On Photography

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"Aesthetic of Impossibles" ArtBook Series

Exploring and celebrating being human is an abiding passion. I especially honor as a distinctive human gift our capacity to hold together without resolution things declaring them to be the same, even identical, while knowing they are not the same at all. A metaphor is to understand one thing by equating it with another that we know it is not. Art, ritual, language, maps, play, and masks all equate things we know are not the same. Impossibles! More than an interesting quirk, I find these impossibles a distinctively human and quite common source of power and value. Relying on its Greek roots "aesthetic" is not limited to concerns with beauty but rather suggests something more like "I feel, I sense, I perceive, I know." A bodied feeling kind of knowing. Linking aesthetic with the notion of impossibles opens for consideration, exploration, and sheer wonder this human capability to feel, sense, perceive, and know in ways that defy the banal terms of reason alone. Each volume in the series explores in words and images an arena of this aesthetic of impossibles.

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1. *On Photography* (2021)

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On Photography: An Introduction

On Photography is a collection of essays, incidental pieces, on photography largely from the perspectives of making and creating images and of viewing and appreciating the images themselves. It is a collection of hopeful philosophical notes on photography. I am but an incidental student of the history of photography knowing but bits of either the development of photographic technologies or of outstanding photographers and the images they have made. Photography, making pictures, has been a persistent avocation for decades increasingly so in recent years. I risk sounding a bit highfalutin by calling these essays philosophical notes, yet I do so simply because I'm interested in the nature of photography, that is in exploring, hopefully enhanced by my long academic studies and personal experience, what distinguishes photography. I hope this volume might inspire conversation.

Like so many things in my life, the more diverse my interests, one from another, the more related and entwined I experience them to be. The result is that I experience my life as an oscillating expanding and contracting network comprised of my many interests. I have pursued each of these interests separately, yet in the very act of my doing so, I constantly discover that they are all about common leitmotifs, ideas, feelings, and delights. My study of religion theory, my study of specific religious traditions, my study of dances and dancing theory as well as my own ongoing dance practices, my study of self-moving and the philosophy and biology of moving, my study of technology and futurist concerns and my fascination with robots and androids and cyborgs, my study of the human senses, and my study of photography and my constant efforts to make images and improve my ability to do so are each separate interests. I have written articles and books on most of these areas separately. Yet as these passions have been independently pursued, they constantly entwine and interact in creative encounters revealing common elements. This ArtBook series is an effort to explore the similarities among the differences, the proclaimed impossible samenesses, in the terms of an *aesthetic of impossibles*.

I was surprised to realize I had immediately settled on photography as the topic of the first work in this series. The choice was motivated by my late career disenchantment with academic writing and its restricted readership. I've been experimenting with more publicly accessible styles and genres especially the combination of short relatively non-technical hopefully a bit poetical writings and my own photo images. To further my idea of mixed media works, I felt the need to learn about and explore as deeply as time allows the nature of photography and to develop my own distinct understanding. In doing so I was delighted that, as I should have anticipated, my emerging philosophy of photography fit well with what I call an *aesthetic of impossibles*, the organizing idea of this series of short volumes.

Given my academic history in which I have honed the skills of academic research and writing I am gesturally naturalized to easily imagine essay topics and how they relate one to another and comprise something cumulative. I have yet to develop such skills with photos. I clearly see the limitations, even the error, of considering photos as representational. I also firmly hold that photos should be an alternative, rather than a supplement, to words. Images need not be justified by being translated into some language-based statement of their meaning. I'm interested in exploring and appreciating how images impact quite differently, yet no less importantly, than words. Yet, when it comes to imagining and making images on a specific theme or idea, I find it remarkably challenging to do so without reducing them to clichéd or naïve illustrations of writings or to some programmatic overly obvious connection that totally abuses what I assert as the power of photo images. I'm frustrated by not having developed the skill and experience to achieve my goals in making and selecting photos for these volumes. I retain the format with photos being as prominent as words (at least as much as I am capable of) as a challenge I know I'll fail yet must attempt. I beg tolerance of obvious failure while hoping that the effort might at least inspire others with greater creative imagination and skill.

On Photography is an introductory exploration, a set of incidental musings, a sharing of accumulated insights and questions, an exploration of new genres, a joyful journey into new and old, and a late life unfinishable celebratory indulgence.

Writing with Light?

The word "photograph" first appeared in a paper read by Sir John Herschel (1792-1871) before the Royal Society on March 14, 1839. It derives from photo- "light" and -graph "something written," thus photography is "writing with light."

As an academic my life has been one of reading and writing, yet over the decades my interest in photography has persistently grown. Primarily I like making images with some interest in the philosophy and history of photography and the appreciation of photographic art. The combination of instrument and intention and observation expanded to include post processing, computer-based or in darkrooms, has always seemed magical. One uncovers a pinhole in a black box. Light crosses to the back of the box, flipping the world upside down but not side to side, where it is affixed, via chemicals or light-sensitive electronics, as an image. Then that image can be altered and adjusted and printed or projected for viewing. The relentless changes in space and time that characterize the world are defeated in this process as also are its three/four dimensionality in the enduring two-dimensional image that one can endlessly contemplate. Photography performs transformations that are ontological, that is, a shapeshifting across realms of reality itself.

I love writing and describe my experience doing so as akin to that of the alchemist. Writing proceeds from the accumulation of experience living and reading and thinking accompanied by a mounting force that demands liberation as a stream of black squiggles on white paper. It is a stirring swelling emotional process that is a feeling bodied time-consuming process of creating. My word-processing computer serves as an interface. My near unconscious touch of the keys serves the inexplicable flow. Reading what I write I often find myself surprised. "Didn't know I knew that? Where did that come from? Interesting."

There may come a time when my camera is so gesturally naturalized as a prosthetic that I can make images without thinking about settings and technical details, but I'm a long way from that. The camera, to me, is not principally an interface. It is a computer equipped with Artificial Intelligence (AI)—the interface the finger push of the shutter release—that is a profoundly complicated machine-intelligent partner in the creation of an imagined image. My experience making images is different than my experience writing. My experience looking at photos is vastly different than that of reading what I (and others) have written.

This disparity leads me to question the implications of the term photography as "writing with light." Writing is thousands of years old, yet common literacy was enabled only upon Guttenberg's invention around 1439. The history of photography, much shorter, parallels the history of writing. The origin of photography tagged to 1717 yet is more popularly attributed to Louis Daguerre in the 1820s. Common folk became photographers with the invention of the cheap box camera by Kodak before 1900. Different, both histories revolutionized humanity.

One thing that has attracted me to photography is that I believe it defeats, at least irritates, the language-basis for value, the assumed standard in the West. While it is common to suggest an image "tells a story," to search for a hidden "meaning" in a photo, or to "interpret" an image (to render its significance in words), my inclination is to honor what distinguishes an image. It is a transduction of a sensory rich time- and space-drenched reality into a two-dimensional, present all-at-once, space-bounded visually accessible enduring material form. It both appears and is visible all at once. It is not written, it is not captured, it is made, created, with intention or not. Photos may illustrate a story. Photos may suggest to a viewer a scenario or story. But these are supplemental and non-essential rather than substitutional.

My abiding interest is in comprehending and appreciating human distinctive capacities. Certainly, writing is an ancient and remarkable example of a distinctively human trait that gives rise to the externalization of thought and memory and the durability of speech. It is essential to the recording and consideration of history. I suggest that we more fully appreciate photography as serving a distinct, if sometimes parallel, function fundamentally different from language. At core a photo is "of" something in the physical world, thus demanding a comparison, if tacit, of image and subject. As an "image of" at core it is "not" what it "is." Making a photo image halts the movement of, miniaturizes, condenses, and drops the depth dimension of the distinctive nature of the reality of the subject. It forces us to engage in a complex creative encounter involving the viewer of the image, the image itself, and the brute reality that is the subject of the image. This shift, this process, exercises perhaps our most distinctive human faculty, an aesthetics of impossibles. Perhaps "light imagining" or "light image creating" or "light image creative encountering" is preferable to "writing with light"?

The Body

Camera obscura, Latin for dark chamber—a pinhole in a surface through which light is projected on to another surface usually inside a black box—appears in Paleolithic cave paintings. It has a long and continuous history leading to the modern camera. The similarity to body is evident.

Philosopher Brian Massumi opens his 2002 book *Parables for the Virtual*, "When I think of my body and ask what it does to earn that name, two things stand out It *moves*. It *feels*." There is a long history from Plato through Descartes to New Age spirituality of giving short shrift to being bodied. Yet from the moment of birth to our last breath we are undeniably feeling animate organisms. The organic unity that is body is primary as is our self-moving that is synonymous with life itself.

We often project the distinction of our own bodied physicality onto the things we make and encounter. So many things have arms and legs, hands and feet, heads and bodies, faces and backsides, male and female. The world makes sense in terms of the moving feeling anatomy of the human body. Differently bodied we would experience and perceive a different world.

It is commonly understood that we acquire concepts through the abstract nonmaterial mental faculties, hard intellectual effort. Yet Maxine Sheets-Johnstone, Maurice Merleau-Ponty, and Michel Serres show that concepts, no matter how seemingly abstract, are gained through our experience as self-moving human bodies. Such fundamental conceptual distinctions as in/out, in front/behind, above/below, head/foot, forward/backward, and many more are concepts gained through the experiences of our earliest movings. We are born into the world moving, the action of life itself, and in our most basic bodily gestures and postures we immediately begin, in our first groping gestures, to feel the distinctions that ground all concepts no matter how sophisticated and abstract, even those of advanced theoretical mathematics.

The profundity of Massumi's statement is its insight that bodies are feeling and moving, the locale of experience, perception, knowledge. His courage is in suggesting that moving and feeling, both thoroughly body, have primacy such that even what we understand as mind, soul, spirit, essence are concepts that arise from being a living human body.

The trajectory of my entire academic career has been the increasing concentration on exploring, understanding, and appreciating the human body as an animate organism, that is a self-moving body. I've paddled against the tide of my peers and the folk, who foreground the primacy of mind and spirit, the body an unfortunately necessary vehicle.

