whole new look and meaning from an airplane. Also, because so much information is readily available from the air at one time, a strong and quick selection process took place. The juxtaposition of certain objects became extremely important to the integrity of the photograph. I found my photographic eye constantly isolating and composing through the open window of the plane, always seeking the correct angle at which to render my subject matter, not unlike the process of composition used when earthbound. The wheel, strut, and wing of the airship were the most limiting factors to my vision.

## Command of the Artist's Tools

"If a man (or woman) has the soul of an artist he needs a mastery of all the means of expression so that he may command them."

Robert Henri

The structural strategies devised to accomplish the desired results came after extensive testing on the ground and in the air.

### Film and Developers:

I began using a 35mm system with Panatomic-X, a slow film (ASA 32) to obtain the finest grain possible. When shooting from the air a lack of sharpness was one of the greatest problems, because of camera motion. Although good results were obtained with the use of this film, many shots were lost by not using a shutter speed fast enough to eliminate plane vibration. I decided to use Ilford HP5 film which has an effective ASA of 400, giving me four more stops of film speed. Fewer images were lost because of vibration. This film was then developed in D-25, 1% Kodalk, a very fine grain developer. When compared with Panatomic-X developed in D-76 1:1, the grain was fairly similar.

Still I was not satisfied with the image quality. I purchased a Pentax 6X7 camera and used Tri-X film developed in D-76 1:1. Grain was no longer a factor because the larger negative size would allow for less magnification of the image for the same print size.

#### Exposure:

Shutter speed was of prime importance. Shutter speeds of less than 1/500 of a second prevented problems caused by motion and vibration. The aperture was left wide open when shooting at infinity, because depth of field was not a problem. A higher shutter speed was used. In addition, I underexposed the film and overdeveloped it accordingly to increase contrast.

#### Filters:

Depending upon lighting conditions, landscape colors and haze penetration, different filters were used. Extensive testing with many colored filters was done from the ground level and from the air. I determined that the orange, Number 15, worked best for dramatic effects. It was excellent at penetrating haze, lightened up most landscapes and accented the shadows, thus bringing out contours that might otherwise have been lost. When haze was less of a problem I used a K2 yellow filter to gain an extra stop of exposure.

Printing:

The culmination of making these aerial images occurred in the darkroom. I wanted a richness in the final print that is rarely seen in aerial photography. For this reason, Agfa Bovira paper was chosen because of its rich dark tone, and Oriental Seagull, which has similar qualities plus an excellent ability to separate detail in the shadows. (Oriental paper would have been used exclusively but was not available in the 16" x 20" size.) Both papers were developed in Beer's A & B, a good developer for controlling contrast. The prints were toned in selenium toner which subtly changed the image tone, making the blacks richer and deeper.

### Print Finishing and Display:

After seeing the fruits of my airborne and darkroom labors, I realized that this work was important and should only be displayed in the best possible way.

I chose 4-ply ivory museum board for its rich tone and archival characteristics. Window matts were cut to separate the prints from the glass covering. I used six black metal frames for the Nazcan images, and frosted silver metal frames for the rest.

In order to create a total environment, much emphasis and time was spent placing the gallery walls in the correct position, sequencing the images, and lighting the work. To complete the exhibit, the walls were touched up with paint, a typed introduction was framed and hung at the beginning of the show. Flowers were placed in the room. The photographs were numbered and title sheets placed on a table under the opening statement.

The many hours spent in print finishing, framing and gallery preparation helped to make the exhibit successful. When this aspect is ignored the viewer is often distracted from the images by the disorganization of the presentation itself.

### Airplanes, Pilots and Flying:

Oblique aerial photographs are very difficult to take from most low-wing aircraft because the ship must be banked excessively to provide a useable field of view clear of the wing. I was limited to using high-wing aircraft, usually Cessnas. This caused problems because the one Cessna 150 for hire at the Rochester airport was not always available when the conditions for photography were right. There were many disappointing days when the weather was perfect, my pilot was willing, but the aircraft was either reserved or being overhauled. Fortunately this was not a problem in other locations where more high-wing aircraft were available.

The cost of plane and pilot rental was also a factor to be considered. Experienced pilots charge \$12/hour and a Cessna 150 rents for about \$24/hour. To keep costs down I often worked with inexperienced pilots who would share the plane rental with me to accumulate flying time. This compromise with inexperience caused some near accidents, making me question the logic behind saving money. Eventually I decided to pay more and feel better.



