

# The Language of Photography

(Chapter 6 – The Print)

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# Chapter Six: The Print

Unless one lines up at the camera's eyepiece one person at a time, in real time, like peering through a backyard telescope, the image that is created by the lens has to be recorded in some permanent form if one intends to share it widely with others. Up until the beginning of the nineteenth century, before the development of light-sensitive chemical emulsions, artists such as Vermeer copied or traced onto paper or canvas what appeared on the ground glass. This was problematic as artists had to rely on their skill with brush and paint or engraving tools to accurately record this image. That all changed with the discoveries of Daguerre, Talbot and others of the light sensitivity of silver and other metals, and for the past two hundred years the chief way in which this image was preserved was with light-sensitive chemical emulsions coated onto paper. More recently electronic sensors have been utilized for the recording, storage and presentation of this same imagery in a variety of digitized forms. For the purposes of this chapter what is important to remember is that the choice of this presentation, the form of the package by which information or meaning is delivered can significantly alter the experience of a viewer.

The traditional paper print offers a reliable means of remembering and a variety of means for expressing the ideas that photographers wish to present to others with their imagery. To the extent that it is labor intensive and often self-limited in the number of prints that can be made, making a print also forces a distillation of those ideas, a consideration of the import of the content, and a need to refine the choices of which images to print. As the saying goes, "A man can't have everything; where would he put it?" The digital revolution, however, has changed that. The incredible ease with which digital imagery is generated and then forgotten, erased or buried in memory by the tsunami of imagery that replace them on the screen has been transformative on both a profound and a trivial level, but it is a double-edged sword as well. The long-term persuasive power of sophisticated electronic imagery is threatened by the fact that digital memories are inherently fugitive, dependent for their the survival on morphing into new iterations with each evolution of the storage media and hardware needed to retrieve them. Today any photographs still exclusively stored on 5 1/2-inch

floppy disks are effectively as lost to time as the books at the Library at Alexandria. Digital images also require electricity and electricity-dependent hardware to be seen. When not being actively viewed, unlike their paper counterparts, they are not simply “out of sight”; in fact, they no longer exist as images at all. Like “Schroedinger’s cat” one’s digital photo collection may still reside in some “electron cloud” of binary data, but until they are reconstituted on a screen they can leave no permanent traces on our individual or collective experience; they have no actual temporal reality beyond a theoretical potential to exist.

Part of the appeal of creating an enduring photographic print is that it provides an object to be viewed or displayed under a variety of conditions, without necessity for additional equipment or power source. It also can have financial value when owned as an original “work of art.” This object has a life of its own, outside and beyond the personal history, even the lifespan of the individual who made it, and as time goes by this unique history increases and deepens. Art historians refer to it as the work’s “provenance” and it certifies the work’s authenticity by documenting the lineage of ownership since its initial creation. Of course, paper prints are vulnerable, too. They can be attacked by their environment or neglect, but to a great extent their preservation can be secured by simple physical considerations (an archival box, for example), unlike digital data which is susceptible to power outages, a crashed hard drive and a lack of equally vulnerable redundancies or continual storage media upgrading.

The older paper printing techniques with their inherent concern for permanence or “archivalness” presupposed that the message contained in a photographic image was meant to be enduring, that it was to be experienced over time, building up of layers of meaning that provided opportunity for new and/or evolving levels of discovery and insight. At first, light-sensitive emulsions were coated onto paper and the image exposed and developed in a darkroom. However, by the end of the nineteenth century, the ability of the camera to record fleeting events as well as enduring insights offered photographers a powerful tool for both documenting and illustrating daily life. Using special screens that broke up the image into a series of dots, photographs could be printed with inks, mass-produced and widely and rapidly distributed with the morning newspaper or weekly magazine. Electronic distribution over television increased the speed of delivery, until now there is a continuous electronic pipeline from the

photographer to their audience that can communicate both still and moving images in real time. As a result, the information some photographic imagery contains may become rapidly obsolete, even designed, like Snapchat images, to self-destruct after a finite period of time. Like stock price quotes, there is only a very small window of time where they are of interest, being quickly replaced by more current news. The practical value of such electronically transmitted photographic images fades as quickly as the LCDs that reify them, delivering their message and then self-destructing to make way for the next one. As a result, images such as these are increasingly designed to be “sensational” in order to capture our attention over the background noise of cascading imagery, only needing to hold it briefly enough to make a point, to make an impression, to make a sale, or elicit a quick, impulse-driven response. This is the nature of our current information-based world and to that extent electronic photo imagery is a perfect vehicle for this kind of high-impact, short-lived communication.

