Energy in physical spaces

Anthony Guidice
ENERGY
IN
PHYSICAL SPACES
by
Anthony Guidice

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
ROCHESTER, NEW YORK
November, 1980

Charles Werberig, Chairperson
Professor
School of Photographic Arts & Sciences

Neil Croom
Professor
School of Photographic Arts & Sciences

Thomas French
Visual Studies Workshop
Rochester, New York
Purpose: To express an energy in man-made and natural spaces through photography.

I had been interested in 1978 and 1979 in photographing the "space" of buildings, smokestacks, and other man-made objects together with natural ones. I realize now that my experience of those spaces was casual, and the pictures that resulted were uninteresting; they had no life and no feeling. They were cold.

One day in November, 1979, while I was photographing on State Street in Rochester, I realized that by letting the space of the buildings and their environment work on me, I could recognize and be a part of an energy within that space. This energy enabled me to bring back a life and essence in the subsequent photographs. To recognize it and to see it has led me to search for it and experience it further through photography.

This energy in physical spaces can be anywhere: in an area between the reader and this page, in a spot where a stone sits, even between a building and the street. It is not everywhere, but it can be anywhere. I have been with it in cities, backyards, and in wholly natural environments.

To feel it and share with it, I have had to remain fully open and with my mind free of questions. Wanting this energy for photography alone drives it away, and I have had to give something of myself to it to strengthen it, make it grow. Photography with this energy in physical spaces is for knowledge, never for greed or personal gain.

Through the organization of objects seen in relationship to each other, by light and air and energy, I wish to make photographs that express my experience of a physical space - that capture what was shared by myself and that space. I will remain open and flexible to this energy where I find it, continuing the search to learn from and discover through it.
I, Anthony Guidice, prefer to be contacted each time a request for reproduction of my thesis, "ENERGY IN PHYSICAL SPACES," is made. I can be reached at the following address:

Photo Department
15 Mine Avenue
Bernardsville, New Jersey 07924

Date 10-20-87  Signature ___________________________
This is a record of the thesis sharing for Anthony Guidice.

Date held 4/15/81

The thesis show was: Approved X

Disapproved

Chairman

Comments:
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Proposal</td>
<td>i, ii</td>
</tr>
<tr>
<td>Permission Form</td>
<td>iii</td>
</tr>
<tr>
<td>Record of Thesis Sharing</td>
<td>iv</td>
</tr>
<tr>
<td>Acknowledgement</td>
<td>(1)</td>
</tr>
<tr>
<td>Introduction</td>
<td>(2)</td>
</tr>
<tr>
<td>Part I</td>
<td>(3)</td>
</tr>
<tr>
<td>Part II (technical)</td>
<td>(15)</td>
</tr>
<tr>
<td>Slides of the Thesis</td>
<td>(27)</td>
</tr>
<tr>
<td>Bibliography</td>
<td>(28)</td>
</tr>
</tbody>
</table>


ACKNOWLEDGEMENT

Charles Werberig - For those to which he contributed, I wonder how many written thesis reports have acknowledged the significant input of Charles Werberig, the "producer." I remember his experimental film course on Friday mornings in early 1980, in particular one day as he stood within the projection area at the start of a Warner Brothers animated cartoon, pointing to Leon Schlessinger's name saying, "It's important to note the producers name on these films because he determines how much freedom the animators have." Indeed.

For Werberig, the scope of work he accepts ranges from bizarre complicated collages, based on motion picture ideas, to blank, bare, conceptual sequences, all the way to straight photography. Always he reinforced for me that a straight photograph must attain it's weight and richness from within itself, and not from external sources like books. His very manner demands the student to work - not by strict and "bearded" influence - but by something harder to describe. Any student film maker who has watched Werberig's reaction while the badly realized conception flickers by on the screen will know what I mean.

This thesis chairman was willing to listen to egocentric babble, answer endless questions, and have most patience with the least interesting details of thesis making. Witty, funny, surprisingly frank in his opinions, sympathetic toward the student's fears, and honest about his own fears, these qualities mark Werberig. He is the big, paunchy professional of thesis chairmen; without him, completing the whole of the thesis would not have been possible.
Introduction

This thesis report is divided into two sections. The second section deals with the more cut-and-dried details of practicing photographic procedure. The first section attempts to touch upon some more elusive, less tangible aspects of photography: the response and direction of the photographer. In particular, in this second section, significant developments during my first year at Rochester Institute of Technology (RIT) are discussed.

