

The Language of Photography

(Introduction)

by
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Introduction

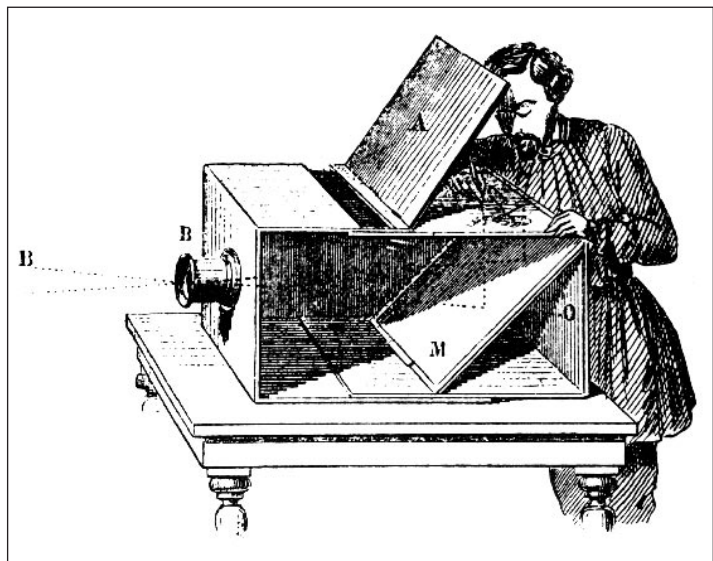
A Brief History of the Photographic Image

It would seem logical to think of the camera as the defining tool of photography. After all, how could you make photographs without one? But long before the invention of photography the camera was used by artists to create images. Painters such as Leonardo da Vinci in Italy delighted in its visualizing power while Vermeer, in Holland, copied the images he saw in the *camera obscura* onto canvas so faithfully that parts of his paintings appear in focus and other parts out of focus.

After the Renaissance, the camera came into widespread use in the west as a tool to help painters visualize their subjects and frame their compositions. Although the optical principles on which the camera is based had been known for centuries, the *camera obscura* was seen

as particularly valuable because it could automatically create a rendering of the two-dimensional world that had a consistent, mathematical space. In this space, the placement of objects was determined by rules of mathematics and geometry, and their locations on the canvas corresponded to potentially real and identifiable locations in the physical world.

This approach to painting had its roots in the Middle Ages. Medieval Europe was a time of transition. The known world was slowly expanding. The Crusades had opened up the distant parts of the world in the minds of the Italians, and voyages of discovery, like those of Columbus and Marco Polo, were bringing



Dionysis Larder, Nineteenth Century Camera Obscura, 1855.

back treasures, both material and intellectual, from the vast world beyond the geographic confines of continental Europe. Yet, the development of a new worldliness at the end of the medieval period did not occur without resistance or conflicts. The Church was the principle authority, both secular and theological during the Middle Ages. The new interest in the material world went directly contrary to its teachings, which viewed the world as profane and to be shunned.

However, as the Italian middle class grew in size, wealth and power, it eventually found the rigid morality of medieval Christianity too confining and restrictive. As a consequence of their seamanship and excellent harbors, Italians were at the forefront of navigation, exploration and trade. With the growth in commercial wealth and political power of the upper-middle class, the move into the natural, secular world became irreversible. Ultimately, the best strategy for the church was one of accommodation.

It was essential, therefore, that there evolve a means by which both traditional Catholic dogma and a secular, materialistic world view could coexist. The foundation for this was laid as early as the middle of the thirteenth century when theologians such as Roger Bacon put forth the notion that there was nothing to contradict a belief in the union of mathematical logic and God's divine grace. Later, the English mathematician, Thomas Bradwardine, reflected on the idea understandably popular with Italian painters of the fourteenth and fifteenth centuries, that the theoretical, infinite space of mathematicians and the physical space one sees before one's eyes are one and the same. The material world itself, in this way, was ready to become a symbol of God, and mathematical perspective emerge as a system that allowed artists to represent this material world in terms of the divine grace of pure mathematical logic. The *camera obscura* was the ideal tool to utilize mathematical principles to create images—principles that in their purity and beauty the Church accepted as mirroring the mind of God.

