The Photography of Time:

Following in the Footsteps of Carleton Watkins

by Robert J. Szabo

Yosemite Valley from Valley View. Print from a 5x8 collodion negative by Robert J. Szabo 2002

In Washington, DC, almost 140 years ago, President Abraham Lincoln signed legislation making the Yosemite Valley and Mariposa Big Tree Grove an area of land specifically given to the State of California by the Federal government so that "the premises shall be held for public use, resort, and recreation." Legally, that was how the Yosemite Land Grant came into being in 1864. But emotionally, one of the reasons Congress was stirred to act was the many vivid and very impressive images of the natural wonders of the Yosemite Valley provided by the photographic pioneer Carleton Watkins.

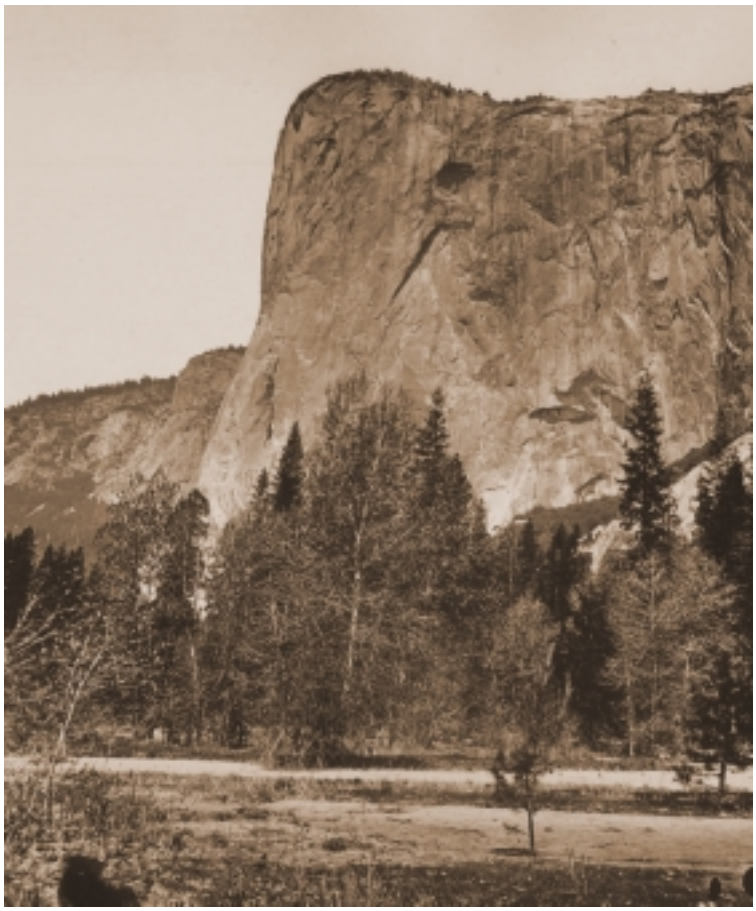
My introduction to the work of Carleton Watkins also happened in Washington, DC, and I too was inspired to act. The National Gallery exhibited the traveling photographic show *Art of Perception* that consisted of more than 90 prints by Carleton Watkins, many made from huge glass negatives created in the 1860s. The negatives were made on 18x22 inch plates of glass using the historic wet plate collodion process and were called 'mammoth plates' due to their size. Also included in the show were many stereo views. Stereo views were a very popular form of photography in the 19th century. They were the precursor to our modern ViewMaster and are viewed through a stereoscope; both produce a 3-D image. At the time of the show, I was working across the street from the National Gallery and I made repeated visits to stare at the photographs. I was amazed by Watkins' artistic compositions and, even more so, could scarcely believe the quality of the work he did so long ago under what were surely very primitive conditions. The exhibit was personal and very special for me, almost kind of magical, and I knew when I saw it that I wanted to also photograph those western landscapes myself, and most especially, the Yosemite Valley. The more I learned about the man Watkins, and the more I learned about Yosemite, the more I dreamed of leaving the East and experiencing it all for myself, just the way Watkins did.

I have been a photographer for over 30 years. I live in Northern Virginia. My love of history first brought me to Virginia from Ohio, and I was often involved with living history groups. But my own past as a commercial and portrait photographer drew me more and more toward embracing the history of photography. For the past five years, I have been immersed in learning and practicing the almost forgotten wet plate collodion photographic process. I am now a modern day wet plate collodion photographer and I am able to produce modern artistic images using 19th century methods, the exact same methods used by Carleton Watkins and other pioneers who blazed the photographic trail to the West.