The Photography Department at RIT is a microcosm of the photography world in general. A Photography student there encounters more photographers, just walking down the hall, than he has likely ever seen before in his life. The opportunity to see and talk to noted people in the field, as well as the chance to view thousands of different types of pictures, further contributes to the core of knowledge RIT helps to develop in a photographer.

The experience has been valuable. The same photographic experience, had I tried to obtain it on my own, would have taken ten years to acquire. In addition to being the vast resource it is, RIT enables a photographer to reinforce intuition with solid knowledge. Of course, it does not happen easily. The bottom line for any type of success is hard work.

For those that stick to it, the hard work pays off. I am happy for my RIT experience, and have learned some things there I will benefit from my entire life. Being still eager and excited to work after completing this photographic study at RIT, what is most satisfying is the knowledge that now, I really must be a photographer.

Anthony Guidice
October, 1981
PART I

"...the more elusive,

less tangible..."
The idea of photography as I see it is a searching out and revealing of the subject being photographed. All the elements of the picture should specifically contribute to an involvement with it.

Sometimes the involvement is so striking and insightful in the photograph that technical mistakes can be overlooked. I have gone through old boxes of photographs that I made seven or eight years ago, when I first started taking pictures, and am always surprised by the freshness and life in some of them, even though they are poorly crafted. I much prefer these first attempts over the vast majority of my photographs done in undergraduate school; done by heaping a photographer's pretensions upon the pictures (technically and "compositionally"), and choking the spirit and life out of them.

I am amazed when reading the journals of my last year in college at the repetition of technical information, page after page. It was embarrassingly obvious, reading it, that then I had hid behind tests for film speed and development times, etc., to avoid the issue of pictures, even though I made a lot of pictures. Pictures, the visual thing in front of the camera that you put on the film, were only a raw ingredient I needed to use my technical fascination.

Later, after I had read the journal, I got out the boxes of prints from that same year. It was painfully clear that neither the pictures I made then, nor the writing I did about them in the journals, had anything specific about them. The extensive writing about zone tests and meter accuracy, even the writing about the subjects, could have been said, or written about any photographs. The prints themselves were similar: each subject was stiff, tight, constipated. They had no particular character. Nothing about the subjects - the content - of those pictures was particular to me or showed my involvement (amazement) with it. Nothing about them
could be said that couldn't be said about any photograph.

By contrast to this, the boxes of old prints from high school always contain surprises. Some of the prints are brown from chemical contamination, but they show a naive, open and spirited interest in seeing beyond any photographic concerns. It even seems that the photography is incidental to the feeling in these pictures.

I started with the idea of response. What is specifically important? Without mentioning photography, I can mention some things that I like: State Street in Rochester north by the power plant; my father's backyard with the woods behind it and his piles of wood and stone behind the garage, the gardens of a park in Morristown, New Jersey, Bryant Park in New York City, misty rain, storm light, naked women's bodies.

The overwhelming number of pictures I see show no particular interest in anything specific, the approach is casual and "matter-of-fact." Nothing indicates the photographers amazement, his search, his feeling. Once in a discussion of pictures in class, a graduate student put up pictures made with a Widelux camera. They were of random subject matter, and the photographer had moved the camera during exposure to make the pictures "distorted." I asked him what was important to him in these pictures. He said he liked things like the distortion of windows in a building, and dismemberment of certain parts of a scene where there was camera movement. He missed the point, which is that any picture can have distortion, and what he said could be said about any photograph. In essence, he did not say what interested him about the distortion, what it was he wanted to say that made him use it. He only said that it was there.

Another student put up color prints. These pictures were also insubstantial in feeling, random in approach, and showed no involvement with the subject whatsoever. I asked the student what these pictures specifically contained that any photograph in the world did not contain. After two
minutes of pausing, he finally said, "The arrangement of the colors." I said that any photograph had colors arranged in it. He hesitated a while longer and then said, "Well, I know that there is something, I just can't express it." Wrong. There is nothing to be said because none of the pictures have anything specific about them.

Response is essential, and I imagine some are incapable of it. I have been in discussions of work with gifted photographers, and each person's work indicates his or her search to reveal the particular quality of what they feel, and what is important to them in what they photograph. My friend Jackie Gentile, in much of her work shows gnarled, black, twisted subjects: complex twigs and branches; oppressive like a barbed wire fence; or Black earth, with white hot spots of sunlight on it. Even in the most lyrical and beautiful of her pictures, there is something twisted in feeling, clutching and clawing, oppressive. Another photographer, Denise Birchell, isn't interested in that. She works very close to her subjects, and she enjoys small, sensuous forms that shimmer and glow with light. She uses a film which enhances this shimmer and glow, and even larger objects she photographs, such as nudes, are still within this small, iridescent world of hers — her gossamer world. Jane Stevens likes the way people react with their bodies, and is interested in the way a person is integrated with their bodies in pictures. Elizabeth Motlow's pictures are about decay, the haunting spirit perhaps still within what remains. She finds it in tree roots, old buildings, or out the rainy window of her apartment. Loud or quietly, this characteristic is in all of her pictures. In my work, I am interested in space, the air around things: the energy between the trees and the buildings, the smokestack and the street.