When one begins to take photography seriously the acquisition of equipment becomes complicated. The experience of the acquisition is on the order of an initiation. The foundation of all pieces of photo equipment is the camera *body*. To it are attached the lens (eye) and tripod (feet). In the guts of the body are the unseen, yet critical, parts. The mirrors, the prisms, the film guide or sensor (senses), the film or storage medium (brain), the shutter (eyelids), and the aperture (eye pupil) to begin. Cameras manufactured over the last couple decades—true digital cameras began in the 1980s—are equipped with extraordinarily complex and sophisticated computers (brains). Artificial Intelligence is increasingly sophisticated. Data recorded for a single image can easily reach twenty megabytes. Memory cards can store up to a terabyte.

Increasingly camera bodies mirror and prosthetically extend and enhance human bodies. As the various camera body components are named for and correspond with human body parts, the camera body is ergonomically designed to be easily held and operated by human hands and to efficiently interface with human anatomy, principally the eyes and the fingers and thumb.

Human perception has, in recent studies, come to be appreciated as active and agentive, projecting ideals and expectations through the senses to construct as well as to record the external world. Perception is at once subjective and objective, entwined with the distinctively evolved human body architecture. The evolution of camera technology corresponds with perception allowing the photographer to create the world as imagined while also recording it objectively. It is remarkable that recent developments in the philosophy of perception—shifting from passive objective recording to subjectively active projection—are operative in the design aims for the development of camera bodies.

The design and the gestural use of camera bodies also replicates those foundational human concepts such as inside/outside and in front/behind. Photography is dependent on the repetitive practice that builds organically based skill. It is also fascinating that camera technology has increasingly moved toward the creation of the virtual, that is the creation of something that recreates with light and shadows and binary bits in two dimensions the rich fully material three-dimensional world.

The Lens

The serious photographer has a selection of lenses: prime, wide angle, zoom, telephoto, auto-focus, speed (the size of the aperture), weight. The price of a lens correlates with quality, a measure of aberration. Selecting what lenses to purchase, since they are often expensive, is done carefully and with considerable study. Choosing which lens to mount on the camera body for a specific situation requires knowledge and experience. Cost conscious I have settled, for the time being, on three excellent quality lenses that cover the wide variety of photography I like to do. Investment in lenses usually amounts to much more than the selection of camera body.

The most fundamental measure of camera lenses is its accuracy of reproduction. While distance, magnification, field, light sensitivity, depth of field are all concerns, accuracy is primary. Computer software that facilitates post processing typically includes the correction for any aberration known for any specific lens.

The primacy of lens quality is inseparable from the fundamental distinction of photography itself. The lens is the mechanism that focuses light emitted or reflected from a chosen subject onto the light sensitive surface in the dark camera body. The implication is that what is "out there," our subject, should be accurately replicated "in here," recorded on the camera sensor. Isn't that the whole point of how we value lenses? Certainly, there can be no sense of photography without the presence of the assumption of replication.

Replication is the most fundamental way of distinguishing photography from painting. Photography is, at base, mechanical reproduction of some extant real subject that exists independent of its reproduction while painting is the human mediated replication or interpretation or invention of any subject that may or may not have an independent counterpart in the non-painted reality.

It is accurate mechanical reproduction that links photography with surveillance and documentation and witness and truth. It supports the automatic fee system of unattended license plate cameras on toll roads. It supported energizing the Black Lives Matter movement following the video recorded murder of George Floyd and the conviction of the cop that murdered him. It is why weddings and graduations and birthdays and other significant occasions are photographed. The resulting photographs are considered equivalent, in some essential sense, to the event itself. Paintings of the same events would be valued quite differently.

Painted portraits and historical paintings such as those of Native Americans painted by George Catlin (1796-1872) are often consulted as representational and documentational. Then consider the photographer Edward Sheriff Curtis (1868-1952) who traveled for years with a huge glass plate camera photographing Native Americans producing a twenty-volume work (1907-1930) containing fifteen hundred photographs printed in large formats and presented in portfolios. Yet it is well known that Curtis posed and costumed his subjects, removing through photo processing any items suggesting civilization, to create highly romanticized concocted images of his subject. Despite the representational objectivity of the lens, we begin to appreciate that from its earliest examples, photography is as subjective as it is objective. Even using the simplest most automatic camera, the photographer has a vast range of possible subjective influences on the resulting photograph. Over the history of photographic technology, the potential for the subjectivity of the photographer to shape the image has become near infinite. I have a 42-megapixel camera and have moderate skill using post processing software. I am overwhelmed by what is possible in shaping and creating images working with digital information built from raw reality. Photography has as much potential, if differently exercised, to be art as has painting.

With my growing experience and knowledge of photography and my persistent reflection on its nature or, to be a bit snooty, its philosophy, I increasingly appreciate that the near universal interest in taking, making, collecting, observing, and displaying images is inseparable from the impossible conjunction that marks its distinction. It is at once, as essential to the lens, objective true representational documentational, but also, as essential to the human picture maker, utterly personal subjective creative artistic interpretive fabricated. I believe that the inherent interest in photography and images is the feeling kind of knowing that neither aspect of this impossible conjunction can be removed or reconciled with the other. Even more foundational to this feeling is that the power of the photograph proceeds from embracing this impossible. It is true, it is made up. It is objective, it is subjective. It is the real world; it is fabricated artifice. The lens focuses on this magic.

Landscape Photographs as Simulacra

I love landscape photographs. I suppose this admission is akin to one who deigns to be a theater sophisticate saying she loves Andrew Lloyd Weber. And I do. On social media I follow several landscape photographers oohing and aahing at their dazzling sensuous images. Where on the planet are these vast pristine gorgeous places? How can anyone have the skills to make such pure images? Most have had the experience in an expansive scenic location of feeling in awe by the grandeur wanting to save the experience somehow by taking a picture. Yet, our hazy tiny indistinct pictures so often disappoint.

Among all the traits that distinguish photographs, surely the most fundamental is that they show the world seemingly as it is. Simple physics. Light from the world is focused by the camera lens on the film or electronic sensor creating an image. A world replica! Yet, our sad hazy indistinct landscape pictures threaten this most characteristic quality of the photo image. What the hell happened? That's not what I saw. We often blame it on the technology, the camera.

Yet our most basic assumption that photos are true representations of reality should also be threatened by the powerful super detailed, amazingly clear, perfectly lighted and composed, images of the accomplished landscape photographer. Should we care to study the process used by professionals, even by advanced hobbyists, to construct the final image, we learn of astonishing camera and post processing computer technologies. The extent of artistically applied alterations includes more than adjusting exposure and contrast, cropping, and straightening. Common are such radical changes as removing powerlines or unwanted people, anything distracting. Colors are enhanced, hues are shifted, vibrance and saturation are dialed up or down. Haze is removed with filters or post processing adjustments. Perhaps even the sky is replaced, a sunset added. Dappled light can be splashed on hillsides. Anything imaginable is possible.

Reflecting on the implications of this maneuvering, we surely begin to appreciate that the pictures that look the most real are often the ones most constructed. For reality to appear real in photos, the image must be extensively built. The image is a simulacrum (the word means image or likeness) made perhaps to match the photographer's memory or ideal of her perceptual and emotional experience. Perhaps these adjustments are needed to overcome technological shortcomings. More profoundly we might imagine that adjustments are necessary because human perception is active and organic and individual and not objective and mechanical, thus not accurately mirrored by the cold objectivity of camera technology. Perhaps the photographer manipulates images to accurately create what she saw, what she experienced.

But then, why stop there? Why not create a simulacrum of what one imagines a pristine Edenic landscape should be? Or once was? Given our common, if tacit and unspoken, presumption that photographs objectively present reality, such constructed photos have great power and serve important social and psychological needs. We do not consider as false what we see in these images. We see the natural world seemingly objectively captured. Isn't that what the camera does? We can't help but see as real what is, if unacknowledged because unaware, a hyperreal landscape. One realer than real. Landscape photographs, it might be argued, have a greater power than landscape paintings in their ability as photos to assure us of the truth and accuracy of our nostalgic, romantic, associations with the natural world. What we hope the natural world to be is evident right there in the photograph. Don't you see?

Particularly at a time when there is vast devastation of the natural world due to industrialization and over-population and overuse and climate change, landscape photographs offer some respite from our tenuously sequestered guilt. The landscape photo genre amounts, in the terms of French philosopher Jean Baudrillard, to a "precession of simulacra," images that offer a constructed reality that is preferred to, is seemingly more real than, brute reality. Indeed, this simulated reality comes to precede and to serve as the baseline measure for what we experience as real. The photographs present a landscape that is Edenic, that is, of the ideal past but, importantly, also here now, present in its vastness and grandeur. Ahh, see we haven't ruined the planet after all.

Adventures in nature are often planned as an attempt to replicate the experience of a place we have seen in landscape photographs. The places themselves are rebuilt to optimize replication of photos. Vista points, tourist pullouts, photo stops are carefully designated. Lodgings are placed to replicate the photo simulacra that attract visitors. Doubtless what visitors experience of nature is itself created by the preceding images. Ah yes, this is what I came to experience. How beautiful! How pristine! How real! It looks just like the photo!

Field of Vision

Throughout my teaching career I regularly taught courses that explored the distinctiveness of the human senses. I used a variety of activities to give students an experience-based way of appreciating what is quotidian. For example, I asked students to hold at arm's length a pen in front of their face and focus on the tip. Then, starting with their other arm extended out to the side with index finger pointing toward the pen, I asked them to slowly move their finger towards the pen until it is as much in focus as the pen tip. Students were usually surprised that their finger needed to be almost touching the pen tip to be equally in focus.

While our total field of vision is roughly 130° vertically and 160° horizontally, the area of acute focus, called the foveal field, is a cone of but 1°. The small foveal field allows us the experience of making eye contact with a person across a crowded room. I would cast my eyes among students in a large lecture hall asking students to acknowledge when I made eye contact with one of them. We turn toward something that we sense in our peripheral vision so that we might focus on it, see it clearly and intentionally. Given the tiny foveal field, with binocular vision, that is two eyes looking at the same thing, physics places an object at different angles in each eye. The brain translates slightly different images into depth of field and one's ability to discern distance of an object from the viewer. We also discern distance by relative movement of objects and objects occluding others.

Cameras usually have but a single lens (yet, as I write this, Canon has released "dual fisheye lens" to "create VR") and camera lenses are designed so that the entire field is uniformly in or out of focus. Focus depth is achieved by the size of the aperture or opening through which light passes. Physics assures the smaller the aperture the greater relative depth of focus.