There were other individuals struck by the stunning beauty of Yosemite who made illustrations, engravings, and paintings beginning in the 1850s. In 1859, the photographer Charles Leander Weed traveled to Yosemite from San Francisco and took the first photographs of Yosemite Valley using the wet plate collodion process that had been introduced to America by Englishman Frederick Scott Archer in 1851. Carleton Watkins, who was originally from New York, visited the Valley for the first time in 1861 also making the trip from San Francisco. He made many more trips after that. But, it was

Watkins who personally commissioned to be built and then hauled into the Yosemite wilderness the first mammoth plate camera, enabling him to capture the expansive vistas on 18x22 inch negatives, which then became the largest prints ever seen of the Valley. In those days, the way to get a large print was to have a large negative. Watkins also made many stereo views, which were widely distributed and which helped Americans living far away from Yosemite get a glimpse of its unique grandeur.

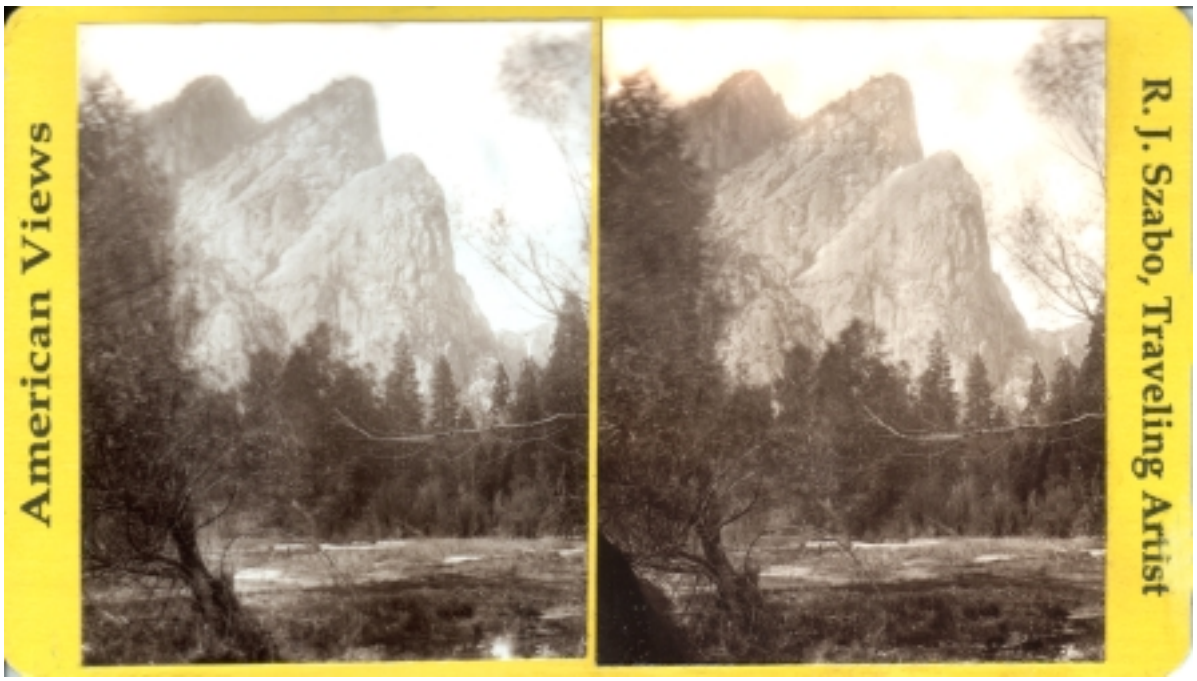
Something about the combination of Watkins flawless workmanship and the amazing beauty of his compositions inspired me in an unexpected way. I know a lot about wet plate photography. I had built my own 1800's style half-plate size camera and portable darkroom. I already knew the limits of modern film in comparison to the grainless detail produced by the collodion process. Now I wanted to pour collodion onto glass plates capturing the Valley once again the way that Watkins did 140 years ago, and make prints in a way that I knew modern film could not duplicate.



