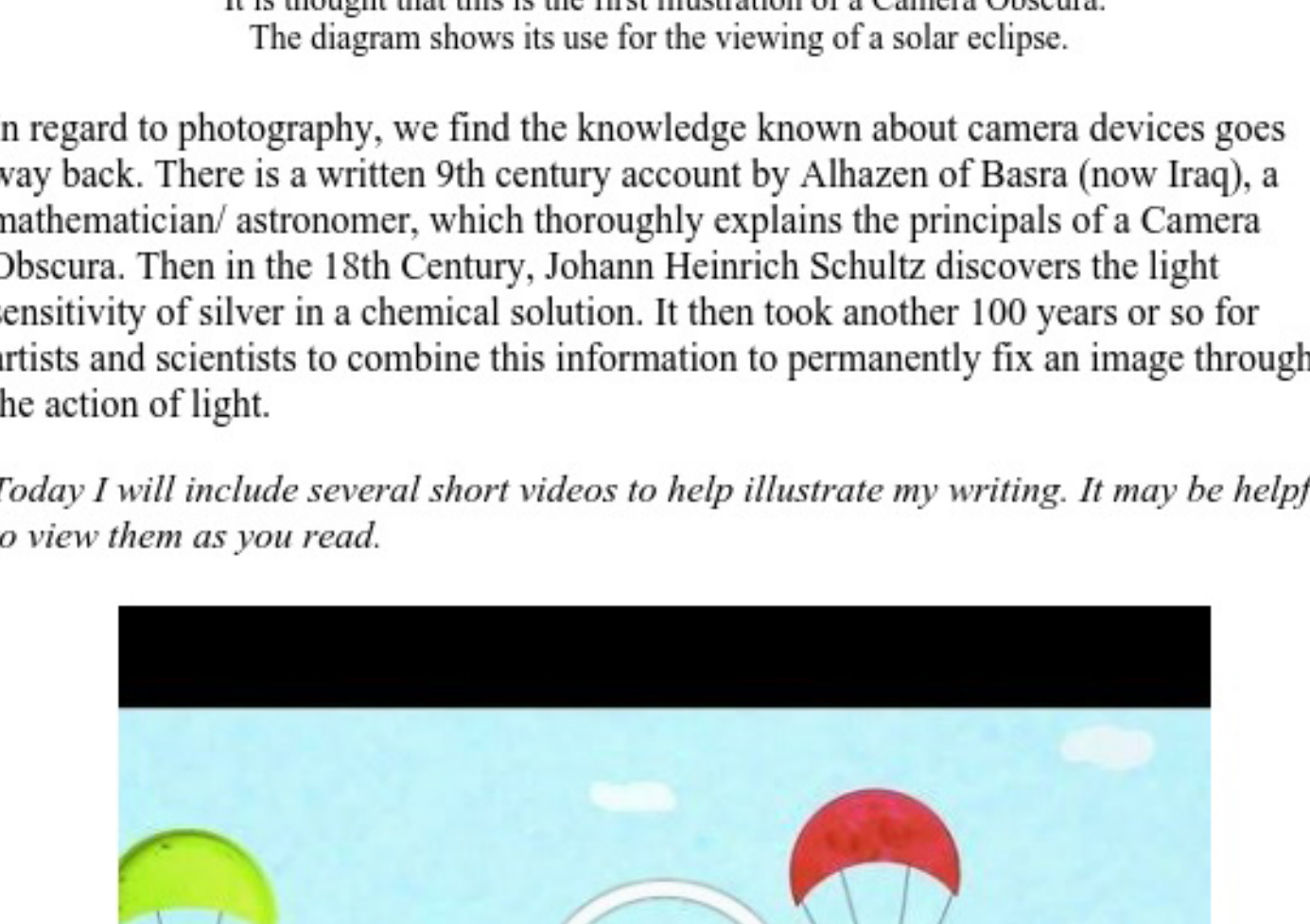


Science and Art

Since last week's posting, which included the Sagendorf comic about Johann Heinrich Schultze and his discovery regarding chemical sensitivity to light, I've been thinking about the role of science/scientists in the development of photography. Those of you that studied the History of Photography with me know that my first lecture is focused on the "pre-history". I have often gone off on a rant thinking about what would have happened if scientists and artists had spent more time together. If that were the case I do believe the technological advances would have been discovered many years before they were.