To a humanist who thought in terms of a visual world ruled by mathematical law, the city of Florence in the fifteenth century was a microcosm of God's divine order. Not only were paintings, sculpture and architecture constructed in accordance with the purity of theologically sanctioned geometry, but the construction of farming terraces was carried out according to those same geometric canons. Not only were the terraces a testimony to the harmony

between mathematical order and God's providence to man on earth, but their efficiency increased profits as well.

One of the consequences of society valuing the camera's image was the development of realism, the resemblance to the "real world" as we see it, and a rejection of the imaginative, symbolic idealizations inspired, if not actually mandated, by ascetic church dogma, and that had characterized art in the west for a thousand years. Painted images based on mathematical perspective could

"Who would believe that so small a space could contain the image of all the universe? O mighty process! What talent can avail to penetrate a nature such as these? What tongue will it be that can unfold so great a wonder? Verily, none! This it is that guides the human discourse to the considering of divine things. Here the figures, here the colors, here all the images of every part of the universe are contracted to a point. O what a point is so marvelous!"

--Leonardo Da Vinci on the Camera Obscura

correspond point for point to some aspect of reality that was verifiable, reproducible and consistent. Even depictions of angels or mythological beasts could be made to seem real and tangible. As science replaced religion as the principal means by which the world was explained and understood, Renaissance perspective became an increasingly valued tool for structuring images, describing the material world and its contents, and celebrating our dominion over it.

The use of *camera obscura* by artists supported the belief that painted space, when true to the camera's optics, reflected the orderly working of the mind of God. Once emulsion replaced the fallible hand of the artist, this notion found continued expression in the nineteenth century's belief in the inherent Truthfulness of the camera's imagery. This faith was expressed in the very word Daguerre used for his camera's lens: "*objectif*". Subsequently, the belief in an orderly, rational universe as espoused by Enlightenment thinkers of the eighteenth century came to underlie our embrace, in the nineteenth century, of the camera as "a faithful witness." To the extent that we continue to hold to this conceit in the face of the growing capacity for seamless digital dissembling that, like the relentless power of the tides, threatens to erode the technical basis for this faith, it continues to sustain our belief that a photograph does not lie.

With the advent of the industrial revolution at the beginning of the nineteenth

century, the esteem of the machine-made artifacts caught up with and eventually replaced the value of the traditional, hand-made object. With that shift, the use of pigment and canvas to preserve the imagery of the *camera obscura* came to be seen as inherently flawed. Pigment and canvas could be manipulated to distort the truthfulness otherwise inherent in the physical and optical principles that underlay the camera's imagery.

With the spread of industrialization into all aspects of Euro-American society the arts, too, fell under its influence. Painters for centuries had used the *camera obscura* to help construct their imagery. In the early years of nineteenth century, however, a chemical means for preserving that imagery that did not depend on the skill of the artist or allow for subjective interpretation or manipulation became the subject of a massive search. Chemistry, like physics, was seen to be based on consistent and transcendent scientific principals and was considered the perfect alternative to the fallible hand of the artist. Kitchen chemists all over Europe searched for a light-sensitive formula that would hold the *camera obscura's* image. Lens makers were swamped with orders for photographic lenses, and rumors of imminent discoveries and secret formulas abounded. By 1837, it was done. Daguerre in France and Talbot in England had succeeded in using light and chemistry alone to hold the *camera obscura's* image. Their invention came to be known as photography—literally “painting with light”. With the development of a viable, light-sensitive emulsion, photography as we know it was born. The use of this emulsion to capture the *camera obscura's* image distinguishes photographers from other artists who might use the same imagery, but non-filmic, or now, non-electronic techniques to capture it. It is this technology of emulsion-based imagery, not the camera, that distinguishes photography from the other arts and can be seen as its defining characteristic.