El Capitan from across the Merced River. Print from an 8x10 collodion negative by Robert Szabo 2003

Early demands of photography essentially required the making of your own film before an image could be struck. The "film" could be metal (tin types) or glass. Only glass could provide a negative to be used for printmaking. Cameras were built in varying sizes and glass plates were cut to accommodate the specific camera. Preparing the plate entailed thorough cleansing until spotless. Collodion, a sticky solution, is poured onto the plate to form a thin layer that evenly coats the plate, with all excess removed. In a darkroom where the only light used comes through a red glass filter, the plate is then immersed into a bath of silver nitrate for several minutes. This makes the plate light sensitive, so upon removal from the bath it is put into a lightproof plate holder that is then placed onto the back of the camera. The focusing of the camera lens is set beforehand. The plate holder has a removable panel

called a dark slide, which is removed after the plate holder is on the camera. The cap on the camera lens acts as the shutter, and when it is removed the plate is exposed to light and an image is cast. The exposure time for wet plate landscape photography is generally around 20 seconds to one minute, depending on the intensity and color of the light on the subject. Wet plate photography needs natural daylight. After the plate has been exposed, the lens cap is put back on, the dark slide reinserted, the plate holder is removed from the camera and taken back to the darkroom to be developed. The plate is developed in an iron sulfate developer and fixed in sodium thiosulfate. After thorough rinsing in clean water it is allowed to dry and then a coating of varnish is applied, which seals and protects the image. Making prints from negatives is done with a special printing frame where the negative is put in contact with photosensitive paper. Most of the landscape pictures taken with the wet plate process have a cloudless sky. This is due to the blue light sensitivity of the process. To properly expose the whole image on the plate makes the sky very overexposed leaving it to appear blank on the print. If you do see clouds on a wet plate image they were most likely over printed onto the print from a separate negative showing just clouds. The stereo camera is no different from the wet plate landscape camera except for having two lenses that are set in the camera about the same distance apart as your eyes. They produce two side-by-side images on the same negative of a scene from two slightly different angles. This makes a 3D image that is refocused and viewed by using a stereoscope.



A stereoview of The Three Brothers showing traditional 19th century mounting and printing techniques. Printed from a collodion negative by Robert Szabo 2002

So, I began my journey west. I didn't pack my gear on mules. Watkins used as many as twelve mules on one of his trips. I used airlines, rental cars, and my minivan. I have attempted to reproduce in the Park the processes used and the locations selected by Carleton Watkins in the 19th century. After two cross country trips to California, and after having spent time in Yosemite, I am even more amazed at the caliber of work that Watkins produced in the 1860s.

My first trip to Yosemite happened in May of 2002. Trying to combine my dreams with a business trip, I flew to California, and rented a van. My equipment was sent ahead via UPS and awaited my arrival at the northern California home of a wet plate comrade, Will Dunniway. There were fifteen boxes in all, enclosing an 1870s 5x8 camera, two slotted wooden boxes holding forty 5x8 glass plates, a tripod, camping equipment, customized backpack, chemicals and a dismantled specially designed portable darkroom. Upon arriving at Will's house I built a makeshift cardboard darkroom in the back of the van. Like Watkins did on all his Yosemite trips, I also brought with me a stereo camera. Another wet plate photographer friend from southern California, Wayne Pierce, joined us. Neither friend had done wet plate in Yosemite before and the three of us excitedly set out on our historic expedition.

Our Sunday arrival had us camping in the Upper Pines campground. We awoke to sleet and snow the first morning, but still hosted the pre-arranged demonstration of our cameras and processes at Wawona for a middle school group from Turlock, California. Ranger Dean Shenk of the Yosemite National Park Service was our contact and he was a great asset and guide. The three of us spent the next few days exploring the Park and taking photographs. Will and Wayne had to leave by mid-week, but I stayed on into the weekend. Ranger Shenk was instrumental in making the trip a great success. With his keen interest in the history of the Park and in-depth knowledge of the Valley, he helped me locate sites probably used by Watkins and other early photographers to take their panoramic photos.

From left to right, Wet Plate photographers Wayne Pierce, Robert Szabo and William Dunniway, wearing 19th century clothing stand in front of the Grizzly Giant. Photograph by Robert Szabo. Ranger Dean Shenk assisted by removing the lens cap for the exposure. 2003