We know all these things intuitively based on our history of visual experience, yet it is importance to remind ourselves of the difference between the experience of quotidian human vision and that of seeing a photograph. We commonly acknowledge that a photograph captures reality, it replicates what we see. We consider a photo no different from what we visually perceive. Yet, the differences in these visual experiences are on the order of distinct realms of reality.

I have been endlessly interested in trying to understand and appreciate why almost everyone is fascinated by photographs. Every day a billion images are uploaded to the various social media platforms. Since the invention of photography most families have had a photo album or a drawer full of photographs. For years I labeled hundreds of slides and stored them in metal boxes, printing a few for treasured albums. Now I have thousands of digital images in the cloud and on my computer, phone, tablet. I still print many.

My hunch is that one reason we love photographs is that they allow us to practice what I feel is most distinctly human, that is, our delight in considering as identical in some sense two things we know are not even in the same realm of reality. A photo is what we see, but then, even as a visual medium, it is seen entirely differently than we see the world that it pictures. There is a ceaseless and unresolvable play between photo and subject. Cameras capture and replicate, but they also transduce (translating something to a totally different medium) and create anew.

As photographers we compose images with clear intent or to lead the eye along a certain path. We adjust depth of field to draw the viewer's attention to certain areas and we blur areas to frame or contextualize. Russian poet and critic Alexi Parshchikov wrote that "the camera chooses the living space for its intended hero by means of the magic ring of the depth of field, which links the functional quantity of the necessary light with the occupation of space. This is the collaboration of field and focusing, their existential parameter."

Photos are identified by their subjects, yet the action of looking at a photo invariably triggers a process of iterative comparison between the subject in its photographed presence and as perceived or imagined in brute reality. Even if we have never seen the actual subject we often remark "that is an amazing (or terrible?) picture of …!" Somehow, we know the subject apart from the photo even if we've never encountered it outside the photo, and we engage the photo in comparison with this knowledge. Talk about fascinating.

Due to physics and human biology, photos engage an inherent playfulness of subject and image, an iterative process of sameness and difference, that enriches perception and imagination. The distinctions and character of a photographed subject are noticed and marked enhancing both subject and photographer/viewer. Photography is as much a way of exploring and knowing as a way of seeing.

Photo Time

In the early 1990s I traveled for five months through Australia, Bali, Java, Thailand, and Nepal. I accumulated several dozen rolls of exposed slide film keeping each in its little plastic cannister. Only after I arrived back home did I get them "developed" so I could see the results, all the while praying that none of them were somehow ruined. At that time photography involved a period of anticipation and excitement, if also the laborious process of dropping off and picking up the film at the photo store. Seeing new pictures was often both exciting and disappointing. Today, of course, digital images appear immediately on the camera display allowing instant assessment and assurance. Still, as quickly as one can look, the image is already of the past.

Photography has a fascinating relationship to time and memory. Given the incomparable speed of light, even the briefest fraction of a second exposure is sufficient to activate the camera sensor. Photo images allow us to see into time crevasses what the eye otherwise cannot—the crown-shape of tiny droplets bouncing from the splash of a single drop of water, my five year old birthday party, the micro-gesture of emotion on a face, grandma as a child. Photo images, always of the past, engage us as do memories; indeed, we often refer to them as memories.

Memory is not something in the past. Rather memory is present to our experience of something marked as "past." Memories are constructions in the present of what remains yet is ever changing of what we have already experienced. Memory, which is, like it or not, an aspect of all our consciousness, is the presence of what is not present. Memory—consciousness—involves a backward referral in time. All recognition requires having cognized before, thus the prefix re-. Memory requires comparison, if unconsciously so.

There is insight in comparing photographs to memories in that they function somewhat the same, yet with an important difference. Unlike synaptically woven vast networks of raw neuronal ensembles that somehow endure in all their fuzziness, photographs are images with a certain objective stability and permanence. One might imagine that the creative encounter of the past and present in memory is nullified when looking at pictures. Yet, returning to that cigar box of pictures every few years, we invariably see and experience anew the same old photos? Every engagement of even the fixedness of photos at different times is a creative encounter. Each is a fresh and present experience.

The scientific rational understanding of time is based on a the laws of thermodynamics, infinitesimal moments, integrals, marching relentlessly from past to future. Time is ceaseless, vectored, and irreversible. Yet humans experience time as both irreversible—taxes and death always come due—and as streams filled with eddies and backflows. Memories and photographs exist only in the presence of a backward referral in time. Impossibly the past and the present, remain distinct, yet they encounter one another creatively. I sometimes call this impossible the "fat present" to indicate that what we experience of the present must be more than the infinitesimal interval of a fast shutter. It must have duration, if brief, that we might give the past and present, even the future, the opportunity to resound creatively as in a cistern in the chancy organic process of creating emotion and present awareness.

Embracing this time perspective, we must appreciate that the power of a photograph is only realized when it is humanly bodied, that is, engaged in the bodily cauldron of organic processes of perception and consciousness and memory and presence experienced by human beings. An image is not a passive archive of past events so much as an active force that shapes the present and future. We might think of Nietzsche's "eternal return" as apt in describing our encounter with images. I prefer something more like, if less elegant, a "backward-referring forward-flowing creative fat present". Raising fundamental questions of the nature of history, we must contemplate that photo time is not linear, not that of an archive, but rather it is recursive, simultaneous, even fractal.

Given that the photo image is created in bodies—body of photographer, body of camera, body of viewer—it gains vitality in the techniques of body we understand as gesture and skill. Both making and encountering photos change over time as our bodies slowly acquire and hone the gestural skills that reveal depth and complexity and profundity to this complex process that spins about the ever-changing interface of photographic technology. As experience situated in historically culturally located bodies, the whole of one's life experience intertwines in the development of these image related skills. This ongoing development too is interactive, fractal. As we become more adept at making and encountering images, the quality and sensitivity of our lives are enhanced. Embraced by photo time we progressively learn to see and to live richly.

Photographs are *Memento Mori*

I am gobsmacked by the mercilessness of time's ongoingness, what Susan Sontag referred to in her 1973 book *On Photography* as "time's relentless melt." I don't even know what time is much less feel I have much power to grasp it. The very notion of grasping is defeated by time's mercuriality. Religions tend to account for beginnings and endings. In the beginning God. Off you go time. Really? Time ends with the second coming or apocalypse. Grand stories. Science has its own. Big (compared with what?) Bang (who was listening?) and supernovas (isn't a regular nova quite enough?). Interesting, because they are impossibles, because we buy these stories without seeming to note the obvious. No wonder I feel cuffed in the mouth. Our experience of time moving relentlessly is invariably paired with our awareness of time's cessation, that process seemingly must begin and end: no life without death, no movement without stillness. To experience life's vitality is entwined with, dependent on, stillness and death. The poignancy of Sontag's "time's relentless melt."

In a related insight, Sontag pointed out that photographs are *memento mori*, reminders that we must die. My father lived to age 92. Several years before he died my sisters and I visited him to celebrate his life and our family. And to say goodbye. Part of our time together was spent looking through boxes of old photographs. Dad narrated. Many I hadn't seen. Among them a studio photo of my dad's parents near the time of their marriage. I'd had a wonderful relationship with them, my grandparents. Both died at an advanced age. In my experience, they were always old. Lifting this picture from the box I felt stunned. They were so beautiful and fresh and young right there in that sepia photograph. An instant from a distant past long before my dad was born, a time I couldn't have known them. But I did. There they are. How remarkable that in that picture-moment I was much older than they were. The beauty of their youth emanated the promise of the lives they were yet to live together. I knew, as they then did not, the general course of their lives as farmers with a house full of kids all growing up, marrying, having families, and now all dead, save my dad, himself near his end. The picture of their youth, a frozen instant hidden for decades unseen in a box, was *memento mori* not only of their inevitable deaths, now long ago yet in this photo still far in their future, but also my own as well, too near to avoid feeling a certain sadness of its certainty.

It was perhaps thirty years ago now that my parents came to visit me in Colorado. I took them up Trail Ridge Road in Rocky Mountain National Park where we sauntered across the tundra high above tree line. As flatlander Kansas dirt farmers, they were thrilled by this seeming alien tundra terrain. I took a photo of them amongst wind-carved craggy rocks with Longs Peak in the background. My favorite picture of them. They look happy and healthy. Now my mother has been dead for over twenty years, my dad dead for over ten. I keep a framed print of that photograph on a bedside table where I see them every day. They are present to me thanks to the photo-magical wrinkling of time. I can't help but feel a connection made possible by this impossibility; they are long gone but they are here still. I much prefer this treasured mountain top photo presence of my parents to the unforgettable glimpse of them casketed, fortunately not memorialized in a photograph. Yet this special mountaintop picture, even in my taking it so long ago, is *memento mori,* a testimony to the certainty of both their deaths and mine.

As something of an advanced hobbyist photographer, I often feel anxiety when engaging in what might loosely be called a photo shoot, though I hate the language. The anxiety is based in feeling a sense of the results I hope for, knowing full well that I must properly prepare and act at the precise appropriate instant. Yet, I feel the same for the whole of life. In a sense it is always now or never. Each moment is singular.

The photographer-camera interface, the connection of human and machine, is the push of the button, the release of the shutter. The cyborgian power engendered is impossible to either the machine or the human alone in that is snips the present, halts the flow, transforms the space, to make immortality, in a sense, yet *memento mori* as well. As touch is a human sense that proclaims both separateness and connection, it seems fitting that this touch of the finger serves as the interface conjoining as also distinguishing the impossibles flow and eternity, life and death.

A power of photography is to stop time's relentless melt seemingly to memorialize, to immortalize, to snatch from the rush of inexorable flow. Yet this trick cannot be severed from the sober reality of the eventual consequence of the ceaseless loss of every present. Barely hidden in the essence of every photograph is the skull. Alas poor Yorick!

Framing

An iconic, if rather romantic and dated, gesture of a photographer is holding the thumb and forefinger of both hands together at arm's length to form a frame. Current photographers sample framings by holding the camera to the eye. Photography invariably involves selection. Selection both includes and excludes. The frame marks the boundary. Focal length of the lens as well as distance from subject are technical limitations on possible framings. When I used slide film, I felt I had to frame the photo as I imagined it in final form before taking the photo. Yet, cropping in post processing can add vast possibilities for framing. The display of a photo print or media post opens even more framing options to both complement the image and to set it apart.