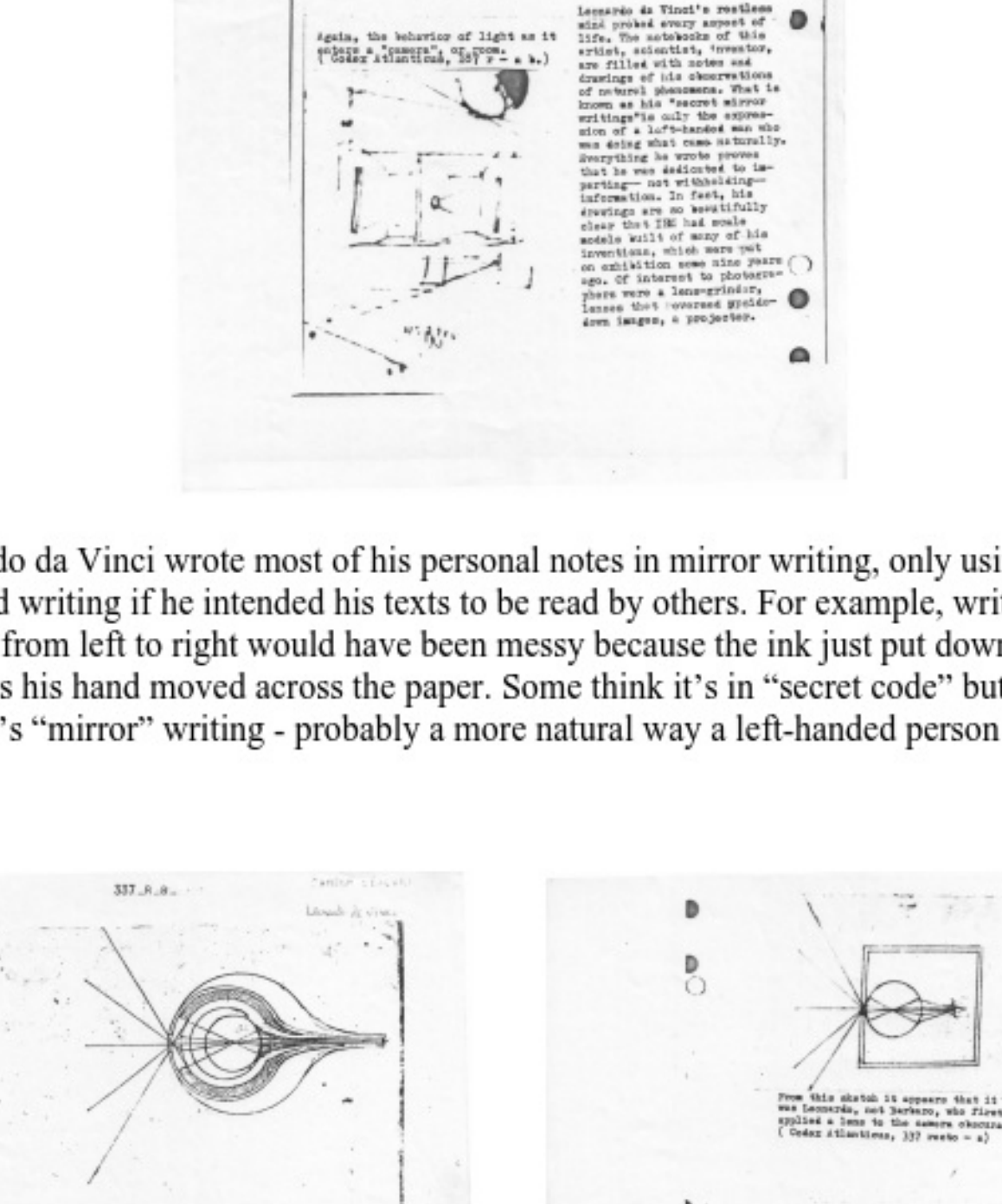
Scientists held the knowledge to invent photography hundreds of years before it was invented. Artists had the need and were already using camera devices as drawing aids in their work. But the thought of permanently fixing the image from the camera required both the art and science communities to communicate with one another.



Reinerus Gemma Frisius (1508-1555)
Illustration from *De Radio Astronomica et Geometrica*, 1544
It is thought that this is the first illustration of a Camera Obscura.
The diagram shows its use for the viewing of a solar eclipse.