The wet plate process is called "wet plate" for a reason: to work properly the glass plate must stay wet throughout the process. So darkroom and camera cannot be separated by any more than a few minutes walking distance. This is one of the great challenges of wet plate photography in the field. After a week of traveling around the park attempting to take images and develop them in the darkroom in the back of my van, I think I had the drill down just about the time I had to leave. This is a snapshot of me and the process. I would pick out a view I wanted to photograph and park the van as close as I could to a viable set up site. If I was trying to duplicate a Watkins image, I first had to determine if the current view would allow me to take a similar picture. Some of the old scenes are just not the same anymore, mostly because of trees growing where they did not when Watkins took his pictures of the valley. If I decided I could get the picture and the scene looked good I would then go to work. The camera would come out of the van along with the tripod and dark cloth. The camera would be set up in the most advantageous spot and the lens focused. After focusing I would go back to the van darkroom and clean and sensitize a piece of glass. The glass plate would be taken to the camera and the plate exposed and then removed from the camera and taken back to the darkroom for developing. Even with my darkroom readily available in the back of my van, just to get one image was quite a lengthy detailed process. Try to imagine what it must have been like in 1861 for Watkins. Every photograph required the unloading of the mules and the resetting up of the tent darkroom and the camera.

Yosemite and adventure seem to go hand-in-hand. During my visit, I envisioned an historical hiking trip to Taft Point using my wet plate equipment. I wanted to get some pictures from the rim of the valley, trying to duplicate some of Watkins' photos, but the camera locations for these views were all much too far from the modern roads for me to reach by hiking if I had to carry in all the needed equipment by myself, and since my friends had already left, it was just me. As I mentioned previously, Watkins used as many as 12 mules to carry his gear to his selected sites. It seemed a bit ironic that in this modern day of SUVs that Watkins actually had the off-road edge with his team of mules. Since I couldn't get to my first choice locations, I decided to attempt to duplicate an image taken by Eadweard Muybridge.

Left Profile Cliff by Robert Szabo 2002 Right Profile Cliff by Eadweard Muybridge 1867

Muybridge was another well known 19th century Yosemite photographer who subsequently went on to become the father of the motion picture using still sequence wet plate photography. The 1860s Muybridge photo I liked was taken of Profile Rock from Taft Point, and was a much easier hike than the Watkins images I had in mind. I used my large customized backpack to carry the load of a 5x8 camera, jars of chemicals, a small teepee style darkroom tent, a few 5x8 glass plates, and a plastic gallon jug of water for processing and washing the plates. This jug was also used to carry back the wastewater after processing. The trip from the parking area to Taft Point is not far, about 1.3 miles. Well, not far if you're not carrying 65 pounds of gear. It was a slow walk to get there, but I made it, and set up my darkroom about ten feet from the rocky edge. Muybridge called the place Lookout Rock, but it is now named Profile Cliff. Trying to recreate the same angle as Muybridge, I moved to the edge with my tripod and camera. As I was doing this,

I remember thinking; "You are trying to take a photograph from the same angle as a man who was thought crazy by many people." Muybridge had a reputation for taking photographs from dangerous and difficult to reach locations, often so precarious even his hired carriers refused to participate. I was a bit nervous about setting up so near to the steep edge, but I wasn't really in danger as long as I continually remembered where I was. Although it wasn't easy and I spent much time in the tiny darkroom tent trying to block out any light while kneeling on the sandy rock, I did get my picture. The plate had small imperfections from tiny specks of dirt. This small experiment vividly demonstrates what masters of working in the field the early Yosemite photographers were. Later, when I printed this negative, I was amazed at how views of the Park at those heights have scarcely changed over the years. Comparing my photo to the 1860s Muybridge photo, it appears that some of the exact same trees are still there.

My first trip to Yosemite was a kind of an awaking for me. I knew it would be a charmed place. I sensed it from the many Watkins pictures I had looked at over and over again. But when I got there, I simply fell in love with Yosemite and knew I would have to return. This past May of 2003, I did go again to Yosemite and this time I took with me a larger camera, a mammoth plate camera, capable of taking 18x22 inch negatives just like Watkins made. There was no way I could mail this huge camera along with the box holding fifteen 18x22 inch glass plates, so I took unpaid leave from my job, packed my minivan and drove cross country to Yosemite from Virginia.

Robert Szabo giving a short demonstration of the wet plate process for Barbara Baroza and others from the Yosemite Museum. Photograph by William Dunniway 2003

Planning and preparation for the 2003 trip began almost immediately upon my return from the first trip. I started doing more research on Watkins and the Park, built new equipment, and started to talk to Ranger Shenk about coming for a longer stay and doing more demonstrations for the public at the Pioneer History Center in Wawona.