The framing of photographic images does something far more interesting than simply selecting the area of the subject. It creates an ontological shift, a transduction to a different reality realm, that qualitatively constructs the resulting image. Brute reality becomes, under the control of the photographer, art or document. While technically a frame is dimensionless, a boundary line, it does the heavy lifting of distinguishing photo/non-photo, inside/outside, created/raw. Its presence is what overlays our act of perception with the framing concept "this is a picture of …". It activates the comparative aspect, the double-face, of the creative encounter with a photo, that is the back-and-forth perceptual movement between what is in the photo and what the photo is of. The frame creates an aesthetic of impossibles which at once proclaims what is in the picture is also what is outside the picture while knowing all along, because of the framing, these two are ontologically distinct. They are of two distinct areas of reality.

The remarkable importance of the frame is commonly honored by substantively expanding its dimensions adding a picture frame to bring greater attention to the transition of what is and is not the picture and to add to the creative elements in the picture. The shape, heaviness, color, ornateness, mat choice, and so many other framing options contribute to how it does so much more than simply holding a picture so it can be displayed. It sets the tone, focuses the attention, highlights elements, and is another dimension of the artistry of photography.

Image frame might be likened to the proscenium arch that marks theater. Actors strut about the stage, always unrealistic, speaking in stylized theatrical voices words that are not quotidian. Theater exaggerates in a distinctively stylized technique towards the presentation of insight and truth and emotion. Theater presents aspects of life through style and gesture projected through an open third wall. Attending theater requires the embrace of the unreality of the performance to gain access to the insight of the playwright and the actors and theater technicians. The power of theater is in its double-face. In ancient Greek theater, the "sock and buskin [boot]" worn by actors to designate their comedic or tragic characters, came to be depicted in the iconic double-faced comedy-tragedy mask that symbolize theater itself. Theater architecture—stage, set, curtain, proscenium arch, rowed seats, lighting, and enclosed space—functions to engage the double-face distinctive to theater genre. Theater is an interactive encounter.

Viewers of a photo look through the frame into the world created by the photographer or perhaps the image looks out to engage the viewer. Minimally, image framing says, "this is a photo." Like the proscenium arch the framing of images functions to demand a double-faced engagement, that is, the active discourse between the included and excluded, the subject and the presentation, the presence of brute reality and that virtual presence of a made image. The framing marks all that makes photos distinctive—dimensionality, scale, media, style, artifact—and engages complex shifts in perception and gesture in the ongoing comparative activity of encountering photographic images double-faced with their subjects.

Framing photos engages posture and gesture. An image on a smart phone or tablet is framed by the physical limitations of the device. It is accompanied by the common finger-spreading gesture to reframe and resize the image. A photo printed on metal mounted an inch from the wall occupying a large public space engages a remarkably different physical experience. It is accompanied by gestures involving head movement, walking, stepping to differing distances for perspective. By virtue of the plethora of framing options all photographic images engage gesturally appropriate bodied encounters.

Framing is sometimes compared with a window. We think of seeing an image as like looking through a window onto a reality "out there." Yet the framing of an image does far more than simply limit or direct the view. It creates and interprets and imagines and requires relationships that are physical, aesthetic, and ongoing.

Photo Scale

There are quite a few things I've experienced for years, sometimes decades, that, even when carefully explained to me, simply seem impossible. Flight is one of those. Just yesterday I was looking out the window and saw a bird so ordinary I didn't even think about its species. It was barely moving its wings, yet it was flying rapidly. My thought, "How the hell?" The week before I flew to Los Angeles to visit my granddaughter. More than a hundred of us squashed ourselves into that enormous heavy metal tube and zipped from Denver to LA in less than three hours. I've read about lift and wing design; I might even be able to do the math. Still, I thought, "How the hell?" When I change the lens on my Sony I sometimes glance at the tiny little black shiny sensor and note that it stores 42 times 2^{20} pixels of information. A pixel is a picture (pix) element (el) each of which, for "true color" (24 bit), is independently capable of sensing 2^{24} colors. I best not share my expletive of incredulity. There is the whole world out there in its god-created vastness that can be transduced—the process of shifting or translating from one domain of reality to another—into bajillions of bits of information held on a tiny postage stamp sized sensor that, in turn, can be manipulated every which way from Sunday and then made by another process of transduction into an image as small as a pea or as large as a wall. The image may be tiny compared with its corresponding raw subject—a mountain range on a postcard—or vast—a wall-sized photo of a ladybug. Then since this information is electronic it can be transmitted to and replicated on the moon or the phone of my friend in Norway. Pause please! … Hallelujah! If you don't feel that wonder, you must be dead.

It has commonly been noted that photographic images engage scale. I'd suggest that scale always also implicates boundary. Boundary is essential to scale and to the selection of subject. We can't detect scale apart from boundary. The modern camera technology seems designed to accurately replicate the subject, yet reproduction or replication is not sufficient to describe what photography is about. We might think of photography in terms of mapping. A map with a scale of one-to-one (a perfect reproduction) is of very little use. As Lewis Carroll taught us of such a map in *Alice*, "'It has never been spread out, yet,' said Mein Herr: 'the farmers objected: they said it would cover the whole country, and shut out the sunlight!' So we now use the country itself, as its own map, and I assure you it does nearly as well." Photos are always maps and as we know maps not only play with scale, but they also isolate aspects of the subject such as color or light or contrast or composition of elements or time of year or day. Photos miniaturize or magnify. The frame that marks "this is a photo image" engages the dynamic process of comparison with subject. A photo is at once exactly like its subject and created in terms of a scaled image of the photographer's sense of things. The result of a successful photo is that one learns through this vibrant activity more about oneself and the world.

It is an oddly magnificent human trait that we automatically adjust our encounter with both very large and tiny images to perceive them as identical with their subject. We do the same with mirror images. I suggest that scale wonderment is in our muscles and proprioceptors since, while using entirely different skills and muscles, our signature written in the tiniest space looks the same as if written with spray paint on a wall. Human capacities to scale follow the principle of holding two things—a picture and its subject—to be the same all the while knowing they are not the same at all. The power of a photo is in this scaling magic.

The 1967 Michelangelo Antonioni film "Blow-Up" explored the mystery of scale when a fashion photographer takes some genre shots of a couple in a park. Later upon developing them and enlarging them he notices that he also incidentally recorded a murder. Through several blow-ups including images from various photos as well as increased scale for some images, he locates in the bushes a man with a gun and a body behind a bush. I've frequently had a similar experience if not so dramatic as discovering a murder. I love to look at newly post processed images on my iPad largely because it has high resolution, but more so because the gesture of spreading my fingers allows me an instant blow-up. I do this commonly simply to assess the technical quality of the image. Is it in sharp focus? Can it be printed in a large format? But I also use this gesture to discover things in images I had no idea were there when I exposed the sensor. I discover the tiny sex organs of a flower, the veins of a leaf, the water droplets of a fountain suspended in air, a lake nested among the ranges of a mountain scene. In the process I come to know a world normally hidden to my eyes. Through scale photos release amazing revelations of new and unknown worlds. My images then become maps to guide me to exciting territories that once known to exist can become subjects to pursue through further creation of images.

Photo Presence

In his 2012 book *Varieties of Presence*, philosopher Alva Noë asks the question "what do you see when you look at a picture?" While he considers looking at a picture a special case of presence, to me he is asking a fundamental question of human perception, "how does what we perceive compare to the thing itself?" Noë's example is "picture of Hillary [Clinton]" about which he notes we acknowledge a certain presence of Hillary when we say of a picture "that's Hillary!" Yet, we also know that this picture of Hillary isn't actually Hillary in the flesh so to speak. How can something be both the presence of Hillary and her absence? Noë sees this impossible as requiring a philosophical resolution.

Rightly refuting the common idea that perception is akin to projecting the world out there on to a screen in our brains, Noë assures us perception is active and constructive not passive and representational. Given this proposition, Noë argues that seeing a picture is a "distinct style of seeing" he calls "pictorial presence." The "double aspect," that is showing up precisely as absent, is, he indicates, a "distinct modality of perceptual consciousness," showing up "precisely—obviously, palpably, manifestly—not present."

While celebrating this double aspect as a quotidian human superpower, I don't think it is either a distinct modality or one among varieties of presence. From the earliest stages of life, we are shown pictures of things that are almost always not present, yet we identify them as present. We sit with a tot turning the pages of an ABC book pointing to objects in the pictures, "That is an apple." "Look at the bee." "Oh my, there is a cat." We do this activity knowing full well that as the child learns apple, bee, cat, she or he knows full well, without being told, that those pictures are not actually apple, bee, or cat. Amazingly, and with their great delight, kids commonly play like they are interacting with the objects in the picture. I know of no one who attempts or believes it necessary to explain to a two-year-old, "well we say it is an apple, but it isn't really an apple, it is only a picture of an apple." The concept picture comes along with the concepts apple, bee, and cat. All concepts are gesturally bodied—turning pages, pointing, speaking, feigning interaction—and those of pointing and eating and hearing and encountering other than pictures in the world. Human's come ready and delighted with a common attribute of all perception and conception is

built on the experience of the simultaneity of presence and absence, semblance and actual. Put differently, presence as absence. Kids don't say pointing at a book, "hey, you just told me that is an apple. Now you ask me to eat this round thing you call an apple. Which is it?" I hold, likely controversially, that this capacity, indeed forte, of presence precisely as absence is distinctly and commonly human among our animal kin.

These perceptual/conceptual human processes involving pictures are fundamental to the early mastery of such indeterminate categorical concepts as identifying the letter "A" or "a" among endless styles and presences, but also much more complicated concepts such as colors, not even a thing in itself, but a quale of things. Most tiny kids are fully happy with "kind of red" or "red-ish." How remarkably complex, yet utterly banal to humans, are these faculties.

This discussion of presence and its utter ordinariness for humans offers insight into the common fascination with and delight by photo images. Photos are distinguished by being a presence precisely as absent. Because of the presumption of the one-to-one relationship between image and subject, photos push the experience of presence precisely as absent to its limit. Identifying something as being what we clearly know it is not, a photo does not evoke intense anxiety, rather photo images delight and inspire. They do so at least in part because they exercise one of the core experiences fundamental to acquiring perceptual skill and knowledge from our earliest stages in life. While seemingly adults need things to be rational, explained, meaningful, lawful, resolved of conflict, and non-repetitious, I suggest that it is fundamental to human nature to relish the energy and power that comes from practicing the play of impossibles that pervades our lives. Photo presence as absence is, in the modern technological world, one of our most enjoyable playgrounds. Photos require the practice of a skill of a presence that is also an absence that allows us to transcend what we know to acquire new experience and knowledge.