There are specific points I can make about each of these photographers mentioned that I cannot make about all photographers. Each one's approach and intent are different. Each one uses a camera, meter, enlarger, and so forth, but they all have a response to life that is specifically theirs.
This fact is evident in looking at their pictures, because they are able to transmit that response through their work. Any picture in the world can have distortion, or "graphics," or "arrangement of colors," qualities that are ubiquitous. Only good pictures can show the photographer's particular search, involvement, and feeling, the characteristics of each are specific.

Photography exists for these people as the vehicle for response. The forces that are at work in my pictures now, and in many of the ones done seven years ago, are the same things that are at work in my thinking, in my life, everywhere. I don't know if the actual space I photograph contains something tangible that I am sensitive to, or if it exists only because I can go out and get it, but I do know there is a sensation I experience when the picture is realized, and something exists at the heart of that sensation that is vast and awesome; more important than just photography.

The beginnings of my response start with the camera in the car, and me driving toward a place I like, something that is provocative and intriguing, not something downright dead-ended like a gas station, or a McDonald's hamburger "joint." So I stop the car at a place that seems to have possibilities, set up the camera and have a look around. I walk and look, always calm inside somewhere, and then I am drawn to a spiny tree growing out of the street up in front of a window; if I stand in the right spot, I might get it; it will teach me I must be calm and let it, and not attack. While I'm taking that picture, I might see another one, and it too has much to say, but I must be nice to it.

Sometimes I will be somewhere without taking a picture for some time. Then I might make just one, a small detail on the floor of a forest for example, and if it's really worth it I will wrestle with it for twenty minutes before I make the exposure. I would come out of the woods with one picture to show for two hours' effort, but knowing that I might under-
stand a little about that small spot on the forest floor.

This magnificent phenomenon that happens to me happened years ago in high school because then I had no photographer's "weapons," so I was open to things; the same kind of naive recognition that a non-photographer has when he or she looks at an Ansel Adams landscape and says, "Wow, that is beautiful." There is something within that guides me. It was there years ago, crude and unrefined. Owen Butler reintroduced it to me in the fall of 1979, and there is a whole story behind it.

The Diamond Cafe, The Denouncement, The Zoo

My first class with Owen Butler teaching it started off routinely enough, each student putting up about four or five pictures on a big board. I put up pictures of natural gas storage tanks I had photographed the previous spring, west of Centralia, Missouri. I have already mentioned heaped pretentions upon photographs from my work in undergraduate school, and these photographs I was showing in class were the embodiment of this cold, slick, and not very sincere approach I had then. Butler sat there, didn't say much, and asked a few questions. Once, he asked what was important to me in these pictures. I said high value print tones. Not much else was said about them, and next the class discussed garden photographs by a woman who mentioned Atget when she spoke about photography. It was Judy Hanlon.

I thought I had done well in the first class, so I prepared new work to show in the next class, work done in Rochester. The pictures were random, insubstantial records of an abandoned restaurant on West Henrietta Road: The Diamond Cafe. I marched into the next class with them and put them up like the Emperor with no clothes on, thinking that they were good.

Our teacher, Mr. Butler, gave them a thorough glance, then returned to his chair while telling me that "I needed a home," and that I should go to the Zoo and take pictures there, and that I should take the existing
pictures down. I'm glad I had the good sense not to judge the other student's pictures at the time because I knew I didn't understand what they had that mine didn't have; what they had that Mr. Butler preferred.

I was very put off by him at the time, and thought his personal attacks upon my work and me were eccentric tirades. Once, he almost threw me out of the class, then I was going to drop it. My work was never shown in class again that quarter, and he made no comments about it as he flipped through a pile of about seven to 10 prints each week. Now I see that these pictures were petty obsessions on my part, uninteresting content nicely-printed, but at that time they represented my most grand achievement. "What was going on?," I said to myself.

In answering this question, I was lucky that my thinking took the shape it did. I was sure that these pictures I had been showing in class were "good," and almost sure that Mr. Butler was at fault in his evaluation of them. But, I reasoned, if by some slim chance he is right, then I might be in trouble. I might not be a photographer. Ridiculous, I thought, but I will try his advice anyway - humor him - to see if I would like his way better, to see if perhaps he is right; if there is a reason for his silence.