The idea that the camera's images corresponded to reality in a mathematically predicable and reliable way appealed to the Enlightenment's notion of an orderly universe. Nineteenth-century scientists saw in the camera's ability to record detail and spatial relationships in a consistent and predictable manner a valuable tool for their own inquiries into the natural world. With the invention of photographic emulsions they were able to use the Renaissance's “rational” lens to explore the visible and invisible worlds of nature. In America, western geographic explorations of the nineteenth century such as those led by John Wesley Powell, Clarence King

or Ferdinand Hayden took photographers with them to make reliable records of the natural phenomena they encountered. For the same reason, Apollo astronauts took cameras with them to the moon.

At the same time, many saw in photography not only a tool for scientific investigation, but recognized in the camera's long history as an aid for painters and artists, a new opportunity for creative expression. In their attempt to demonstrate to a tradition-bound art academy that photography had potential as a creative form equal to painting, these photographers lighted upon the strategy of mimicking established art styles, continuing both in the imagery and their techniques the approach of centuries of painterly traditions.

The Camera Can Be Automated, Image-Making Can Not

Today, images created by the lens are preserved not only chemically but also electronically, still and in motion, and modern technology has made this recording process almost completely automatic. All the contemporary photographer, filmmaker or videographer need do is literally "point and shoot". Although it seems that the art of photography itself has become automatic—millions of images are produced and distributed daily to mass-markets around the world—only part of the process has, in fact, been automated, specifically, the nineteenth century's emulsion-based strategy for preserving the image. The creation of the underlying imagery, which is the aspect of photography that has been employed by generations of artists since Leonardo and his fellow Renaissance painters first looked through their *camera obscuras*, continues to be dependent upon the creativity and imagination of the human mind.

As an image-capturing device, the camera, like the word processor, is only a tool—a mechanical extension of the human hand. No one can deny its enormous potential. Today, computers can publish books, printing and binding pages of perfectly spelled text, producing finished products that have the potential to rival the production of publishing houses. But despite experiments with programs that generate short passages of coherent text based on programmed principals of language, computers cannot "write" any more than automatic cameras can "create" meaningful imagery.

To the extent that these computer programs work, a camera containing an

infinite supply of film, could eventually produce random images of great beauty and substantive content. However, this output, in fact, represents no more than the visual version of the thousand monkeys at a thousand typewriters generating lines of type that produce, by chance alone, the occasional line of Shakespeare. The comparison to the camera is a significant one: photography is more than just random, two-dimensional mathematical rendering of the three-dimensional world, as literature is more than just a string of randomly generated words preserved on paper. Photographs are vehicles for communicating ideas and feeling that are today, as they were for millennia, the province of human imagination, creativity and expression.

The popular idea that the camera can automatically preserve some essential quality of experience is more the result of the campaigns of the photographic industry's "marketeers" than the reality of photographic processes. Experience is far more complex and multifaceted than any lens is capable of recording or any emulsion, electronic or chemical, moving or still, is capable of capturing. This is evident to anyone who has had to look at someone else's vacation pictures. Their makers may have had a wonderful time, but the images rarely communicate the depth and range of their experiences. To make up for the deficit, vacation snapshots are almost always accompanied by an exuberant narrative that includes far more than what appears in, or is communicated by the pictures alone.

Photographs fail as stand-ins for original experience because when we look at a scene, we experience the world with all our five senses. Lenses transmit, and emulsions record, only one aspect of this total experience: sight. That record is further limited when compared with the vast, multifaceted dynamic of actual visual experience by the fact that the images are small, static, and of limited tonal scale. The range of tones in a photograph come nowhere near to the range of colors or light intensity of the original scene. This is evident, for example, to anyone who compares a 4"x6" color photo of a sunset to the real thing.

So the real question for photographers today is still the same as it was one-hundred-and-fifty years ago: how do you make an image—where do you point and when do you shoot? To answer that question one needs first to understand that photography communicates, has power and meaning, when its imagery is based not only on the mechanical/chemical rendering onto film of what is occurring in

front of the lens, but also on a shared visual language that has evolved over the last five centuries. In the same we use words to communicate the essence of an experience, the lens can create images that can communicate ideas and feelings and information.