Concomitantly, the idea that art, (or anything else of value, for that matter) endures is increasingly being replaced by the idea that things that are most esteemed are generally those that are the newest and most current. This holds true for cars, digital devices, movies, popular music and, yes, cameras as well as the contemporary, creative visual arts. To some extent this is due to the rapid changes in technology that quickly make the latest generation of product obsolete (although not always significantly better) as soon as it is marketed--the next hot item is already in the design stage and working its way up the pipeline. It also is a product of the urgency of our lives that increasingly eliminates the otherwise empty hours and solitude necessary for contemplation, reflection, daydreaming and the slow ripening of ideas, imagination and creativity.

There is a long tradition in the arts in which the experience of a work gets deeper and more resonant with repeated encounters, as there are creative processes that get deeper and more resonant with recurrent engagement. As such, the former need to be preserved to ensure continuing access, and so bronze and stone sculpture are more common than carvings in sand, butter or ice. The traditional notion of art was that for having experienced a work of art—a theater performance, a book, a painting, a concert—we are changed. We see the world differently; we think differently. The idea that art is an “experience” rather than a passing sensation, lies at the heart of the idea of fabricating it in such a way that

it endures and can offer to the largest possible audience, present and future, the greatest opportunity to benefit from it. Literature is written in books, and before printing, remembered and recited. The *Odyssey*, by Homer has endured for 4,000 years because it contains insight into so many aspects of the human experience that generations of people have found it important enough to preserve and transmit to subsequent generations.

Sensation, on the other hand, by its very nature is temporary. We may feel cold, but as soon as we change the temperature of our environment that sensation is replaced by another. After we eat we no longer feel hungry. But sensations don't change us permanently and we are soon cold or hungry again. The circumstances that create them must be constantly renewed or repeated. When applied to the creative arts this notion takes the form of "entertainment"—activities that are stimulating while they are happening, soothing, alarming or thrilling—without-being-dangerous, which when concluded must be engaged in again to re-achieve whatever sense of fun, well-being or excitement they generate.

The idea that photographic imagery is a repository of something important that needs to be said or communicated, and that the experiencing of that image will change the viewer in a meaningful and important way presupposes that the image will endure long enough to accomplish this. Generally speaking, for a photograph to be an experience and not just a passing sensation, requires an enduring print. Printing a photograph, transforming the fleeting, ephemeral image created by the lens into an enduring object that can be shared, displayed and contemplated is one of the principal means of insuring this longevity. The aesthetic character of this experience—the visual characteristics of the print—is different from and as important as the creation of the original image, and ideally should be established in the mind of the photographer at the time the image is actually made. The exceptions are images of such startling import (usually photojournalistic) that the information they contain alone is enough to change our world view: AP photographer Nick Ut's photo of Kim Phúc running down a road naked after a South Vietnam Air Force napalm attack; the images of liberated concentration camp survivors; Neil Armstrong's first step on the moon; the first image of earth from space, all resonate powerfully based on the import of the content alone. But in these cases the images are mute testimony to history, a bearing witness to facts, a stand-in for our experience of the actual event:

stepping onto the moon ourselves, witnessing a horrific moment in history, etc..