The infinite potential of creating photo images and looking at them is like playing improvisational riffs in a jazz band whose music constitutes our humanity. This repetition of making and accumulating photos is the enjoyable practice required to acquire and hone the skill we know as being human.

Photographer as Metahuman Cyborg

Moore's Law, proposed in 1965, has accurately predicted a doubling of speed and capacity of computing devices every two years, which over a fifty-year period amounts to an incomprehensible number. In 1993 mathematician Verner Vinge proposed there will come a time when machines become more intelligent than humans, their makers, and at that point, which he termed "singularity," they will declare their independence, and everything will drastically change. Gaining attention since the 1990s is the trajectory in which human bodies are becoming inseparable from and increasing like machines, even incorporating them as essential body extensions, prostheses. These hybrid beings are commonly referred to as cybernetic organisms or cyborgs. The worry is that we humans are becoming machines, that is, cold, calculating, unfeeling. Think of Doctor Who's Cybermen, Star Trek's The Borg ("Resistance is futile!") and Robocop.

Photography exemplifies this development from the earliest box camera to the current highly sophisticated AI computers packed in the camera body and the motored autofocusing lenses, supplemented by remarkably sophisticated AI oriented computer photo processing software available in the ubiquitous smart phone and laptop. The remarkable quality of the cameras in every smart phone is so powerful it is the rare user that even understands the extent to which the AI functions of these devices are creating the photos.

In 1888 Kodak's George Eastman advertised their little box camera "you push the button, and we do the rest." The sophistication of the photographic technology has advanced so impressively that it makes us wonder if Vinge's singularity has already occurred and that our phone cameras are seemingly independently reproducing themselves and manipulating our bodies so that we can scarcely function without the constant presence of our smart phone cameras. Why do we still call it a phone? Who makes calls? It is not only the young digital natives whose lives are unlivable without this machine, but also, if clumsier and on a lower level of acumen, the most senior generation.

I've been a technology nerd most of my life. My first real job was designing computer systems in the years, 1960s, they initially became widely used by businesses. My understanding of the distinction of being human isn't linked very closely with computation speeds and the extent and accuracy of machine memory. I can't embrace reasoning that poses that some eventual increase in computation speed and memory size will suddenly break over into something equal or superior to humanity. It is a misunderstanding of both technology and human distinctiveness.

In *Religion and Technology into the Future* (2018) I posit that our development as cyborgs, which is indeed real and has a long history, trends along two tracks. The *information cyborg* collects data of every kind and coldly calculates probabilities as indicators of taste, health, relationships. Our shopping, healthcare, dating, and lifestyle are increasingly tied to our becoming information cyborgs. Alternatively, we are also becoming *metahuman cyborgs* with our organic bodies enhanced, extended, and enriched by the incorporation of machines and technologies: eyeglasses, hearing aids, pacemakers, manufacturing robots, dishwashers, and smart phones.

Contemporary photographers are metahuman cyborgs, fusing cameras to their bodies to enhance their human perception, creativity, and expressiveness. Since its invention the camera has promised to "do the rest," yet despite all its development the photographer still must hold and aim the camera and express some intention by pushing the button. Left to themselves machines do not need or want to make photographs. What occurs as their "presence" or "experience" is already cold electronic memory—stored or calculated data. An image of a machine's experience or perception is but a duplicate of the machine's memory information. The implications of this amazingly simple understanding tell us a great deal about both photography and being human.

It is in the play of the sameness/identity and, simultaneously, the difference of a photo to its corresponding external reality that we find human distinctiveness. It also is why we so love and are fascinated by photos. Machines do not do well holding opposites together without resolution, zeros and ones at once. Such conditions cause machines to enter endless loops or simply crash. I argue this seeming impossibility is our forte, our strength, our nature, our delight, our humanity.

With our bodies welded to cameras and computer post processors we are metahuman cyborgs with enhanced capacities and potentiality to be creative and expressive in ways that only the human organism part of the cyborg can experience and know. Such comprehension comes in terms of curiosity, fascination, joy, intrigue, love, confusion, and, above all, wonder.

Pigs Don't Post Pix

As a non-religious, religion critical, academic student of religion for half a century I have consistently been passionate about my research, writing, and teaching. Yet, only in the last couple of years have I had the courage and the time to finally address why I've studied something about which I am so often critical. The simple and obvious answer is that I am thoroughly in awe of being human. Not just being alive but the remarkable conglomeration of biologically based faculties and capacities evolved over eons that comprise the distinctiveness of the human being. I'm no essentialist, no fan of divine design, so I suppose I might best identify myself as a humanist, a humanist who focuses on the craziness that we have come to call religion as a way I might explore and appreciate the character of distinctively human traits. Evolution and biology are much more interesting to me than theology and piety which always seems so fussy. Over the years when I have discussed how religion is distinctively human with colleagues some have insisted that animals seem to have rituals and, since ritual is an aspect of religion, might animals too be religious? This argument has never made any sense to me, and I've never even understood what it is that motivates the argument.

I might just as well have studied photography, also a lifelong interest, although I doubt I'd have had much relevant insight on the subject had I not first spent half a century studying religion. I none the less offer a parallel argument that photography—creating and enjoying pictures made by modern technological means—is distinctively human. I wrote a silly poem based on the alphabet that identifies human faculties not shared with our animal kin. "Ants don't appreciate art/ Bears don't bake bread/ …" I might have added "Pigs don't post pix."

From its inception photography has been understood in technological terms, the human interconnection with machine/camera. The human mechanical conjunction occurs in all technologies marking such clear distinctions as biology/machine, organic/mechanical, carbon/silicon, living/dead, animate/inanimate, all requiring an interface, often gestures of touch. Over time the clarity of this distinction has shifted even becoming problematic. Is it the photographer or the camera that has agency? As cameras have become amazingly sophisticated with complex computers and Artificial Intelligence, such questions have been engaged by many experts. As humans become increasingly dependent on and physically integrated with machines, some philosophers have suggested that we are transitioning into being posthumans. They argue that at present rather than humans we might be considered transhumans, organic beings transitioning into beings progressively enhanced by nonorganic technology. Posthumans are understood variously as the result of making the full transition to being machines—the camera takes the picture—or as when machines (AI controlled robots) become sufficiently independent that they simply replace organic humans or take the superior agentive function and decide what role, if any, biological humans will have in their world.

Posthumanism, the world run by androids, is a fantastic premise for film and fiction. I consider many examples in *Religion and Technology into the Future* (2018). I'm quite certain that there will not be a day when the camera, independent of the photographer, heads out to take pictures of other cameras. Yet from its inception photography has been on a trajectory to make the machine an increasingly smooth and fitting partner to the human making of pictures. Camera design is bent on making it a prosthetic—a mechanical extension to human biology—resulting in what I've call the metahuman cyborg, a human enhanced with AI and mechanical technologies. It is the current manifestation of a process that began with the ancient human making and use of tools.

I don't think the increasing sophistication of cameras and the AI-based post processing tools indicate that we are transitioning into anything that follows or will replace being human. That which distinguishes us from machines and our animal kin is the capacity to at once merge with a tool or instrument or technology while also being ontologically separate from it. The camera (piano, tennis racquet, snowboard, computer, cellphone, car, pacemaker, contact lens) is not me. Yet, the camera is me by extension and integration and skill. It is in the impossibility of experiencing simultaneously both the integration and the radical separation of biology and machine, photographer and camera, that distinguishes us as humans. We achieve our fullest human potential as we explore impossibly becoming, by means of practice and skill, body and gesture, one with the inanimate and mechanical.

The power and energy, the potential for art and expression, the openness to significance and experience of photography is possible because of the distinctively human capacity for being impossibly double-faced. Pigs don't post pix, nor do androids.

Photo Bit Reality

Digital technology came to photography alongside digital music recordings. It was an ontological shift from analog to digital, from film to memory card, from vinyl to tape. This shift was global. My first books were written on a typewriter where pushing a key mechanically produced a character on paper and cut and paste were literal. The shift correlated with the rise of digital computing and internet technology. My first post undergraduate job, 1967, was the installation of computers in an international corporation as the basis for their accounting system and increasingly for making business decisions. The punch cards that served as input/output to the computer converted analog to digital (zeros and ones), an essential step for transmission of information via the internet and, eventually, its storage in what we now familiarly call the cloud.

The history of photography tracks with and plays a major role in the recent history of information technology. There are of course correlations between the pre and post digital eras in photography. We have hints with such things as the nod to darkroom photo processing by the naming of a prime digital post processing software Lightroom. The sound of the mechanical camera shutter is simulated. Rapidly the material and objective world came to be transduced into digital code, into information, that could be electronically stored and transmitted wherever. It was an ontological shift from the directly perceivable reality to a virtual Bit (binary digit) Reality. The results amounted to a radical shift in the way we understand and experience ourselves and reality. It birthed the information age where digital reality has become practically the whole of social reality as well as our prime interface with the technologically pervasive material reality.

In a classic 1936 essay, "The Work of Art in the Age of Mechanical Reproduction," German philosopher Walter Benjamin (1892-1940) focused on the reproducibility of film, foreshadowing the later much more radical shift to Bit Reality. He wondered about the experience of something being original, as a painting, compared with a copy or a forgery. Can one have an original or a forgery in mechanically reproducible art? What happens to what he called the aura of being in the presence of an original. French philosopher Jean Baudrillard (1929-2007) suggested that images of reality tend to overwhelm reality itself creating something of a hyperreality. We all experience this supplanting in our lives as even our bodies become sets of metrics collected on wearable technologies and phone cameras stored on our cloud connected smart phones. We constantly consult this Bit Reality to assure ourselves that we exist and who it is we are.

I hold out for photography to persist in a way that exercises our human distinctiveness. Certainly, while digital images might be created *ex nihilo*, photographs continue to require an independent objectively real subject, even a material subject if sometimes subtle. Photography produces images that exist only to the extent they are humanly perceivable. We might gain insight by reminding ourselves that digit, as in binary digital, means both whole numbers and human fingers and thumbs. I suggest that it was the evolution of the human hand with fingers and opposable thumb numbering five digits that correlated with acquiring upright posture and increased brain size and complexity that gave rise to all our human distinctions. Although the most undefined of senses, touching and moving—distinct yet almost synonymous—are essential to all perception and conception. The hand is the foundation of such fundamental ideas as "grasping" which means both holding by the opposition of fingers and thumb and comprehending intellectually. These distinct graspings are biologically interdependent.