To do that one needs to understand the underlying language of photography, and to master its principles. Images, like words, can only evoke a sense of experience, they cannot reproduce it. The commercial photo industry attempts to create products that they claim reproduce the experience of reality. The newest ink-jet printing technologies, for example, are touted for their realism. But all this self-promotional hoopla downplays the more basic fact that in the end it is not the camera that makes the photograph, it is the photographer. Although print technology is an important component of the delivery of the imagery and can deeply affect how an image is perceived and/or experienced, it is not in the print technology that meaning resides, it is in the imagery.

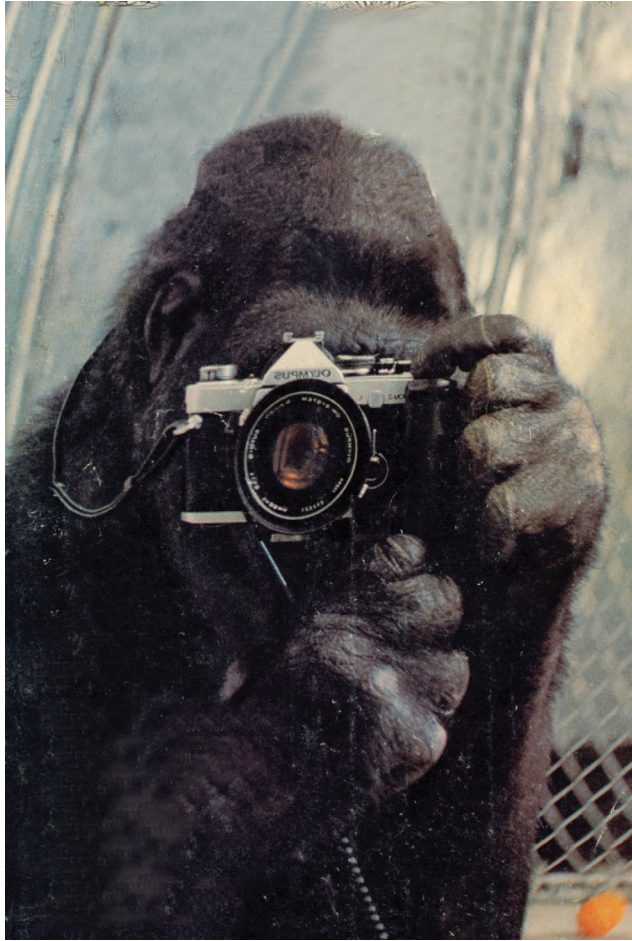
To understand how to make a good image we need to investigate how the camera “sees” and examine the basic principles on which the visual language of photography is based. This language, like any language, has a structure. The structure of the language of photography consists of the following elements:

- **Light**
- **Time**
- **Composition**
- **Object**
- **Subject**

The application of this structure can be stated as follows:

The task of the photographer is to find a moment when the light is such that when transmitted by the lens onto a two-dimensional surface the resulting image communicates the very qualities of experience (object) that were the reason (subject) for wanting to make the photograph in the first place.

In the following chapters we will look at the different elements of the language of photography in detail, and explore how photographers can use this powerful visual tool to communicate their ideas and feelings about the world.



Koko, Self-portrait, 1978

The extraordinary appeal and power of photography lies, in part, in the camera's ability to create images that are structured very similarly to the way eyes and brains actually perceive the world. The information they contain can be recognized and appreciated for the most part without special training or additional interpretation. Koko, the gorilla famous for her work learning human sign language, has also learned to use a camera and enjoys taking and looking at photographs. Modern technology has automated the picture-making process to such a degree that no understanding of the technical principals involved in making a photograph is necessary to produce them. However, there is an aspect of meaning in photographs, in their ability to communicate not just facts, but complex ideas and feelings, which

resides in a separate visual language that artists have developed over centuries, and that like English, French, Chinese or sign language has structure and rules.

The photographs selected for this book are used in particular sections to illustrate specific points about light, time, composition, etc. However, they also can be considered and appreciated as examples of the other elements in the language of photography as well. Although a picture may illustrate a particular point about light, it is also of a moment, and has a composition and design structure that works beautifully. It is worth going back and having a second look at all the images after you have finished the book and ask yourself in each case, how has the photographer put together all the elements to make a successful photograph?