Art works more obliquely, through metaphor or evocation, and in this engagement with the viewer the character of the print can play an important role in effecting that communication. Ansel Adams' Zone System was designed to create a reliable methodology to translate the imagery of the camera into a print, where the image was "previsualized" as the finished print prior to the actual snapping of the shutter. Ansel Adams' approach was well suited for a time when many photographers worked with large format cameras in which the image in the ground glass was upside down. The photographer had to understand what the image would be, not so much by looking at the glass, which was mainly used for cropping and focusing, but by looking at the world, and "previsualizing" not only the subject and framing, but the tonal range of the visual elements and how they would translate in terms of a final print. With the introduction of the 35mm SLR, this process was changed. Not only was the entire image clear in the viewfinder, but it was projected onto a screen inside the camera which flattened it. The extrapolation of that image from the actual three-dimensional world greatly simplified the problem of understanding how the final image would appear on the print, flattened and cropped. The rangefinder camera, which preceded the invention of the SLR, provided no such assistance since the image was not projected onto a flat surface, but viewed through a window that framed but didn't flatten the subject.

Today's digital cameras, with their built-in viewing screens, present the photograph in its finished visible form, as a digitized photo on a LCD screen, even before the actual exposure is made. Any adjustments for purposes of printing are done later, retrofitted through Photoshop or other similar program to match its end use, calibrated for screen or digital printer, which have uniform sets of inks and a limited expressive range. This compression of the picture-making process in its elimination of the necessity for the photographer to translate an experience of the world into a finished print in their mind prior to making the exposure, has changed the photographic process from creating an image from visual elements in the world to one of finding or arranging one that is already projected onto a screen, akin to Milton Glaser's notion of making design by collaging rather than creating form by observing the world through the process of drawing.

The way in which an image is performed affects the experience of that image.

**“The great limitation of most designers, now, is that they can’t create form, they can only find it. Or if they create it, it is rudimentary and clumsy. One of the reasons we are in the era of collage rather than observation is because most people don’t know how to draw. So that skill which appears to be an academic skill is actually a means to be able to visualize things, (to see).”**

*--Milton Glaser, award-winning designer*

Similarly, most photographers no longer know how to print, digital notwithstanding. Making, and then looking at a print requires a certain kind of “seeing”. Today, absent that quality, the effectiveness of a photograph only communicated on digital screens, must rely entirely on the attention-grabbing capacity of the imagery alone, which in turn demands a certain kind of imagery be embraced and celebrated, and others eschewed.

This is not unlike the idea that the same melody can be played on a variety of musical instruments, but the experience of it will vary with each playing. For example, consider the difference between a violin and a church pipe organ or the banjo and a saxophone. The decision of what this experience will be is as important as the creation of the original image and ideally should be established in the mind the photographer before the image is made.

The same image can be printed by many techniques to achieve a variety of effects. Historically, paper prints have been the most common means of preserving photographic images. There are many kinds of techniques that can be used to preserve or transmit the photographic

image; silver, gold, platinum, palladium, iron, can all be sensitized to light, as can watercolor pigments. Film-based transparencies can be used to project the image onto large public surfaces. Polaroid images can be beautiful, and some can be transferred to many kinds of materials producing a wide variety of visual experiences. Printing processes such as photogravure and photo silk screens use inks and pigments to create prints of great variety and visual power. Indeed, the many printing processes and materials that have been developed over the last century-and-a-half allow for a broad and exciting range of creative possibilities. However, increasingly the mass-cultural use of photography has been for purposes





There are no illustrations in this chapter as it is impossible to communicate the experience of a particular printing technique with another form. To experience the character of any given printing technique one needs to be in the presence of the print itself and viewing it directly. In the same way it is impossible to gain a meaningful understanding of the experience of medieval stained glass windows without being present in the building in which they are installed, in the relative darkness and solitude in which the experience is embedded and with which it is inextricably entwined.

of information alone, and even where this is not the case, the mechanical and electronic reproduction of prints with inkjet and electronic media pales in comparison to the expressive potential of these hand-printing processes. In the same way that sound reproduction equipment will eliminate subtle nuances of the original acoustic instruments by reducing the sounds to an electronic common dominator, inks and phosphors strip away the tonal distinctions still available with what are now referred to as “alternative” processes and reduce all imagery to a generalized and homogeneous visual experience.