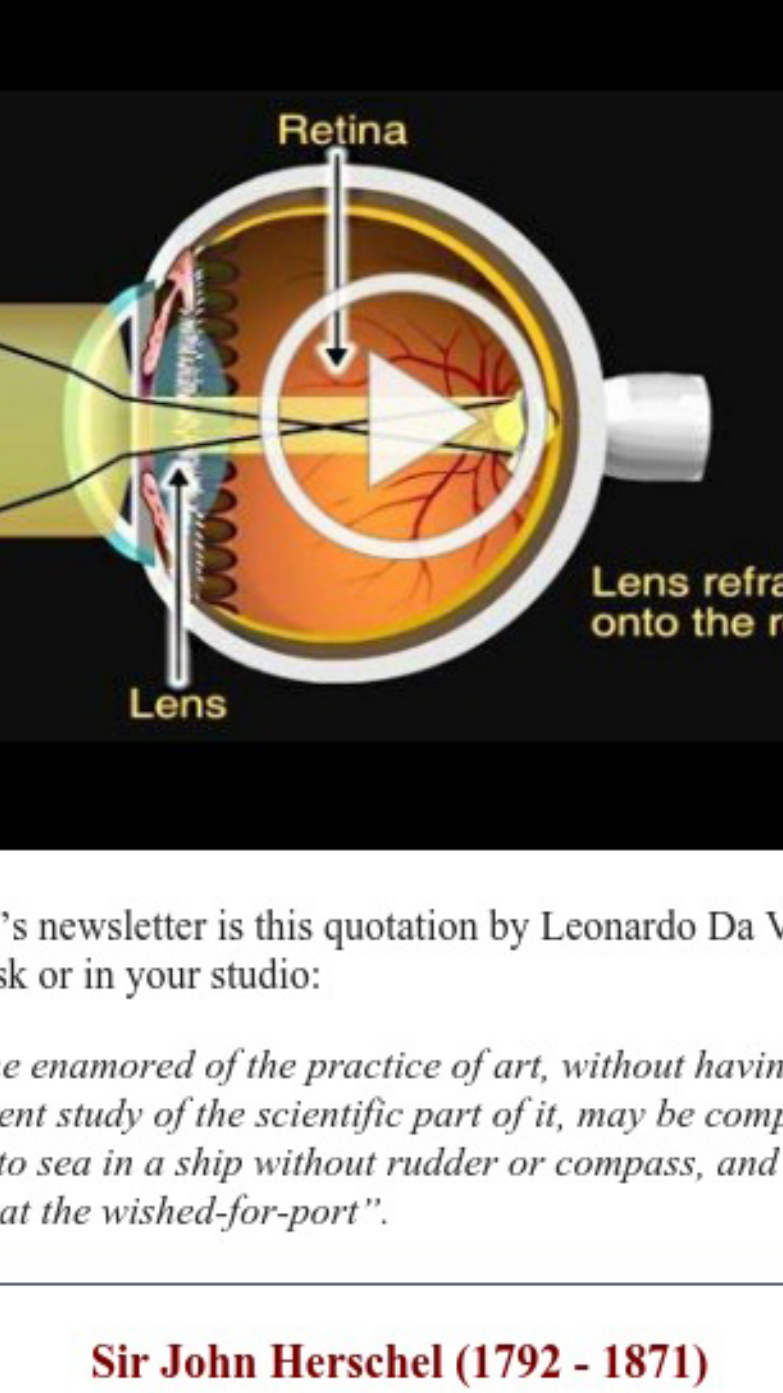
In regard to photography, we find the knowledge known about camera devices goes way back. There is a written 9th century account by Alhazan of Basra (now Iraq), a mathematician/ astronomer, which thoroughly explains the principals of a Camera Obscura. Then in the 18th Century, Johann Heinrich Schultze discovers the light sensitivity of silver in a chemical solution. It then took another 100 years or so for artists and scientists to combine this information to permanently fix an image through the action of light.

Today I will include several short videos to help illustrate my writing. It may be helpful to view them as you read.