In late October I finally went to the Zoo in Rochester and I took some pictures of polar bears, painted signs, a painted wall, and the fun house. I showed Owen Butler the pictures, and he did not say anything. He did not see the polar bear picture until I gave him a few boxes of prints at the end of the quarter. I arranged to see him in his office to talk about them.

I walked into his office and he sat at his desk shuffling paperwork around. He looked up at me, and I could see the boxes of prints on his right next to the window. I sat down. He took the boxes of prints, put them in front of me, and I could see on top of the boxes was one print he had singled out; the polar bear picture. He held it up and said if it
were not for that picture, he would have given me a poor grade and re-
commended I not take any more of his courses. But, he went on, this picture had saved me.

"You like that one?" I asked. He said yes. I tried to get him to
tell me why he didn't like the others (there were three boxes of them). He
didn't answer the question directly, he only mentioned the polar bear
picture again, and said I should do more pictures like it and stop wasting
time. "What is it about these other pictures that you do not like?," I said. His reply was frank and very final, "Your personality, now get out of here."

I took the prints and walked out of his office into the hallway. It
seemed as though I'd made a lot of prints for nothing, and I was furious
and felt humiliated as well. But I remember most being secretly delighted
that Mr. Butler had finally seen a photograph of mine that he liked!
I was still heaping my literal preconceptions upon my subjects and pictures in the fall of 1979; for example, out with the camera I would think, "This old building is depressing and ugly so I will take a picture of it and the world will see it in the photograph, and that is my expression." It did not work. What I was photographing as a result of this approach were trite gripes of the day instead of a real truth between myself and the subject.

The polar bear picture was different, it was the real truth; it was an interesting photograph also. When I mention the "energy" in the physical area, as I did in the thesis proposal, or this "truth", it has to be within the context of photography; the object of photography is pictures. It can be thought of as follows: if the picture is successful, then this truth and energy are present, and this is directly related to understanding. If I see the way a negative looks when printed (proofed) and find it does not transmit what I felt when I tripped the shutter at least does not transmit it fully - I have not understood fully. It is as though the picture shows me in tangible form what I thought I understood. Thus, if I understand, the picture is successful - but the picture tells me that. I never know until I see the proof if I have really understood.

Sometimes it takes some time to see which pictures are good. Both "truth" I speak of in photographs, and "the energy in the physical area" do not exist if I have not understood.

Direction

I cannot describe what it is that calls me to take the picture when I am out with the camera, nor can I describe the source of this direction. Without direction, creative effort does not have a "base" or a "core"; it gropes and reaches blindly and the chances of succeeding consistently are then microscopic.
Most photographers will tell me that direction is no problem with them, and that they know exactly what they are doing. Their pictures show that it is a big problem however, and mine did also last year, consistently. The overwhelming majority of my pictures were too commonplace, too obvious, and dull. The temptation was to think that these uninteresting pictures were good, but some sincere and knowledgeable photographers made it clear to me that they were not. I often would be bitter afterward, then remember the polar bear picture and know - but not admit - that they were right. A few times I thought that perhaps I wasn't a photographer, and that was a ghastly thought!

In March of 1980, something happened to me concerning direction. I know that ever since then, I have not groped blindly in the hope that what I want will occur. It has been more like "Yes, this is it..." or "No, it has to be something more like this." With continued work, effort, and study comes direction, if one is lucky (but one has to be on the right track and that means having intelligent criticism so one will know when you are and when you aren't. Misguided effort results in misguided direction.)

The realization of what direction is, or was, occurred when I was photographing at Revenue Lake in Bernardsville, New Jersey. In an attempt to clarify my thinking, I wrote afterward about something that seemed to say "yes" and "no" to me about the camera position for a given picture:

I have done a good deal of experimenting with viewpoints, and forcing myself to be fluid in my picture-taking these eleven days. How painful to look and look, and focus, pivot the camera slightly ... no good! Pick up the tripod and look around more. Looking at the groundglass objectively before making the picture, second guessing yourself ... your ego is immensely hard. Most of the time - if I do it, I will not make the picture. I think to myself, for example, 'Is this really important, does
it have some feeling, or is it just an exercise and who cares?'  

'Ahhh' I groan because I am still learning, and I don't make the exposure. 'Yes' I think, 'it would have been only an exercise.'

How hard it is to find just the right spot, not too obvious or void of interest. How hard also to admit to yourself you haven't found it as you look at the picture through the camera. If you are dedicated, and devoted, you will pick up that damn tripod and camera and try again and again and again, until it's right!