As we grasp the body of the camera, adjust the settings with dials requiring fingers and thumbs, and use sensitive finger touch to activate the shutter, we reenact the history of human evolution. We also engage high levels of intuition grounded in experience and accumulated skill to control with our digits the AI-assisted software that is a creative encounter with digital information to produce an imagined perceivable object, a photo. The implications of human touching and moving never disengage notwithstanding the visual prominence of photographs, because the images of photography, while mechanically/electronically reproducible, are always humanly imagined and created. Looking—the active intentional act of seeing—at a photograph is an act of grasping, of touching and being touched, of moving and being moved.

The ongoing exponentially expanding explosion of photography and photographs in the recent information age gives rise to complex philosophical questions of aura and the overwhelm of hyperreality, of creativity and originality. Yet it also confirms the utterly fundamental moving touching digit foundation of the exercise of human creativity and distinctive capabilities.

Practicing Photography

From early in life, we learn that gaining acumen, acquiring, and honing skill requires practice, that is, purposeful repetitive action usually under critical guidance. "Practice piano before you go out to play!" "Remember to bring your helmet to football practice." "Yoga is my religious practice." The ten-thousand-hour practice rule for mastery of any skill popularized by Malcolm Gladwell focuses on the importance of supervised high repetition. We've all experienced it. I appreciate the synonymy of practice with play common especially to music and sports. To play music or sports shifts attention from some specified end or goal to the enjoyment of the ongoing repetitive process. The constant ongoing play or practice is autotelic, the goal itself. When practice becomes self-satisfying, we tend to identify with the activity. "I'm a basketball player." "I'm a dancer." "I'm a yogi." "I'm a photographer."

To focus on practicing shifts the attention to moving bodies. Even to practice thinking—which we might imagine as abstract intellection—requires such bodied actions as writing or conversing. Marcel Mauss (1872-1950) in 1936 wrote an essay "Techniques of Body" showing how habit and gesture—body techniques—are fundamental to individual and social identity. We construct and express ourselves by practicing gesture. Some philosophers, for me especially Maxine Sheets-Johnstone, convincingly show that we acquire even the most abstract concepts by means of our moving bodies. Such foundational concepts as in/out, above/below, in front/behind, before/after are all based in the experience of being a distinctively human body. Gesturing moving bodies (bodies at practice) are foundational to all metaphors which, as George Lakoff and Mark Johnson convince us, are at the core of all language and the associated acquisition of knowledge.

In my religion studies, I have increasingly shifted to foreground the moving gesturing body as establishing the felt sense of coherence or fit, always playing against the threat of incoherence or chaos, as a preferred way to understand and assess much of religious life, much preferred to asking, "what does that mean?" The shift is significant in foregrounding and focusing on self-moving bodies rather than on abstract intellectual ideas. Nullified is the Cartesian cogito "I think therefore I am" that undergirds our disastrous habit of separating what we refer to as body and mind. The remarkably complex, yet whole, animate organism is so obviously more fundamental than some core division that must from the start be reconciled or interrelated. As in playing music or sports or taking photos, the bodily feeling of the practice itself confirms the pleasure of being a self-moving body.

I recently wanted to memorialize an event at a restaurant and got out my phone to take a group selfie. My guests had to guide me to switch to the selfie view. I couldn't seem to hold the phone to include everyone. Then I couldn't seem to get a digit on the button. I finally gave up and someone else took the group selfie and sent me a copy. When later I looked at what I had done I discovered I even had it on video. I rarely take a selfie; I have no practice. My kids and grandkids take selfies constantly and can take a dozen while I'm trying to find my phone.

Especially with the growing ubiquity of phone cameras including front-facing lenses over the last ten years, a huge segment of the global population has quickly engaged the gestural practice of taking photos of nearly everything. The smartphone camera has become prosthetic, a cyborgian enhancement of our bodies. While there are plenty of photographers who trudge about carrying heavy complex expensive photo gear taking thousands of photos in a studied and purposeful practice—I consider myself a parttime one—photography for the majority population has shifted from a way of seeing to a way of being in the world. The continual practice of the complex and specialized gestures of taking pictures, in-phone editing them, and posting them immediately to social media and cloud storage have made many, especially the young, adept creative photographers.

Our constant practice as photographers has significantly changed us—even at the very level of neuron, synapse, and tissue—as also the very fabric of the world, the reality, we experience. The way we interact with much in the world is shaped by our photo practice. As metahuman photo-making cyborgs we move about the world constantly discerning what must be photographed and we interact with others by means of photo exchange and circulation. Some have begun to wonder if this practice amounts to a bad habit.

The overwhelming and ubiquitous power of media platforms like Facebook, recently acknowledged as capable of evil as well as good, is a manifestation of the recent shift in how we practice photography. This power fundamentally resides in the gesturing moving bodies of practicing photographers.

Still Moving

Clips from the thousands of videos taken during the January 6 (my birthday!), 2021 insurrection at the Capitol in Washington D.C., with their vile rhetoric and violent actions, intrude in our lives almost daily. My experience with these clips is invariably instant overwhelm. Shot with handheld cellphones, weapons by extension, amid the battle they effectively communicate the chaos and violence of the insurrection. Yet, for me, little else. Iconic still images do far more to communicate the action and emotion and historical significance. The image of the insurrectionist walking in the capitol with the Confederate flag on a pole over his shoulder. The image of the glass in the door to the House chamber with spiderweb cracks, the last barrier to the insurrectionists contacting legislators. The horned-capped body-painted shaman in the balcony of the occupied House. Although still images, the action remains. In their stillness they, to me, do far more to portray in depth the transpiring motion and emotion. They are moving in their stillness.

In the early 1990s, I began teaching academic classes focused on the dancings of cultures the world over. Endless ethnographies document these dances, yet rarely in enough detail to communicate much more than general aspects of any dance. Dance notation systems, such as Labanotation, are useless to anyone not trained in the system. In those early days I struggled to find ethnographic videos of the dancings about which I was teaching. I recall regularly going to the specialized music library in the hours before class to check out VHS tapes of dances to show my students. A few years later PBS created an eight-part series "Dance" that offered not only clips of dances from many cultures, but also comments by dancers and choreographers. I purchased this VHS videotape series and much of my course was built around it.

Through the late 1990s and the 2000s I traveled regularly to cultures around the world to observe and often learn (well try to anyway) their dances. I remained dependent on these few videotapes to give my students any sense of dances through much of the 2000s. YouTube began in 2005, but it was not until the late 2000s that extensive video materials from around the world were available on the platform. Now one can easily find videos of dances from all over the world available on YouTube. I have collected videos of nearly every dance my granddaughter, Fatu, has performed across her dozen year career placing them on YouTube and on her website. Moving human activities demand video as documentation. For moving art forms, like dancing, video can itself be an art form partnering with the dancers. I think of the remarkable flamenco and tango dance films of Carlos Saura. Video gives a sense of permanence to a remarkably ephemeral art.

Despite video being essential to the documentation and appreciation of human movement, I find that still images not only complement the moving, but they also transform the experience of moving in a remarkable way. Basically, there is first the brute reality of the moving subject, then there is the video of that reality, and there are also the still photos of that reality. Naively, it would be expected that video of action is always superior to a still image simply because it presents the moving. There is however something distinct about a still image of a moving event. Because it has the potential to select among infinite possibilities, it can transduce the motion to emotion. The boxer's fist at the moment of contacting an opponent's face. A body frozen in its fall from a burning tower. The anguished face of a suffering child. A window soon to break under insurrectionists assault. A raised fist of a Senator. The dancer mid leap.

The experience of these iconic still images implodes motion in process, yet the qualities of the ongoingness of the action are lifted up for our extended observation and appreciation, allowing the image to tell complicated stories, raise unanswerable questions, evoke deeply felt knowings and wonderings. The power that resides in such images of action emerges from the impossible conjunction of stillness and moving. The world in constant motion condenses in an image with confounding clarity. The image explodes with the emotion and elan of human life itself in all its messiness.

Ontologically every photo image is still, yet every photographed subject is constantly changing. We might think something so permanent as landscape would be fixed and motionless, yet the light and weather and time of day and year involve constant change. The golden light of the beginning and ending of the day is utterly different than at midday. Creating powerful and artful images requires intimate knowledge of the subject in all its moments. Photography selects moments and conditions within the flow as the basis for presenting an understanding of the vitality and energy of the subject. One strives to create the illusion of the copresence, still moving.

Photo Shoot

As a kid, I was the son of a dirt farmer living in a tiny village in southeastern Kansas. My parents would occasionally drive the few miles to Baxter Springs to visit my mother's uncle and aunt, Walter and Cora Grantham. Rather than a dreary day with stodgy old folks, these were for me exciting occasions. Uncle Walt somehow had accumulated considerable wealth and he and Aunt Cora traveled the world. Rather than bringing back photos of their travels—I don't recall any yet likely they had many—they brought back the world itself, or tokens of it: an actual elephant's foot umbrella stand, huge fan-backed chairs, game tables inlaid with unusual woods and shells, a vast set of Grantham Royal Doulton china that I currently have, and endless items of exotica. Yet in their front hallway next to the stairs, they also had tall stacks of *National Geographic* magazines that, after perusing all the artifacts, I could settle in and look through all afternoon. This magazine has always been known for its remarkable photographs of exotic subjects. An afternoon engrossed in these magazines was like travelling the farthest and most mysterious corners of the globe. The magazine photos brought to life the peoples and cultures my relatives had visited far more than did the trophy items they had shipped home, yet this magazine among others introduced photo tourism, often the photo intrusion into the exotic.

Susan Sontag perhaps shocks with her statement, "There is an aggression implicit in every use of the camera." Isn't aggression implicated in the most common photographic terminology? We do a phot shoot. We aim, take, target, shoot, grab, capture pictures. There is an often-unspoken aggressiveness in taking pictures. We want to take and possess photos of everything, and we want our visages and actions to be captured and shot at every possible moment. Yet there remains a sense of aggression, invasion, virtual or simulated violence. Our captured photos become hostages of social media platforms on display for all who wander through the space. We are offended when they receive too few likes. Privacy, and its implied safety, has become so old fashioned.