The wide range of printing methods affords a viewer the opportunity to develop intimacy with a particular image in a way that is impossible if the image is not rendered in a permanent form. As in any human relationship your partner, either human or work of creative expression, has to be available for contemplation, and engagement over time for the development of understanding, appreciation and even love. Consider when you make your images how they will be performed and how these performances will be experienced by a viewer.



Walter Benjamin in his essay, "The Work of Art in the Age of Mechanical Reproduction," referred to the "aura" that works of art possessed. Like shaking hands with the President or a famous movie star, the aura is the emotional response we have when standing before an original work of art. This aura is in part a product of the object's actual physical history and its physical reality as well as the emotional reaction of the observer to being in the presence of a famous or storied object. That aura, according to Benjamin, is not transmissible along with the image when the image is reproduced photomechanically. He believed that this was a good thing as it made the content of art accessible to a large number of people. But no matter how many reproductions of the statue of David one sees in Italian restaurants, there is still an experience that is unique for those who have had the opportunity of standing in front of the original in Florence.

But unlike a Michelangelo sculpture photographic imagery, tautologically, by its inherent nature, is infinitely photomechanically reproducible, (although many hand-made, one-of-a-kind, or labor-intensive printing process may reduce this potential significantly) and as such original photographic prints have the potential to be made and distributed in large quantities. Unlike a given painting or sculpture, an "original" photographic print can be in more than one place at the same time. This means that photography is one of the forms in the arts such as printmaking and cast sculpture in its unique ability to be both an "original" and reproducible at the same time. This affords the photographer an opportunity to make and distribute original works, as well as for a wide audience to experience them. The problem with prints, unlike digital images, is that they cannot travel to the viewer. The viewer must travel to them, to a public exhibition or a private viewing in an artist's studio or a collector's home.

It is important to remember that the creative possibilities for performing the photographic image are vast and fascinating for those interested in pursuing it. Consider when you make your images how they will be performed and how these performances will be experienced by a viewer.

**Considering only black and white imagery over the last two centuries photographers have had a variety of materials available to be employed to hold their imagery, each with its own subtly or dramatically different visual characteristics and qualities.**

- Iron – (Cyanotype) One of the first photographic processes. Today, many photographers seeking to make beautiful, extremely permanent prints continue to use this printing technique. Initially blue, its color can be chemically modified to many tones.
- Silver – the most common photographic printing material, readily available, providing a wide range of tones. Can be held to the paper base with a variety of adhesives (at first egg whites, now most commonly gelatin, or allowed to soak directly into the fibers for a softer appearance. Gold – popular from the late 1800’s through the first decades of the 20th century. Produced a lush reddish brown tone.
- Platinum – known for its long tonal scale, lush silvery blacks and extraordinary permanence. Once commercially available, today it is hand coated by the artist.
- Palladium – similar to platinum albeit cheaper to work with.
- Pigment prints – there have been a variety of techniques developed that utilize the idea of laying down various densities of pigments to build up an image and tonal range. One of the most popular utilizes gum Arabic (the binder for water color paints) and a sensitizer that causes the gum to harden upon exposure to light, binding the selected pigment to the paper.
- Bromoil - Bromoil prints capture the atmosphere of a scene in a way that is not possible with conventional printing. They featured widely in photographic exhibitions and journals in the 1920s and 1930s.
- Photogravure – traditionally an etching process utilizing copper plates or, more recently, light-sensitive photopolymer plates, which are similarly inked and printed with an etching press.
- Modern inkjet printers employ pigmented inks that are deposited on paper or other media. Initially the printer resolution was rather low, but recent improvements have allowed extraordinary tonal range. However, they cannot render detail below certain threshold that is far from the capacity of emulsion-based exposed directly to a negative, which potentially allows, even requires an intimate relationship between the photograph and the viewer.
- Luminescent crystals - digital screens employ glowing phosphors, crystals or other light-emitting chemicals to create an image. The image is transmitted not as reflected light, but directly, by looking at the light source itself.