Most photographers are not that way. They are addicted to one distance, they have a creative formula and it is very easy to use to take pictures, bad pictures; and they never really stop to question the significance of their intent, or the importance therein. 'Is this picture alive or dull?' Do you know? Do you care?

Most do not care. They have neither studied enough pictures, or put in enough time behind the camera. And the full blown, never wavering or yielding stone wall ego is exactly what keeps their pictures from being any good: 'I know my film speed and development time, and my equipment is expensive, so this must be the right place to stand.'

Is it? Are you amazed at what you see? Are you having an experience or looking for something to do with the camera? Do you really feel something? Are you adding something of your own to this subject, or is it a commonplace record (which will produce a 'nothing special' print, even though the tones are fine).
So, given this, how does it come, what is the formula for direction? There are none. The only suggestions I can offer are to make lots of photographs, put them up so you can see them, watch which ones wither and if any of them grow. It is also useful to have someone to show your work to from time to time, to point you in the right direction. If you are led in the wrong direction, that's worse than having no one to show your work to. Hopefully, the ultimate enduring direction will come from within.
PART TWO

TECHNICAL
Cameras - My preference for the past two years has been a 4x5 view camera. Many people believe that it is easier to "see" with a 35mm camera (SLR) because the image is seen right side up and unreversed, the exposure is automatic or semi-automatic and built into the camera, and because of the provision for many exposures. The opposite is true. The viewfinders of 35mm cameras never show the complete picture corner to corner, and the viewfinder itself is tiny and does not lend itself to close examination and scrutiny of the image. The blinking lights, wiggling needles, and micro-grid circle in the middle of the picture make it worse. The 4x5 groundglass image shows exactly what the film will record, corner to corner, because the film holder occupies the same area. Precise composition is easier. The "feel" of the picture is surer, more accurate, or that of the groundglass image is because it hasn't been bounced off a mirror and through a prism for one to see it. The 4x5 (or larger) ground glass image is so clear and simple in fact, that by stopping down the lens and viewing this image, one can - with experience - learn to judge the exposure accurately just by observing the brightness of the groundglass image.

The feel of a photograph made with a 4x5 view camera is clearer, not necessarily sharper, but clearer than that of a 35mm camera. Pictures made with view cameras have infinitely more liberty in what the elements of the picture depend on detail, an infinite range of tonal values, and thorough edge-to-edge organization of the objects. This is not the case with 35mm, and one is handicapped comparatively. Many would argue that the 35mm camera allows a looser, more spontaneous approach to photography. I agree, if these qualities are essential to the photographers intent. My experience shows that most people who photograph landscapes and still subjects with a 35mm camera and insist that they are searching out these subjects with the specificities of the 35mm camera image, are really too lazy to load film holders or carry a tripod.
Tripods - The Zone VI tripods, and Majestic 2500 or larger tripods are my preference for view camera work. They are quick to set up and level precisely, the controls are large and solid and conveniently placed, and they provide an absolutely solid base for working the camera. Some photographers use very light wooden 4x5 cameras with very light tripods, but I believe that is counter-productive because the base for working the camera is not heavy enough, there is no level or provision for one on the yokes of these light tripods, and they will move in the slightest wind. A heavier camera is worse on a light tripod because the stress on the head particularly is excessive, and I have seen many stripped threads on the controls of light tripods that have been used with heavy cameras. The Leitz Tiltall tripod is good for 35mm cameras. If a view camera weighs over eight pounds, I figure I should be able to sit on top of the tripod that will hold it (I weigh 145 pounds). At RIT, there is much preference for Gitzo tripods, but for me these tripods are awkward in the field and their controls have excessive play.

Films and Developers - Ansel Adam's book The Negative is a good book about the films of 1947*, but not practical to apply today. Tri-X film and HC-110 developer yield none of the high value blocking characteristics that Adams describes in his book, and with 4x5 film, up to a 4 stop overexposure is possible with no important change in image quality. Minus developments to reduce contrast are therefore unnecessary. Even if the picture is too contrasty from the dense negative, a softer paper will work beautifully (if it's a good paper!). The same rule applies to plus developments for increased contrast. If you photograph a flat, soft subject say a tombstone detail in shade - and for the final print more contrast is indicated, a #3 or #4 paper will do nicely. There is no need to change contrast in the negative any longer because modern films don't handle development changes well anyway, high values cannot block unless you give ridiculous overexposure,
and with the modern material a change in paper grade can make possible any contrast that is required (95% of my negatives are printed on #2 paper.)