Another aspect to be considered was photographer-pilot communications. Often the pilots would not understand the precise point of view I needed, and at first I didn't know enough about the language of flying to explain what I wanted. This prompted me to take flying lessons and attend ground school. After I became more confident of my flying knowledge I was able to communicate more directly.

Because the window glass prevented clear, sharp images, due to dirt and scratches often found on them, I always photographed through an open window. Since the Cessna windows are latched to prevent complete opening, I would disconnect the latch mechanism before taking off. The open window would allow me to move the camera where I had more freedom to compose. Pilots soon learned that a ride with me meant a cold, windy ordeal. I would always suggest that they wear warm clothes, a hat and gloves (as I did) even in the warmer weather, because of the considerable wind-chill factor at one hundred miles per hour. Strained relations with some pilots resulted, especially in the winter.

To achieve the point of view that I desired the pilot would have to fly low and slow, always on the edge of stalling. This left no room for recovery of the plane if it did stall, and also violated the Federal Aviation Agency regulations of minimum altitudes.

Weather:

Success in aerial photography depends directly on the weather. Even when conditions seem perfect they can change dramatically while in the air.

The best conditions to achieve the results I sought occurred just after sunrise or before sunset on a clear, cloudless day with a minimum of haze and no wind. Since most of my work was done around the Rochester area, with its changeable weather, constant attention to atmospheric conditions was necessary.

CONCLUSION

Every photographic artist chooses his or her own particular stylistic framework. For some it is capturing the essence of man by adapting professional portrait techniques, others may use the ordinary snapshot as a means to emphasize the irony of life. My decision was to take the camera airborne and show a new heightened perspective of the world. In the air I intended to render an artistic interpretation of scenes usually exposed in a topographical way.

While making these images, I found an essential inter-relation between the camera and airplane. I realized I needed control over the camera, and control over the movement of the airship. Control of the airship was established by coordinating the angle of view through communication with the pilot, and camera control was gained by field testing.

When in the plane I had a sense of separation from ordinary life. This unusual perspective made me feel like a spy, an invader and, at times, godlike. The plane, pilot, camera and myself worked in unison, interpreting my views of the world.

Flying was a performance. First I would have to ready myself before embarking on my photo flight: nothing in my

stomach (airsickness was just around the corner of each steep banked turn), hair tied back tightly with scarf, windbreaker clothing with fingerless gloves. When in the air my entire attention was on photographing. Constantly I searched for the images sought, my time in the air limited to the special hour or two of the day when lighting conditions were right.

Finished with the photography mission and on the ground again I would feel alien, even walking seemed strange, as if I needed to find my land legs again. Usually content and exhausted, I was thankful to have survived another flight.

All the hazardous aerial performances became worth while after I saw the final images as a strong, integral body of work. Finally, I had achieved the unique point of view that was my goal.

In experiencing this "heightened" perspective of our surroundings one senses a transformation of normal perception. Structures with strewn shadows take on an ominous stature, snow on scattered logs becomes an undeciphered contemporary calligraphy. What may seem to be fragmented pathways are revealed as ancient messages to the heavens. Playing fields etched into the ground are transformed into modern earth-works, the commonplace takes on new meaning, revealing the ambiguity of man's relationship to his environment.

## Technical Data

### Camera and lens:

Nikon FM body fitted with Nikon  
50mm f/1.8 and 105mm f/2.5 lenses.  
Pentax 6X7 body fitted with Pentax 150mm f/2.8 lens.

### Grips and triggering device:

Dual camera holder and  
triggering device, custom made by Richard Norman,  
holding two Nikon FM bodies.  
Vivitar hand grip holding one Pentax 6X7 camera.

### Light Metering:

Reflection reading off of a gray card  
taken on the ground.

### Film:

Panatomic-X 135-36, HP-5 135-36 and  
Tri-X 220 film.

Film Developer:

D-25, 1% Kodak (35mm film),

D-76 1:1 (220 film).

Enlargers and Lenses:

(35mm film) Leitz 1C with

Focotar 50mm lens.

(6X7 film) Omega D2V coldlight

with 100mm Schneider Lens.