Although my interest was greatly enhanced by the writings of such authors and researchers as Peter Palmquist and Nanette Sexton, actually seeing the original work of Carleton Watkins was the most rewarding. Ranger Shenk put me in contact with Barbara Baroza, Curator at the Yosemite Museum. After meeting up again with fellow wet plate photographers Will Dunniway and Wayne Pierce, on our first day back at the Park the three of us went to the Museum and Ms. Baroza laid out for our viewing some works by Carleton Watkins that I previously had only seen in books. She also brought out something

I really desired to see which was an authentic Carleton Watkins mammoth plate negative. As far as I know, it is the only remaining Watkins mammoth plate negative in existence, the rest having been destroyed by the 1906 San Francisco earthquake. In return for their kindness, I later gave a short demonstration of the wet plate process to a small group from the Museum.

Early in my trip planning, Ranger Shenk also put me in touch with Beth Pratt of the Yosemite Association. Ms. Pratt agreed to add a wet plate photography seminar instructed by me to the Outdoor Adventure course list for 2003 called "Photography of Time." It was a one-day seminar held on May 17th and I pretty much covered in depth the wet plate process as used by the early 19th century western landscape photographers. We chose a fairly quiet outdoor location with a nice view of Half Dome. I set up my mammoth plate camera, my 8x10 camera, and also my stereo camera. I demonstrated all of these by making plates with each of them. We also covered albumen paper printing and how that was done in the 19th century. To close the day, I photographed each participant and they went home with a small tintype picture of themselves. It was a small group but it was well received and hopefully there will be enough interest to do another seminar in 2004.

On Monday the 19th, I teamed up with Will and Wayne and the three of us again did a demonstration at Wawona. Unlike the snowy weather we experienced the year before, we had great weather and Will was able to get a nice tintype picture of the school group. Will and Wayne left the next morning, but I stayed on. Saturday and Sunday of Memorial Day weekend I did wet plate demonstrations for the public dressed in my historical clothing, setting up at the Artists Cabin in Wawona. Many people stopped by and I answered a lot of questions as I showed them how pictures were taken in the 19th century.

Robert Szabo posing with custom made 18x22 Mammoth Wet Plate Camera in front of the Artists Cabin at Wawona. Photograph by Steve Lawson. 2003

I had my mammoth plate camera custom built especially for the Yosemite trip by Ray Morgenweck, owner of Star Camera Company in Egg Harbor, New Jersey. It weighs in at about 65 pounds and was new to me, so I did have a huge learning curve in dealing with it. The first few plates I made weren't much to look at by my standards, but before I left the Park I did manage to get a few that pleased me. I successfully photographed Cathedral Rock, Yosemite Falls, Washington Column and North Dome, but at each site I had to work on my knees in my field darkroom because it was too small to stand up in while holding the huge plates. I had tried to replicate Watkins' pyramid shaped darkroom, approximating its size and building it based on views of Watkins original tent shown in his photos. Any future attempts with mammoth plates will have a revised darkroom. Now that I have a small taste of doing wet plate in the wilds of Yosemite, I feel I really have a deep appreciation for what it must have been like for Watkins to do his work in the field. I have the desire

to return again and work on the perfecting of the process of these huge plates. I understand why he and others returned again and again to the Yosemite Valley.

Actually traveling to Yosemite with my wet plate equipment and taking photographs of timeless scenes almost seemed like a dream fulfilled for me. But I had plenty of time to contemplate my stay there as I drove back to Virginia, and I began thinking that maybe my dream isn't complete. Maybe it's just getting started.

Most people are aware of the masterful work of Ansel Adams done in Yosemite, but except for a handful of historians and collectors, few know of those who came before him. One of my reasons in wanting to use these old methods and to teach seminars about the collodion process is to make people more aware of the early pioneers of photography, and especially the photography of Carleton Watkins. His work was instrumental in giving us all today immeasurable natural wealth through our national parks, but he left this earth in poverty and obscurity. I think he was a master who should be remembered. This is a quote from the Massachusetts *Springfield Republican*, of April 19th 1872 and often reprinted on the back of Watkins' CDV (carte de visite) cards:

"So it is with Watkins in his pictures of California scenery. He makes a close artistic study of the attitudes of Nature, and the various lights of the day, and gives himself, his instruments, and his chemicals, the advantage thereof, with the result as perfect little pictures in combination and form and effect, as painter ever gathered through his artistic perception and his ingenious grouping of the gems of nature."

Robert Szabo lives in Northern Virginia and dreams of Yosemite. For more examples of his work or information about his photography, visit his website at:

http://www.robertszabo.com.