Tri-X and HC-110 negatives provide smooth tonal separation in prints from darkest tone to lightest, but also local contrast in each area (shadows, middle grays, high values) is very high. Shadow areas are deep and substantial, but there is much detail present as well. Comparatively, Plux-X film yields flat, weak, insubstantial local contrast. Trying to print a dark tone from a Plus-X negative so that it has substance (black), will submerge all of the detail in that tone and make it lifeless; it is a harsh, slow film, and exhibits a lack of local contrast in all of its tonal areas. Tri-X exhibits clean, vibrant breaks of tone, and this is what is needed for tonally exciting and expressive prints.

D-76 developer noticably lowers local contrast in the high values of a Tri-X negative compared to HC-110, and seems a poor developer against any alternative with other films, though I have not tested these. Accurate comparisons can only be made if the two products being tested are tested under identical conditions and against each other. Procedures for testing for an optimum negative to print, as well as testing products against each other will be covered in a later section.

Papers - For me the best paper is one capable of producing clean black with delicate modulations and substance in the highest values (minimum silver deposit in the print), on a white smooth paper. Blacks and darker areas of my pictures benefit from the glossy surface, and I imagine matte surface papers are better for pictures that have no large massing of dark areas, that is, pictures that do not depend on dark areas.

Most papers currently available are of poor quality, and in my experience at RIT, thousands of prints (black and white) were printed on flat, weak, unexciting (lacking in local contrast or any contrast) papers. Since the Dupont Varilour, Varigam, and Velour Black papers were discontinued,
Ilfobrom seems to be of the highest quality (though I haven't tested Uni-color Exhibition paper, or FSC Oriental paper).

Testing any Kodak paper available today against Ilfobrom will show embarrassing deficiency in the Kodak papers. I have tested Kodabromide against Ilfobrom, both #2 contrast. I made two full-sized test strips from a full scale 4x5 negative on one sheet of each of the papers, and developed them together in Dektol 1:2. I chose the strip from each print that showed the high values white, but not as white as the paper base (white wood in sun, for example), and then made straight unmanipulated prints at those exposures. The Ilfobrom print showed full detail in the highest value, the white painted wood in sun, and local contrast in these areas was substantial, touchable. The Ilfobrom print also showed black, and plenty of similar - touchable - local contrast in shadow values. The Kodak print was awful. The high value was indeed properly pale grey, but there was no local contrast, substance within it. It was flat. Further, the shadow values had no black and looked far too light.

I then made a test strip and print on #3 Kodabromide paper, and it showed the white wood in sun similarly flat and lifeless, but this print had a darker "black" than the #2 Kodak. Within this area, there was no shadow detail, it had been submerged, and even the black of the #3 Kodak was not as black as the Ilfobrom #2. Any similar test will bear this out. I have tested Polycontrast, Azo, as well as Kodabromide and none of them can compare with Ilfobrom. Other poor quality papers include Agfa Portriga and Brovira.

Photographic papers are a very important line in the chain of events that begin with the exposure on the film and end with the finished print. Much care in making a good negative, and a good picture, is negated when poor quality papers are used. How can you tell if the paper you're using is poor? Compare it with something good.
Test for printable negative - The optimum negative is one that will print a white card in sun and a black card in shade with tonality easily. Make four sets of negatives at various exposures of that situation. With a coated lens, a six inch wide bellows, and Tri-X film the exposures could be as follows: 1/60 at f32, 1/30 at f32, 1/15 at f32, 1/8 at f32, and 1/5 at f32 (for an uncoated lens, I would add two stops, starting at 1/15 at f32, etc.). A starting point for HC-110 developer at the "B" dilution is 5 minutes, and one set of negatives could be developed for that time.

Print the first set of negatives either by contact or in an enlarger for about the minimum time to print black through the unexposed film edge. If a condenser enlarger is used, five minutes will be too long a developing time in HC-110 dilution B. The optimum negative is the one that shows the black card in shade as a tone slightly lighter than the black of the film edge, and the white card in sun as a tone barely darker than the white of the paper base. If none of the white cards in sun are darker than the paper base, then you can develop the next set for about 30 percent less and try again. When you can obtain a negative that can print as I've described, note the exposure. That is probably the shortest exposure you will use ever, and that exposure will always be correct for normal sun and shade situations. Up to a four stop overexposure from this exposure for a normal sun and shade situation 4x5 film will also be fine except that the negative will need more printing time.

When you have a negative that can do that, you never need to change your development time to affect contrast, as it can be easily controlled by changing the paper grade. Also, it gives the photographer a specific exposure to judge all other exposures in other situations by, because all future exposures will be made at the tested exposure or a slower one. Some examples: hazy sun requires one stop more, "bright" overcast requires two, "dark" overcast (not being able to see a shadow of your arm
on the ground as you wave it) requires three stops more. When I can barely make out the image on the groundglass, such as at dawn or dusk I set the aperture to f45, and start at 30 seconds or more.