Do we not accept aggression by wanting to be captured and publicly displayed? Once this aggression occurs, the social effect of accumulating likes encourages an escalation, a diminishment of privacy, a thrill of being judgmental as well as the subject of hostility. Photo capture breeds outrageous behavior done for cameras. It normalizes and publicly circulates stunts, bullying, rudeness, revenge, and nudz.

We thrive on the thrill of photo aggression. Paparazzi pester the rich and famous seeking photos of their private lives. We pay for reproductions of their aggressive actions that we might catch a glimpse of our idols unaware. Images that idealize subjects—models, famous, wealthy, popular, the infamous as well—are implicitly aggressive. So also, if unacknowledged, are the more banal photos such as class pictures and mug shots. Do they not, by the attention, the implied specialness, that accompanies them suggest that if similar photos of me are shot, displayed, and liked that I too am interesting and attractive? Maybe even a bit famous? Images on social media can be dangerous and powerful forces for compliance, revenge, punishment.

It is a common view that people in some cultures—especially those we often, by whatever euphemism, consider primitive—believe that to have their photo taken is a theft of their soul. Despite the primitivist bias of this statement I have spent considerable time among many folks in small scale tribal cultures and, while I've never heard any one of them express this adage, many see photography as an aggressive act. They often prohibit cameras and confiscate and destroy photos.

Photography is foundational to the surveillance culture of many cities. Crimes and criminals are caught on camera. While photos always interpret rather than objectively capture reality, surveillance photos stand up as evidence in court. Surveillance is an aggressive use of photography, often violating privacy, justified by lawful intent.

In contemporary society with the ever-increasing concern for the preservation of threatened nature and animals, particularly those we consider wild and exotic, cameras substitute for rifles in the growing popularity of photo safaris. Rather than bringing home a stuffed head to mount on the wall, one hangs enlarged photos of exotic places and animals. Cameras offer the semblance of danger and violence.

Sontag captures the double-face of the aggressive aspect of photography writing the "very passivity—and ubiquity—of the photographic record is photography's 'message,' its aggression." Her insight is that even the most innocent and common snapshot carries the message of implicit aggression as evident also in the extensive terminology associated with photography. The excitement and even fear we so often experience being photographed and looking at pictures are likely inseparable from the thrill accompanying its aggressiveness.

Google Driving Hometown Streets

My parents were born and raised in the small southeast Kansas town, Cherryvale. They were both members of families that had deep roots in the area. My father's family mostly farmers, my mother's local business folks. Mom and Dad moved to Texas in the 1990s so that my sister could care for them. Later I was shocked to learn that on leaving the town in which she had lived her entire life, my mother had said, "I never want to come back here." An untold story. My last visit to Cherryvale was almost thirty years ago. The other day I got to thinking about that town and began to consider a photography-centered road trip back there. From what was once two large extended families, now only a few distant nieces or nephews, who likely have never even heard of me, remain in the area. As I sought to give some substance to the trip, I tried to recall memorable locations—houses, schools, library, downtown stores, farms, movie theaters, bowling alleys, streets, restaurants. When I lived there the town had around three thousand residents. A Google search revealed that it has shrunk to nearer two thousand. Years ago, a new highway bypassed the town altogether.

My initial excitement began to wane when I considered how disappointed I might feel should I return if most of the places I remembered were simply gone or dilapidated. My failsafe was a virtual tour of the town by means of Google Earth's Street View technology. I discovered that I could drop my cursor at any location and drive virtually all over the town. I could pause at any point and scan three hundred sixty degrees. I began with the house where I grew up. Its address, 424 West 4th St., still firmly in my memory. As I "drove" past, I paused to examine the house from various angles suddenly recalling the floor layout, the furniture and appliances (the "icebox" where I knocked off and broke my dad's watch), the tiny bathroom where we gathered to cry when our dog Pooch was run over, the detached garage with a dirt floor that was always spooky, the lot next door where we built play houses by outlining rooms with bricks, the front porch where I played fire trucks with Spencer Harmon, the number "1948" appearing as written in crude pencil on paper in a Big Chief Tablet. I snapped a few screenshots. I drove past the house I lived in through high school, a new build my dad 100% paid for with his fall wheat crop. What had once seemed so grand now appears but a cracker box. I took screenshots of my elementary school where Miss Carey played marbles with us boys. I drove past the bowling alley where I went with my mom occasionally after school. It looked deserted but still bears the sign "Cherry Bowl Lanes." I snapped images of the farm where my grandparents lived and where I worked so many years. As I drove the streets compiling an album of screenshots, the memories became richer backfilling the photos themselves. Oddly the screenshot photos came to feel more real than the town itself because in them I was still there. Despite these discoveries of the nostalgic familiar, the decline and decrepitude of that little town were evident everywhere. Weeds growing in the streets. Vacant lots all along Main Street. The grain elevator, a ruin. My grandparent's house and barns gone. Aunt Alu's sweet little bungalow now a lot occupied by a trailer house. Everything sad and shabby. Towns too die.

The virtual drive lasted several hours, and I wound up with an album full of second order photos (mechanical reproductions of photos), but more so a batch of mnemonic triggers. Each place set off streams of long dormant memories. The places all seemed sad and small or gone, the memories seemed large and rich, cascading linkages to images out of mind for fifty or sixty years.

My idea for the road trip was to make pictures, original art photos, of my small hometown, of my life as a kid. As I scanned the screenshots recording my virtual Google Street drive as of April 2014 (Google's date), I began to wonder if a screenshot of a virtual visit is any different than a photo I would make standing where the Google camera passed? I am certain the quality of my photos would be much superior, and they would be more artful. In Lightroom I cropped and adjusted my screenshots to emphasize things important to me. Is there any ontological difference between a reproduction and manipulation of a photo and a photo of a place? Is a photo a virtualized place or is a photo a creative encounter of a viewer with an image whether first or second order virtual, artful or not? Would my original "in the presence of" photos relate to me or to one who had no memories associated with these places any differently than these modified screenshots of Google Street views? Is there even some possible advantage to a Google "drive by" photo to an actual "in person" one? I suspect there are differences, yet not as great as I had thought. I suspect asking these questions reveals something fundamental about photography. I still haven't decided on that road trip.

Portraits, Selfies, Headshots

My granddaughter is a dancer. I've taken thousands of photos of her. Headshots, full body professional pictures, rear curtain flash sync photos to show movement traces trailing a sharp image. Every year I do portraits of her and her young brother and sister.

I recently won a national book award. What a surprise! I was asked for a quality photograph of me. I had only a passport photo taken at Walgreens. My studio strobe with beauty dish was set up in my studio. I washed my hair, put on a blue dress shirt and an old black sport coat. My shorts remained. I put the tripod mounted camera on self-timer, guessed on settings, pushed the shutter release, and quickly sat on a stool attempting a professional look. Repeat adjusting settings until I got what I hoped were a few candidates. I was shocked at how old and baggy eyed I looked. Engaging some Lightroom touchup skills, I was able to remove about ten years of age, and with a suitable crop I wound up with a professional headshot that surprisingly pleased me with something of a rakish head tilt, intense eyes, and nice shadows on my left side. My exposure gave me a totally black background contrasting nicely with my white hair. Surprisingly, I looked a bit like a book award winner.

That same week I took my granddaughter, Fatu, to a parking garage to find a spot where the lighting, colors, and concrete structural elements offered possibilities for making interesting professional headshots as she was soon to leave for Los Angeles to train as a dancer. Dozens of images later I had some possibilities for what I hoped to achieve. Despite her being a blemish-free perfectly gorgeous young woman, I spent time with Lightroom exploring the creation of images that would properly capture both her appearance and her personality. A couple turned out to look like gallery art portraits. I had 16 x 20 enlargements of them printed on canvas to hang in my study.

Photos of individuals are so common, yet they fill many different needs and interests. The headshot genre is expected to show one's professional face. This is what Sam, the author, looks like. This is what Fatu, the dancer, looks like. Portrait images are more commonly made for personal use by family and friends. Images labeled portrait indicate posed and formal, enlarged and framed. Commonly the person photographed looks directly into the camera lens with the remarkable result being that the person pictured appears to look directly at every viewer. Family or groups often dress for carefully posed formal images that mark stages or events. Living photography, as it is called, strives for a more candid feel. A glimpse into the natural and interactive lives of friends and family.

In the last few years with user-facing camera options, selfie images have become ubiquitous. They mark any (every?) moment and (every?) setting. The camera is often held high, tilted at angles for style, and to include more people in the image. Filters are sometimes applied.

Perhaps what is common to all photo images featuring a person is they are intended, like graffiti throughout history, as tags. I was here. I exist. See here I am. Hey look, I'm an author. Don't you see me as a dancer? I was at the concert. We had so much fun at the bar, remember? I was in Oslo last week; see me there. Our images GPS pin us to world and the timestream through which we travel. Meeting someone we spin through pix on our phones, so we'll know one another. I am interesting and beautiful. I go so many places and have so many friends.

Photography enables our narcissist side. We pose as our various selves to realize the array of our identities. More so, if we want a certain look, we can easily edit our images to make us be whatever we want. Photography enables our identity expression and formation. As Sontag noted we rarely find ugliness in photos. They exist to reveal beauty. To be in a photo proclaims the worthiness of being photographed and that means being attractive or interesting. Physical distinctions that in the harsh scrutiny of a mirror are flaws or blemishes may appear, or be made so, beautiful, or at least interesting, in a properly edited photo.

Photos of individual people do more than objectively document appearances. They create ideal and imagined visages and attitudes that correlate with who and what we think we are or imagine ourselves to be. They are vehicles, as much as are clothing, accessory, makeup, and hair styles, for expression and realization and inspiration. As time passes, photos of ourselves, remind us of who we once were, often documenting that indeed I once was young, lovely, strong, in Paris. They feed the nostalgia for the former self that we perhaps never quite became.

Modern life is lived in a constant complicated relationships with the photos of ourselves. It is the play of how we see ourselves and how others see us. They engage Sartre's "the look" in allowing us to see ourselves as objects. They are us. They are not us. The excitement and experience and identity of our lives emerges in this interplay.