## Resources:

Since it is not possible to actually enjoy the experience of an original print unless you are in its physical presence, how does one learn more about them? Visits to museums and galleries where they are on exhibit provide the most convenient access, but the images you might like to see are not always on display. However, many museums have permanent collections which are available by appointment to scholars, students and others interested in photography. Generally, the request to see prints has to be specific and limited, but once you identify a kind of process and a photographer or two, you can locate a collection that has them and arrange to see them. The beauty of photography is that multiple prints can be made, so collections around the world can have prints of the same image. Universities, too, often have museums or collections, particularly those with art programs, as do libraries in major cities.

## Museums and Collections

- **Museum of Modern Art, New York City, USA**

The MoMA collection is one of the most important in the world, consisting of over 25,000 works, not only by photographers, but also journalists, scientists, entrepreneurs and amateurs.

- **Metropolitan Museum of Art, New York City, USA**

Spanning the history of the medium from its inception to the present, the Met collection contains over 25,000 works including many rare examples by pioneers like William Henry Fox Talbot and Felix Nadar, as well as important works of photographers like Berenice Abbott, Brassai, Walker Evans, André Kertész, László Moholy-Nagy, Man Ray, Harry Callahan, Robert Frank, William Klein, and Garry Winogrand.

- **The Victoria and Albert Museum, London, England**

London's Victoria and Albert Museum, also known as The V&A, began collecting photographs in 1852. One of the most comprehensive archives with over 300,000 images dating from 1839 to today.

- **Tokyo Metropolitan Museum of Photography, Tokyo, Japan**

The Tokyo Metropolitan Museum of Photography is an institution focused on both Japanese and international photographers, with a collection of over 25,000 images

- **Fotomuseum Winterthur, Winterthur, Switzerland**  
 Founded in 1993, around 8,000 photographic objects form part of their archive, which contains works from the 1960s up to the present and include black and white photographs, print works, posters and artist books, digital and analogue imagery, projections and installations.
- **The Museum of Fine Arts Boston, Boston, USA**  
 One of the oldest collections in the country. In 1924 they received a donation from Alfred Stieglitz, in the form of 27 of his own photographs and then again in 1950 with a complementary group of 35 more prints, given by Georgia O'Keeffe.
- **The Museum of Contemporary Photography, Chicago, USA**  
 Chicago's Museum of Contemporary Photography's permanent collection focuses on American and international photographs of the 20th century featuring works Henri Cartier-Bresson, Julia Margaret Cameron, Dorothea Lange, Irving Penn and Aaron Siskind, among more than 10,000 photographs and related objects; gelatin silver prints, color work, digital pieces, photographs and various alternative processes.
- **The Sam Wagstaff Collection at the J.P. Getty Museum, Los Angeles, USA**  
 From 1973 to 1984, Samuel J. Wagstaff Jr. assembled one of the most important private collections of photographs in the world. With more than 26,000 objects, the collection spans the experimental beginnings of photography in the nineteenth-century to the works of artists active in the 1970s and 1980s.
- **George Eastman House, Rochester, New York City, USA**  
 The George Eastman Museum is located on the estate of George Eastman, the pioneer of modern photography film. Founded in 1947, it is the world's oldest photography museum. The museum holds unparalleled collections—encompassing several million objects—in the fields of photography, cinema, and photographic and cinematographic technology, and photographically illustrated books.
- **Allan Chassanoff Collection, Museum of Fine Arts, Houston, USA**  
 In November 1991, New York collector Allan Chasanoff donated to the museum 950 twentieth century photographs by 500 different photographers from 18 countries. The strength of the collection is post-1945 works by contemporary artists.

## Websites

The web, of course, also offers an enormous resource for information on traditional and alternative printing processes. I will suggest two to begin the journey:

- **<https://www.penumbrafoundation.org>**

The Penumbra Foundation is a non-profit organization that brings together the Art and Science of Photography through education, research, outreach, public and residency programs. They offer workshops in a variety of printing processes. Their offices and center on East 30th Street, in New York City, reside just around the corner from where the famous *291 Gallery* created by Alfred Stieglitz was housed.

- **<https://www.AlternativePhotography.com>**

This website shares images and information about historical photographic methods in use today.