For an extremely contrasty situation, say a photograph of a pine forest in which the shadows inside the forest are noticably deeper than a black card in normal (open) shade would be, where there is direct clear sunlight on the pine trees at the edge of the forest, one would know that the minimum exposure would be the tested exposure. Since the tested exposure would be too short for the deep shadow values in the forest, you can bolster it by as much as four stops without endangering the sunlit areas. When the negative is printed, the sunlit areas will need to be "printed down", or a #1 grade paper can be used, as is always the case with noticably contrasty situations.

Exposure meters - To test an exposure meter for linearity from top to bottom of the scale, read the value of a black card in shade and write down the exposure that is four stops below what the meter indicates (the meter indicates Zone V, so Zone I for the black card is four stops less). Next take the white card into the sun and reading its value, write down the exposure that is three stops more than the meter indication (this would be zone VIII). Both exposures should be the same (just as the tested exposure was). If they are not, the meter is not linear. I have tested a Calcu-Light digital meter that was five stops off, a Pentax digital spotmeter that was at least three stops off, and a Luna-Pro blue cell meter that was off by one stop. Using a meter that is not linear can obviously lead to exposure error.

Why not compensate for an inaccurate meter? I imagine this can be done but you need a photometer to tell you what region(s) of the meter's sensitivity range are inaccurate, and even then it seems confusing and silly to compensate in the field every time.
Why not test meters with sensitometric equipment in the first place? Because we do not photograph with sensitometric equipment, but rather with light and film; the real shadows and sunlight that are out there. Many have argued that films of today have enough latitude to make up for a meters deficiencies, and on the overexposure side I would agree that many times that is correct. It is not correct, however, for any degree of underexposure, and many meters are not linear at the low regions of their sensitivity range. Further, it seems backward to rely on the film to make up for an inaccurate meter. Why not just judge exposure without one?

Exposure Determination without a Meter - Intelligent use of an accurate exposure meter makes possible effortless exposure determination in the field, and hence, I believe it increases the difficulty of making an interesting picture. One reason this occurred for me was because a close scrutiny and in-depth examination of the qualities of whatever subject I was photographing were not possible when a meter was used because thinking about the subject was unnecessary. The meter did the thinking; like a love meter for a woman, to tell me how she would be to feel, and touch: her "passion index."

This is exaggerating, but it serves the point, which is that the photographer must feel the light and the substances he is photographing: think about them, evaluate them, calculate with them, feel them. This automatically happens if no meter is used. One has to think about the light: Is it clear, bright sunlight, or hazy? Will the dark areas have enough density in the negative, and if not, how much added exposure should I apply? If a picture is not worth all of this thought and feeling (if anything out of necessity) then I usually won't take it. This increases my odds, and such an advantage did not exist when I used a meter.

Without a meter, a photographer always has a degree of uncertainty. This uncertainty forces the photographer to reduce his odds in any way he
forces him to push against, and closely experience, the materials he uses. Being absolutely sure of a good exposure, as when a meter is used, tends to reduce the photographer more to a machine operator. Without a meter, you must think about the brightness of the subject, and how that subject should be in a print - and not just in terms of tonal values, but more in terms of camera positioning, and an exciting organization of the physical elements of the subject. The whole process and experience of photography is inherently interrelated and fused when no meter is used.

When the techniques of photography were difficult, there were many more good photographers by percentage then there are today. Today it is all easier to do, and it is easier to be lazy. In O'Sullivan's or Jackson's time, being lazy might have negated hours or even days of preparation and physical effort. The mere calculation of an exposure must have been nothing compared to many crude and cumbersome disadvantages of the wet plate process. In that time, those who could not bother with such mechanics didn't, but those mechanics, and forced the materials to do what they wanted. Atget, Hill and Adamson, O'Sullivan, Jackson, and many others made good pictures this way. I do not mean to suggest a return to anti-quainted technology, but rather to make pictures with the heart and not with machines.

Bracketing - Bracketing varying exposures based on an average meter reading in the hope that one will be correctly exposed is about the sloppiest control I can imagine. I recall once accompanying a news photographer on an assignment. The assignment was to photograph three men breaking ground at the sight of a future automobile dealership. The photographer I was with was a free-lance professional with 30 years experience. He positioned the men on the sight, and gave the man in the center a shovel, and instructed him to dig in slightly and cast the dirt in front of him. The man did this
three times, and the photographer exposed an entire 36-exposure roll using a high speed motor winder and bracketing furiously with the aperture ring. Later I asked him if he got the picture, and he said there should be one he could use.