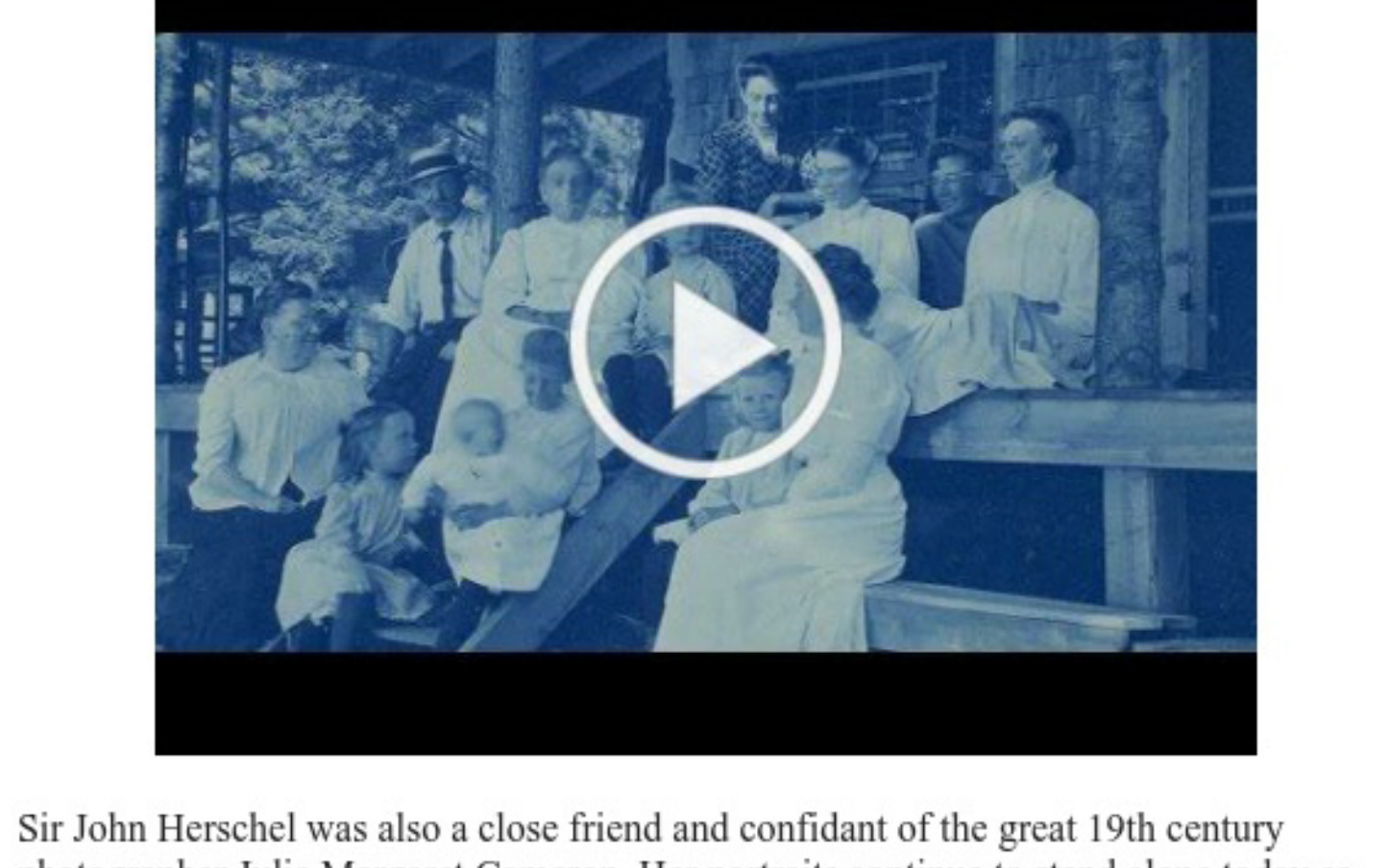


Leonardo Da Vinci (1452 - 1519)

Reading through Leonardo's notebooks, we know that he had studied the anatomy of the human eye. Through his understanding of sight, he was able to take the principals of how vision works, and create diagrams for making devices, both cameras and projectors, based on those principals.



Leonardo da Vinci wrote most of his personal notes in mirror writing, only using standard writing if he intended his texts to be read by others. For example, writing left-handed from left to right would have been messy because the ink just put down would smear as his hand moved across the paper. Some think it's his "secret code" but we now know it's "mirror" writing - probably a more natural way a left-handed person would write.



The typed notes on the above pages were written by Beaumont Newhall captioning Da Vinci's illustrations.

To view/read these images as a PDF [click here](#)