Paper:

Agfa Bovira, Oriental Seagull

Paper Developer:

Beer's A&B.

Print Size and finishing:

11X14 print, window matted  
16X20.

16X20 print, window matted  
22X26.

Matt board:

Ivory 100% rag board, 4-ply.

Transparencies:

Copy slides of individual photographs and installation views were made on Pan-X film, developed by black-and-white reversal process.



THESIS PROPOSAL:

AERIAL PHOTOGRAPHY -

HEIGHTENED REALITIES, ELEVATED VIEWS

MARILYN C. BRIDGES

APRIL 21, 1980

## THESIS BOARD:

Weston Kemp, Chairman, Associate Professor  
School of Photographic Arts and Sciences  
Rochester Institute of Technology

John Pfahl, Associate Professor  
School of Photographic Arts and Sciences  
Rochester Institute of Technology

Robert Johnston, Dean  
College of Fine and Applied Arts  
Rochester Institute of Technology

**PURPOSE:**

To explore aerial photography as an art form. I will work toward increasing my sensitivity to visual impressions observed from an aerial point of view and create a body of work which reflects this awareness.

**BACKGROUND INFORMATION:**

I have done much traveling as a photographer and have flown extensively to many destinations throughout the world. Spending much time in the air has allowed me to see the world from a new and heightened perspective. I have become aware that distance can create clarity and transforms our earth, perhaps even redeeming it. In some sense even man's worst offenses are aesthetically upgraded by sufficient distance. A protruding water tower, a sore to the eye, amidst a suburban landscape is revealed from the air as a magical extraterrestrial component in an otherwise common place scene. On the ground we worry about what is, but the lofty contemplation of the aerial photograph shows us also what might be. "Aerial photography X-rays the environment created by man and reveals the intensity of the ecological give and take." (Gerster, Flights of Discovery, p. 7)

The aerial photograph transforms a single image into a symbol of mankind.

I have noticed that the elevated viewpoint does not so much create space, but surfaces. It is the composing of these surfaces and textures that bring it to the realm of fine art.

Seeing the photographic images of aerial photographers such as George Gerster, William Garnett, George Hall and the photographs of the NASA Space Program, have been an inspiration to me. I hope to bring a fresh vision to the world and help people to see themselves as part of their terrestrial environment in an aesthetically significant way.

#### PROCEDURE:

Preliminary testing of different films (such as black-and-white, color and infared), different filters and filter combinations and the use of different format cameras will be made. This testing will be done from hired air-planes, preferably Cessna high-winged monoplanes.

I will read pertinent literature related to the field of aerial photography, i.e., technical manuals, research reports done by NASA and the Air Force. Other resource materials would include books by Gerster, Hall, Deuel and Newhall; (see Bibliography).

Testing will be completed summer 1980.

Photographs to be made and printed Fall, Winter and Spring.

Thesis will be displayed late Spring Quarter 1981  
in the MFA Gallery at Rochester Institute of Technology.

Prints will be 11" X 14", displayed in 16" X 20"  
archival matts. Some larger prints may be included.

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## HEIGHTENED REALITIES, ELEVATED VIEWS.

## Aerial Photography by Marilyn Bridges

1. High Tension Wires, Rochester, 1981.
2. White Wire, Rochester, 1980.
3. Farm House, LeRoy, 1981.
4. Barn Shadow, LeRoy, 1981.
5. Observatory, LeRoy, 1981.
6. Jogger, LeRoy, 1981.
7. Covered Tennis Courts, Riverside Drive, NYC, 1980.
8. Water Tower, New Jersey, 1980.
9. Car Over Bridge, Rochester, 1980.
10. Row of Poplars, Rochester, 1980.
11. Broken Tree Shadow, LeRoy, 1981.
12. Swing Set, LeRoy, 1981.
13. Genesee Country Museum, Mumford, 1981.
14. Curved Pathways Through Trees, LeRoy, 1981.
15. Twin Marking with Power Tower, L.A., Calif., 1981.
16. Baseball Diamond #1, Calif., 1981.
17. Baseball Diamond #2, Rochester, 1981.
18. Baseball Diamond #3, Rochester, 1981.
19. Scattered Logs in Snow, Rochester, 1981.
20. Twin Wagons in Snow, Rochester, 1981.