**Printing** - The problem in printing is to achieve high local value contrast with low overall contrast. A photograph of coal bin in shade with the sun shining on a white building behind it must have detail in the dark coal and the bright white wood. I use a cold light enlarging source with #2 paper because this allows a fully exposed and developed negative to be used. A condenser light source produces a contrastier print and makes it difficult to keep the overall contrast low. A thinner negative is needed for a condenser enlarger, one that has been developed less, and this invariably results in the shadow values losing their crispness, substance, touchability - compared to a cold light print from a fully developed negative. I must admit that despite this, I have seen many good prints made on condenser enlargers on #2 paper from such negatives, and denser negatives printed through condensers on #1 Ilfobrom yield beautifully soft and lively print quality.

I do not recommend #1 paper as a standard paper because it can give a lifeless, gray look to subjects that are not well suited to its characteristics. Further, it takes a great deal of print exposure to obtain a noticable change in depth of tone with #1 paper, and very contrasty negatives are needed for a full-scale print. Designing negatives contrasty enough for #1 paper is also impractical, since it leaves no lower contrast alternative in an emergency, though print developers can be used that have softer working properties.

Grade #3 paper requires a thinner negative than #2, and such a negative will have weak local contrast in shadow areas. An example would be a sun and shade situation where the dark areas were important, and the
negative developed for a short enough time to print on the #3 paper. The shadow values in the eventual print would be lacking in local contrast. Grade #3 paper is best for negatives exposed under flat lighting conditions, or negatives that benefit from contrast expansion in the highest and lowest values. A negative for the sun and shade situation mentioned previously did not require contrast increase in the highest and lowest values, but required an expansion of all tones to some extent as would be the case with a longer developed negative printed on #2 paper. With a condenser enlarger the problem is greater (worse).

Print Manipulation - Excessive dodging and burning of local areas in the print is more often due to poor negatives than to expressive purposes. For the finest possible print, the negative should be close to what is ultimately wanted, or such manipulation can become artificial and distracting. It is more work to correct a poor negative in the darkroom than it is to make it properly in the first place. Alfred Hitchcock, the motion picture director, maintained that if the concept of a movie is well thought out in advance, shooting and editing it should be easy. Similarly in still photography, the real work comes with the camera in the field when the negative is made, not after.

Fixing and Washing - Thorough fixing and washing of prints is necessary for any degree of permanence to be achieved. I fix my prints 4½ to 5 minutes in Kodak F-6 fixer with intermittent agitation and then place them in a running water holding bath. After printing, I fix the prints again for 4 to 5 minutes in a non-hardening fixer solution, then directly to a 1:6 dilution of Kodak Selenium Toner and Hypo Clearing Agent, or Perma-Wash (any equivalent washing aid). Prints are then rinsed again and washed in a vertical print washer which holds each print separately in it's own compartment, for either three hours with continuous water flow (about one to two gallons per minute), or for an eight-hour soak after an initial one hour
running water wash. Time in the toning bath is three to five minutes depending upon how active the solution is. Prints should be well hardened for long washing at water temperatures over 75 degrees.

Fast Fixing - Fast fixing is becoming increasingly popular, and will probably become adopted as a universal standard for archival washing. Prints are fixed in film strength rapid fixer without hardener for 30 seconds with continuous agitation, and then immediately put into a rapid running tray washer. For toning or increased life of the fixer, two rapid fixing baths can be used for 15 seconds each. The idea is to rinse the fixer out before it can soak into the paper fibers.

After an initial five to 10 minute brisk wash initially, the prints are treated in a washing aid with continuous agitation for five minutes, then washed again for five to 10 minutes in the tray washer. If prints are to be toned, they should be fixed in the second fixer and toned individually, as no more than one print can be agitated thoroughly in 15 seconds. There should be a wash between the two short fixing baths if they are not done immediately after one another, and there is never any rinse between the second fixing bath and the toner, as is always the case with any method of fixing.

Following these procedures and testing for residual fixer with HT-2 solution reveals that prints do achieve archival standards, but though there may be no residual fixer in the print, or very little, I am skeptical of the actual permanance that will result. For these reasons, I will continue to long-fix prints until further research is done on short or fast-fixing.
SLIDES OF THE THESIS
BIBLIOGRAPHY


This Is The American Earth, Ansel Adams and Nancy Newhall, Sierra Club, San Francisco, California, 1960.*


* included in original thesis proposal Bibliography