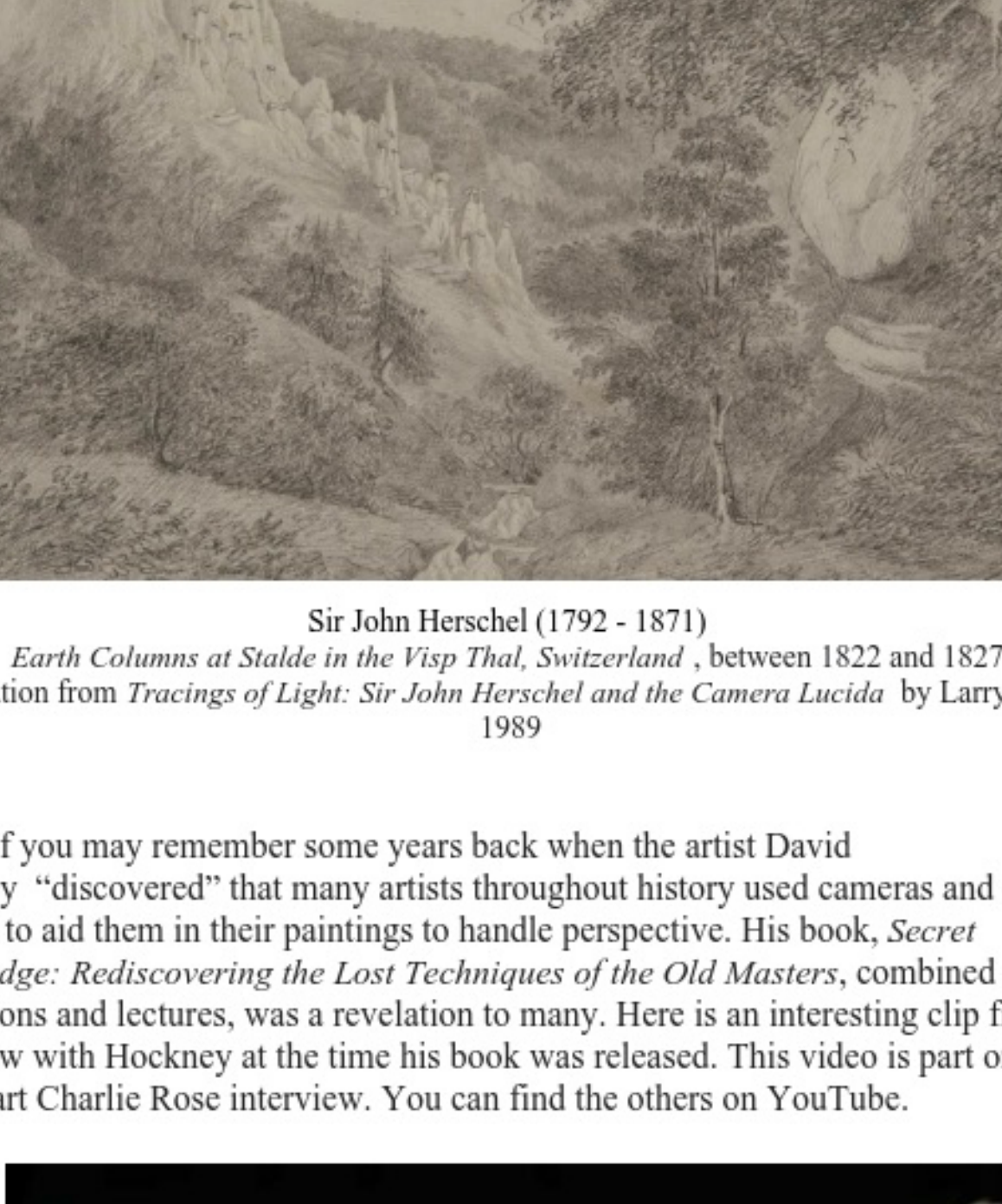


A mantra for today's newsletter is this quotation by Leonardo Da Vinci. It is worthy of posting on your desk or in your studio:

"Those who become enamored of the practice of art, without having previously applied to the diligent study of the scientific part of it, may be compared to the mariners, who put to sea in a ship without rudder or compass, and therefore cannot be certain of arriving at the wished-for-port".

Sir John Herschel (1792 - 1871)

Sir John Herschel was the son of the astronomer William Herschel, who discovered the existence of the planet Uranus. Sir John Herschel was also a noted astronomer and chemist. It was Herschel, whom the English inventor of photography, William Henry Fox Talbot turned to for help in fixing the images he was making. Herschel suggested "hyposulfite of soda" to fix the image. "Hypo" became the chemical that solved the issue for Fox Talbot's invention. It was Herschel, again, who coined the term "Photography", and it was Herschel who first used the terms "positive and negative", and, once again, it was Sir John Herschel who invented the Cyanotype process. He was using the Cyanotype process, not for art-making, but for copying his notes, the way we made copies on a copy machine in the past. The Cyanotype wasn't applied to an artistic endeavor until he taught the process to a family friend, Anna Atkins, who then went on to produce one of the earliest photographic books of her botanical specimens, *Photographs of British Algae: Cyanotype Impressions*.



Sir John Herschel was also a close friend and confidant of the great 19th century photographer Julia Margaret Cameron. Her portraits continue to stand alone today as some of the most expressive ever produced. Some things, most things, have not changed much in the art world. Cameron was often criticized for the lack of sharp focus of her images, which was attributed to her lack of expertise. We know this assumption is also based on the fact that those who spoke for the "art world" were men, and they were not going to welcome a woman artist into their fold. Of course, this was frustrating for Julia Margaret Cameron, but in no way was going to dissuade her efforts. In a letter to her friend Sir John Herschel, she wrote:

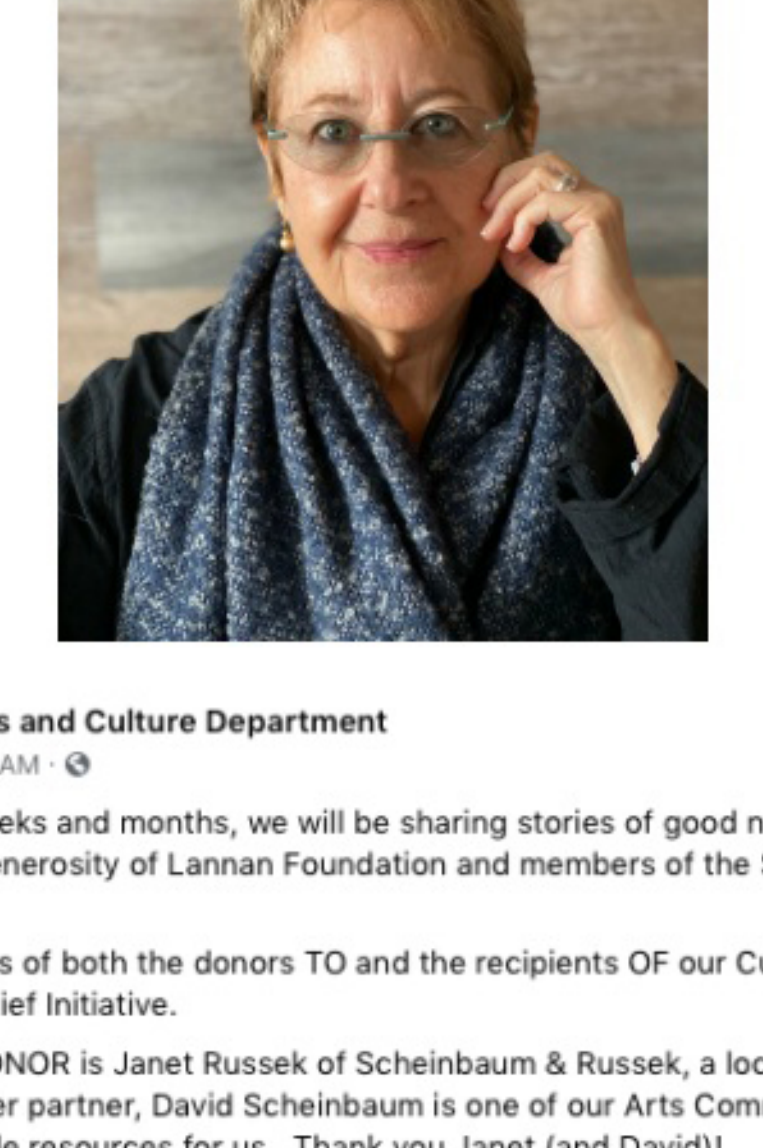


Julia Margaret Cameron (1815 - 1879)
Mrs. Herbert Duckworth (Later Mrs. Leslie Stephen), Mother of Virginia Woolf, 1867
The Art Institute of Chicago

"What is focus - & who has a right to say what focus is the legitimate focus - My aspirations are to ennoble Photography and to secure for it the character and uses of High Art by combining the real & ideal & sacrificing nothing of Truth by all possible devotion to Poetry & Beauty -"