Photo Art

I'm enthralled by landscape photography. It connects me with the grandeur of nature and deepens my experience in naturescapes. These images are located at the perfect places and times when light and weather and season are dramatic and special. They inspire imagination, inspiration, attraction, awe. They are shamelessly romantic and nostalgic. I attribute their power, in part, to the exotic and pristine places accessed by professionals with the time and means to travel and to await the perfect moment. Yet ordinary subjects—a lone tree on a hill, an old rowboat on a glassy lake, a green hillside with white sheep—can be as stunning. The quality and impact of these images contrast markedly with the muted, monochrome, hazy, uninteresting results common to my own efforts at pointing a camera at vast landscapes. Every aspiring photographer asks, "What makes these images so good?"

At the near opposite end of the photography spectrum, I'm equally interested in portraits and headshots. These are done either in studios with extensive control of background and lighting or in natural environments often supplemented with lighting and other clever ways of controlling the outcome. Some faces, some people, are beautiful or interesting, yet a good photographer can make stunning pictures of any subject. Again, "What makes these images good?"

What we feel as good or beautiful or powerful is strongly subjective, yet there are some aspects of photographs that gain wide agreement as to their high quality. Appreciating how a photographer, as technician, shapes the "raw" subject to create an imagined photo coincides with the question of whether photography is art. I think this issue naïve at the outset. It arises due only to the misguided assumptions that a photo is a perfect replication of reality and that cameras operate mostly independent of the photographer. This understanding of photography assumes the camera's, rather than the camera-mediated photographer's, relationship with subject is near total. To complement a photo of mine, I've had people say to me, "You must have a good camera!" The hardware and software are assumed to operate nearly independent of the photographer who merely pushes a button. To even ask the question "is photography art?" is based on naïve assumptions about photography, and perhaps some about art as well. If I draw a crude picture in an "art class" is that any more art than taking an out of focus shot of a barn door in a "photography class"? Seems the principal

difference between these genres has to do with materials, tools, and techniques. Perhaps a discussion of craft versus art could be engaged, yet I find it uninteresting when the concern is creativity and quality.

What makes a good photo? What makes a photograph a work of art? These are questions shared with any creative medium or genre. Both technique and aesthetics are relevant, separable yet entwined. As an aspiring photographer I watch many a video featuring accomplished landscape and portrait photographers who describe how they make remarkable images. Some focus on equipment, technique, settings, workflow while others focus on composition and aesthetics. There are many rules of thumb for landscape composition: the rule of thirds; a spiral based on the famed Fibonacci Sequence to guide the movement of the eye; complementing a vast landscape with an interesting foreground; blue and golden hours for favorable lighting; and that the image should tell a story. Technical rules abound such as exposure, lens choice. For portraits, understanding the endless choices of lighting and backgrounds is essential to achieving specific styles and feeling of images with a wide range of uses from classical portraiture to edgy commercial advertising images to soft romantic personal pictures to families celebrating a special occasion to career appropriate professional headshots. The technical discussions specific to portrait and landscape photography are unending, two among many genres of photography. Added to these considerations are the endless techniques in post processing from software choices to workflow and specific techniques.

A photo integrates many things: the subject as imagined, the level of technical and aesthetic skill mastery, the capabilities and characteristics of the camera and lens, the command of post processing applications, and the life experience of the photographer. The image also engages the history, experience, and personality of the viewer. Technical skill is essential. Aesthetic sensibility and vision are essential. Practice, skill, interest, experience, and paying attention over considerable time also shape taste and hone discernment. There are no shortcuts. Loving to make and view pictures and to understand what is involved in making the images that you and your community of trusted colleagues consider good are not only self-satisfying, but they also produce results. To make or see a good picture is an enormous pleasure. It is photo arting and art.

Into the Future

When I reflect on the trajectory of change that has occurred over the history of photography, I do not find the trend toward reducing to a simple push of a button the engagement of the picture maker, as Kodak's George Eastman promised so long ago. What I find is an exponential expansion of technology supporting the creative potential of photographers. Of course, a photographer may elect to simply point and shoot and to automatically post to social media instantly reaching the global population. It is also possible to elect among a few options—portrait, landscape, night, low light, flower—and leave the work to the camera. However, the sophistication is ever increasing for many cameras and post processing software, for example, Adobe's Lightroom and Photoshop, which can function separately or together. Artificial Intelligence, both in camera and post processing, is progressively capable of accomplishing remarkable adjustments to images under control of the photographer. The trend in development is to increase the creative potential of the photographer while demanding constant practice to gain incremental mastery of camera and post processing technology. There are much improved results for those who wish to push the button and leave the rest to automated sophisticated technology. For the photo artist technology provides powerful tools capable, under skilled control, of infinite alteration, adjustment, and manipulation of image data in service to the creative achievement of the artist's imagination. What lies ahead for photography into the future?

I took a long view of technology in *Religion and Technology into the Future* (2018) resulting in my construction of a figure, Tomorrow's Eve, who represents an android guide to a creative and humane future who embraces the aesthetic of impossibles. Perhaps she should have been imagined as a photographer. It is inevitable that the photographic art will play an increasing role as exemplar of and, through our darkest hours, guide for realizing our potential. Art has to do with vision and imagination and dreams and values. Photo artists will increasingly feel free, enabled by advancing technologies, to exercise their imaginations in the realization of their artistic vision.

Perhaps it is common for each generation to imagine itself on the precipice of potential disaster, yet with the dire impacts of climate change and the dark hateful threat of authoritarianism, we surely have today a strong case. In a world that seems inevitably locked into harsh and vast change due to increased population, advancing industrialization, and the effects of uncontained climate change; in a world darkened by racial motivated hatred and authoritarian and greed politics, photography will be increasingly essential as documentation, nostalgic remembrance, and motivation for action. The blight, poverty, disasters, suffering, injustice must be recorded and broadly disseminated in service to initiating and effecting political, social, and technological change. Pictures are much more powerful, accessible, and persuasive than are words … blah, blah, blah. The urgency is undeniable. Photography is a fundamental part of how essential change can be achieved. Since it is the nature of photography that an image presents the beautiful and the interesting, it seems oddly ironic that beautiful pictures of disasters and damage and suffering and injustice are what command sufficient attention to engage change and inspire empathy.

Being optimistic and hopeful, as is my nature, photo technology is a ubiquitous powerful gesturally grounded vastly creative enhancement to and enabler of human creativity. With but a phone camera in hand one has almost unimaginable technological capacity to document, but as importantly, to make images realizing one's most creative imagination and expression. For an enormous portion of the planet's population the phone camera has become a prosthesis—an AI driven gesturally naturalized body enhancing extension—that is used by most as the simplest method of interacting with, indeed perceiving and shaping, the world. With every new model, each software update, the potential is vastly expanded yet seamlessly gesturally bodied by the most naïve of users. I can think of no other technological developments that rival the phone camera in immediate acceptance and natural use to interact with the world in which we live. The widely accessible technological capabilities of professional photography equipment and software offer unfathomable potential for artistic creativity and to inspire action.

I've suggested future trends. One toward the information cyborg with humans becoming more coldly machine-like. The other toward the metahuman cyborg happily enhancing body by integrated technology for greater creativity. Because it is the nature of photography to imagine and see and create the beautiful and fascinating, and because photography invariably embraces the aesthetic of impossibles, it strongly supports the healthy development of the metahuman cyborg.

Photo Notes
All photos are by Sam Gill unless noted

Cover   Aspen along Peak-to-Peak Highway Colorado, October 2021, Sony a7rii

Title Page: Buckingham Fountain in Grant Park and Chicago skyline, Summer 2017, Sony a7rii

3   Flatirons, Boulder Colorado, Spring 2021, iPhone

5   Bjørvika Opera and Ballet Theater**,** Oslo Norway, May 2019, Sony a7rii

7   Abandoned truck near Conifer Colorado, September 2019, iPhone

9   Salsify or Yellow Goatsbeard, Broomfield Colorado, June 2020, Sony a7rii

11   Sunrise on the mountains in Rocky Mountain National Park, Fall 2019, Sony a7rii

13   Old Town Bridge, Trondheim Norway, June 2019, Sony a7rii

15   *Gramla Stan* (Grand Plaza), Stockholm Sweden, October 2019, Sony a7rii

17   My mother's mother and her sisters and a couple of friends, circa 1910, scanned from photo postcard

19   Aspen in Colorado mountains, October 2021, Sony a7rii

21   *Fonteng Studenterlunden* near National Theater, Oslo Norway, June 2019, Sony a7rii

23   Iceberg at Vatnajökull (Vatna Glacier) Iceland, October 2019, Sony a7rii

25   Foxtail barley, Broomfield Colorado, July 2021, Sony a7rii

27   Moose at dawn Rocky Mountain National Park, Fall 2019, Sony a7rii

29   *Kirkjufellsfoss* (Church Mountain) Iceland, June 2019, Sony a7rii

31   Moonset Arapahoe Peaks Rocky Mountains taken from Broomfield Colorado, October 2019, Sony a7rii

33   Fatu Martin, dance in motion, Broomfield Colorado, January 2018, Sony a7rii

35   Photo Shoot related to *quinceañera* near Buckingham Fountain, Grant Park Chicago, Summer 2017, Sony a7rii

37   Cherry Bowl Lanes, Cherryvale Kansas, Google Drive, dated April 2014, screen grab, Fall 2021

39   Fatu Martin Portrait, Boulder Memorial Hospital Parking Garage, August 2021, Sony a7rii

41   Orchid, Broomfield Colorado, December 2019, Sony a7rii

43   Spring leaf buds before an American flag, Broomfield Colorado, Spring 2017, Sony a7rii

Cover   Sam's headshot (studio selfie), Broomfield Colorado, Fall 2021, Sony a7rii

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Creative Encounters, Appreciating Difference: Perspectives and Strategies. Lanham, MD: The Rowman & Littlefield Publishing Group, Inc., 2019

On Reflection: Vignettes & Images. Self-published in two-versions, 2019

The Proper Study of Religion: Building on Jonathan Z. Smith. New York: Oxford University Press, 2020; winner American Academy of Religion's 2021 Award for Excellence in the Study of Religion in the category of Analytical-Descriptive Studies

Dancing Graffiti: Stories from my Life. Self-published, 2020

Looking Forward in the Rearview Mirror: Travel Journal Selections with Reflection. Self-published. 2021

Travel Writings: The Full Travel Journals: 1993-1994 Australia, Bali, Java, Thailand, Nepal; 1997 Ghana West Africa. Self-published, 2021