21. Tennis Court in Snow, Rochester, 1980.
22. Riding Ring in Snow, Rochester, 1980.
23. Church, Dark Shadows, Rochester, 1980.
24. Swamp Trees #1, LeRoy, 1981.
25. Farm Field, Rochester, 1980.
26. Genesee River and Fence, Rochester, 1980.
27. Swamp Trees #2, LeRoy, 1981.
28. Wanaque Reservoir #1, N.J., 1981.
29. Wanaque Reservoir #2, N.J., 1981.
30. Wanaque Reservoir #3, N.J., 1981.
31. Point Reyes, Waves #1, Calif., 1981.
32. Newport Beach, Calif., 1981.
33. Point Reyes, Waves #2, Calif., 1981.
34. Over View, Nazca, Peru, 1979.
35. Spider, Nazca, Peru, 1979.
36. Triangle, Nazca, Peru, 1979.
37. Crisscrossing Pathways, Nazca, Peru, 1979.
38. Feathers, Nazca, Peru, 1979.
39. Birdman on Pampa, Nazca, Peru, 1979.
40. Man and Horse, Blythe Site #1, Calif., 1981.
41. Man, Blythe Site #1, Calif., 1981.
42. Man and Horse, Blythe Site #2, Calif., 1981.



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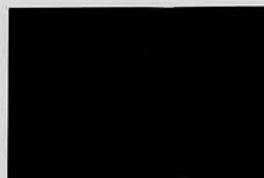
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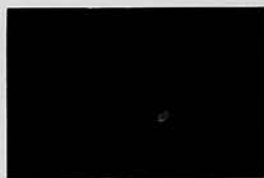
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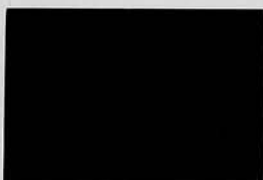
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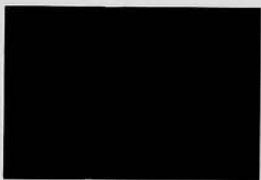
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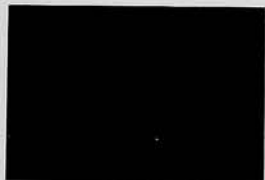
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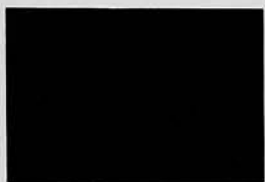
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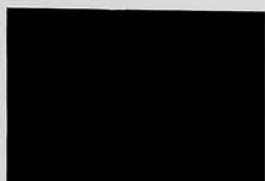
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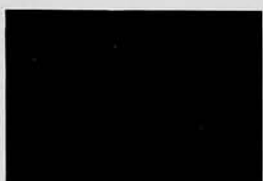
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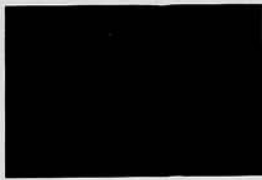
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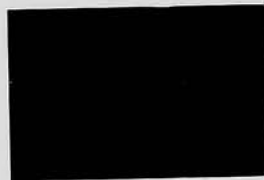
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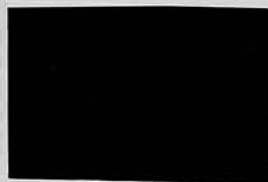
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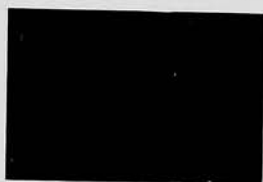
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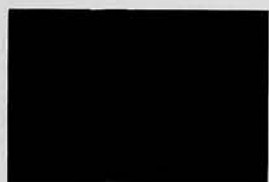
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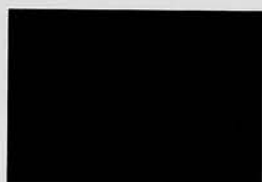
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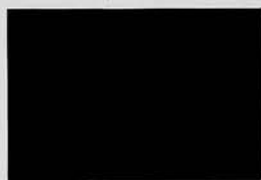
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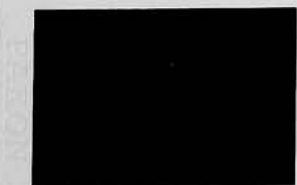


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