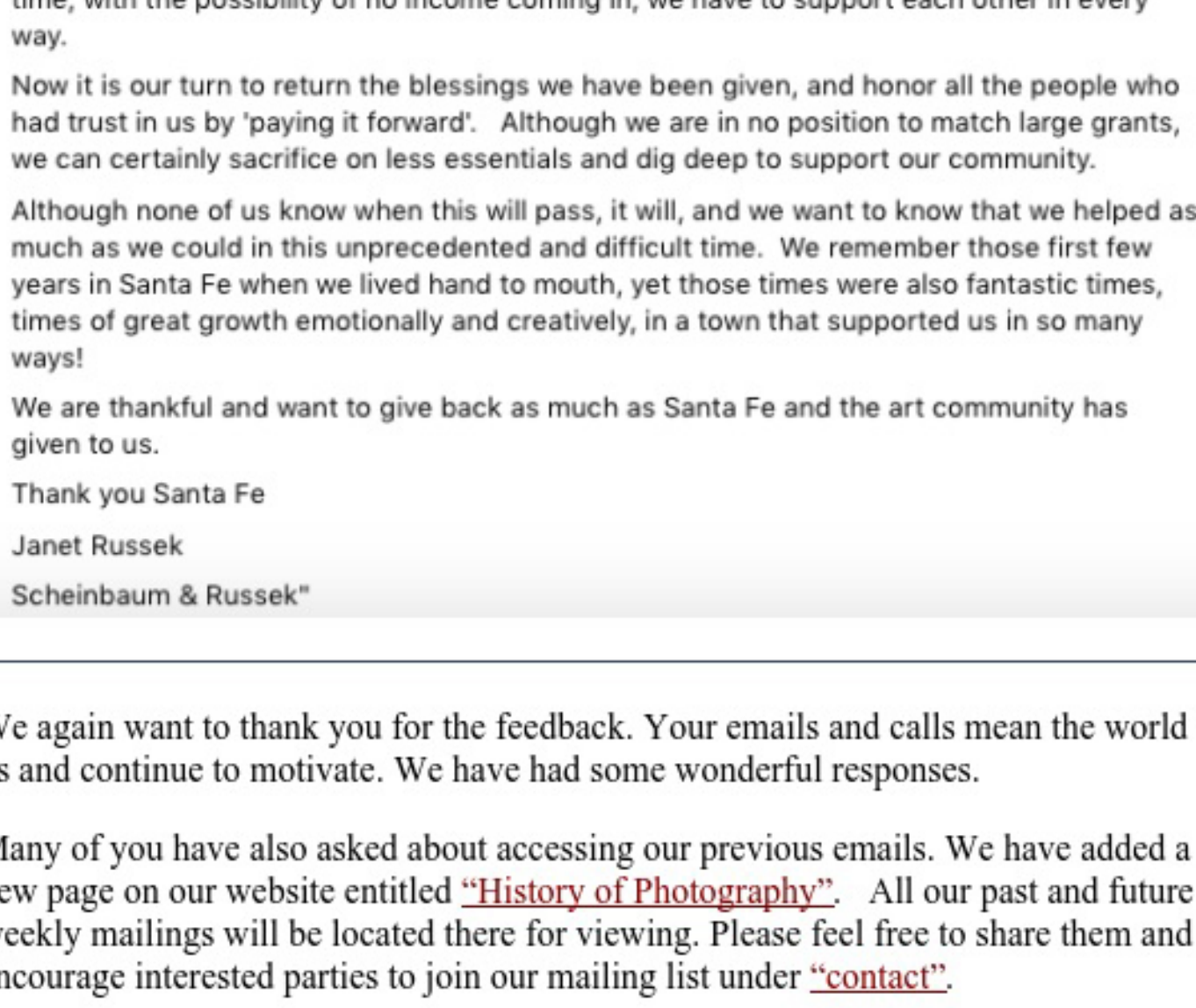


As another footnote to Sir John Herschel's genius, he mastered the popular invention, the Camera Lucida. Invented by English scientist William Hyde Wollaston in 1807, this device consisted of a glass prism held to the eye by a rod attached to the board, which held the drawing paper.



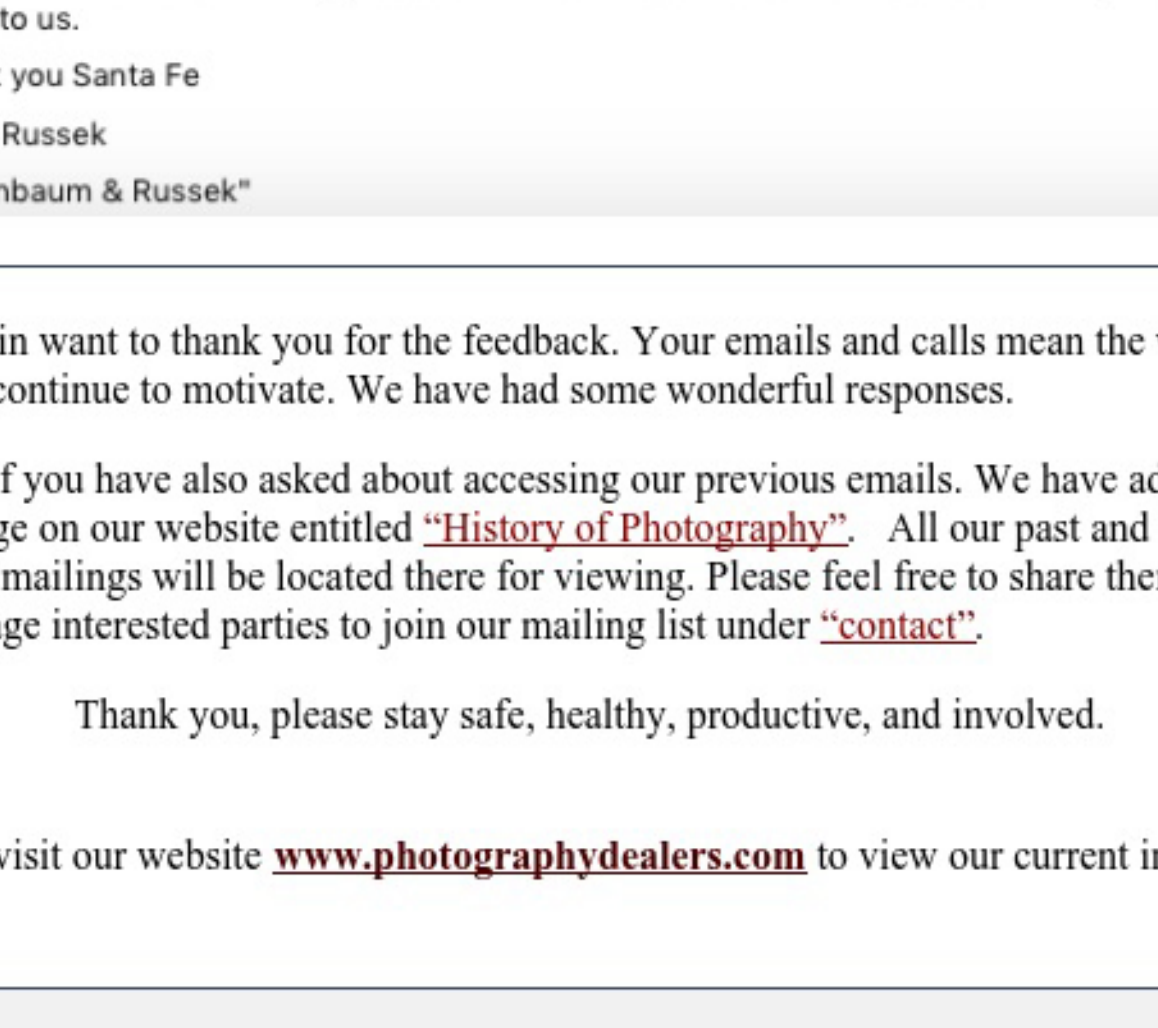
Vincent Chevalier (1770 - 1841)
Illustration from *Notice sur l'usage de la chambre claire*, 1834

It was written by William Henry Fox Talbot, in his notebooks, that he was unable to master this device, which was one of his motivations to continue his experiments to fix an image through the action of light. However, his friend, Sir John Herschel, did master the Camera Lucida and produced some of the most remarkable drawings with it.



Sir John Herschel (1792 - 1871)
In 1878 David and I were both living in Brooklyn, born and raised there and in love with the city. But, it was a hard place to be, me as a single Mom with 2 kids, he as a photographer. When it came time to rent an apartment, our chances were less than good - a single mom? An artist? Where would the rent come from? To say the least they weren't the best qualifications.

Many of you may remember some years back when the artist David Hockney "discovered" that many artists throughout history used cameras and other devices to aid them in their paintings to handle perspective. His book, *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters*, combined with exhibitions and lectures, was a revelation to many. Here is an interesting clip from an interview with Hockney at the time his book was released. This video is part one of a three-part Charlie Rose interview. You can find the others on YouTube.



To conclude for today, I add this bonus video for those of you interested in learning more about Leonardo Da Vinci. It is a PBS Nova program on Leonardo and his life and work narrated by Walter Isaacson, who wrote the marvelous book *Leonardo Da Vinci*, which I recommend. It runs an hour in length. If you have the time I know you will enjoy it.

Decoding da Vinci
Discover the science behind Leonardo da Vinci's masterpieces—and Mona Lisa's iconic smile.

The Illustrated History of Photograph by Bud Sagendorf

As an added feature to our weekly newsletters, we are posting copies of a History of Photography comic strip. Inspired by Beaumont Newhall's 1937 groundbreaking exhibition at the Museum of Modern Art in New York and the catalog for the exhibition which when expanded became Beaumont's *The History of Photography*. Forrest Cowles Sagendorf who was better known as Bud Sagendorf created a weekly strip in 1938 using Beaumont's text as his guide. Sagendorf was a photography enthusiast and Beaumont loved the comic strip. The weekly comics are a fun and accurate introduction to the early processes and practitioners of photography. I'm sure some of you will recognize his drawing style from his Popeye comics.

One more thing - FYI, this week the Santa Fe Arts and Culture Department featured a written piece by Janet about our early years arriving in Santa Fe. I'll include it here for those of you who haven't seen it on Facebook.

Santa Fe Arts and Culture Department
July 13 at 7:10 AM

Over the coming weeks and months, we will be sharing stories of good news that have resulted from the generosity of Lannan Foundation and members of the Santa Fe Community.

These are the stories of both the donors TO and the recipients OF our Culture Connects Coalition Artist's Relief Initiative.

Today's featured DONOR is Janet Russek of Scheinbaum & Russek, a local resource for fine art photography. Her partner, David Scheinbaum is one of our Community members and both of them are invaluable resources for us. Thank you Janet (and David)!

We asked Janet to share some words regarding her decision to donate to this initiative and this is how she responded:

"In tribute to the City Different, by Janet Russek

In 1978 David and I were both living in Brooklyn, born and raised there and in love with the city. But, it was a hard place to be, me as a single Mom with 2 kids, he as a photographer. When it came time to rent an apartment, our chances were less than good - a single mom? An artist? Where would the rent come from? To say the least they weren't the best qualifications.

When David, in 1978 moved to Santa Fe and started looking for a place to live, he carried his New York experiences with him. Who would rent to him when they found out he was an artist. Well, as it turned out everyone! Yes, the city different welcomed "the people different". When I moved here in 1980, as we looked for a place to live with 2 children and not much money, again, we found people who believed in us and gave us a start.

Santa Fe has been that city different that welcomes "the people different". It's history and reputation as a mecca for artists goes back a century or more.

Here we, as artists are more than welcomed. We are respected and honored. Yet, at this time, with the possibility of no income coming in, we have to support each other in every way.

Now it is our turn to return the blessings we have been given, and honor all the people who had trust in us by "paying it forward". Although we are in no position to match large grants, we can certainly sacrifice on less essentials and dig deep to support our community.

Although none of us know when this will pass, it will, and we want to know that we helped as much as we could in this unprecedented and difficult time. We remember those first few years in Santa Fe when we lived hand to mouth, yet those times were also fantastic times, times of great growth emotionally and creatively, in a town that supported us in so many ways!

We are thankful and want to give back as much as Santa Fe and the art community has given to us.

Thank you Santa Fe
Janet Russek
Scheinbaum & Russek"

We again want to thank you for the feedback. Your emails and calls mean the world to us and continue to motivate. We have had some wonderful responses.

Many of you have also asked about accessing our previous emails. We have added a new page on our website entitled "History of Photography". All our past and future weekly mailings will be located there for viewing. Please feel free to share them and encourage interested parties to join our mailing list under "contact".

Thank you, please stay safe, healthy, productive, and involved.

Please visit our website www.photographydealers.com to view our current inventory.