

EQUIPOISE

Susannah Hays

EQUIPOISE IS AN EXCERPT FROM

NATURE AS DISCOURSE:
A CO-EVOLUTIONARY SYSTEMS APPROACH TO ART AND ENVIRONMENTAL DESIGN

COPYRIGHT © 2016 by Susannah Hays

All rights reserved
Printed in the United States

For permission to reproduce selections from
this article, including images, write to:

Susannah Hays
7 Loma Oriente
Santa Fe, NM 87508

sunprint@earthlink.net
susannahhays.com

Cover:
Equipoise Tree
Mirror Landscape 5
Lüneburg, Germany 2014
FujiFlex Light-Jet print

Back cover:
Nature's Writing Desk
Osterheide, Germany 2013
Archival pigment print

Nature creates similarities. One need only think of mimicry. The highest capacity for producing similarities, however, is man's. His gift of seeing resemblances is nothing other than a rudiment of the powerful compulsion in former times to become and behave like something else. Perhaps there is none of his higher functions in which his mimetic faculty does not play a decisive role.

WALTER BENJAMIN—"On the Mimetic Faculty," 1933

We have to remember that what we observe is not nature in itself, but nature exposed to our method of questioning.

WERNER HEISENBERG

VEILS OF LONGING

Making photographs "works" on two levels in relation to my search for essence and being. At the first level, the camera serves as a recording device, allowing human *reflections* to be transferred to a film archive, clearing space for new reflections. This practice of transferring reflections from the physical body to the archive has a different emphasis than Cartier-Bresson's capture of *decisive moments*. His method of finding equilibrium in a photograph points to mine only on the surface. I employ the medium of photography to clear away moments of coincidence, attraction, and association so that a position of seeing beyond organized social/cultural limits or personal/subjective bias—finding nature's way—may be distinguished.



Fig. 1 Bread for Sale



Ladder



Conversation

The second level is cameraless experimentation, where no more than gelatin-silver paper is used to record light *refractions*. By exposing silver-halides through select translucent objects, crystallized patterns are "fixed" in the nexus of their development. A cameraless method is not meant to be reductive, quite the contrary. One result of working intuitively with darkroom processes is the fluid cross-pollination of disciplines. While the easily recognized fields are Art, Science and Technology, my underlying motivation is to investigate philosophical pathways, where the nature of epistemological features within the medium might also be expressed.



Fig. 2 Bottle No.3

Bottle No. 5

Bottle No. 15

When camera and cameraless processes of experimentation are both explored, a deeper appreciation for photography’s syntactical capacity is achieved. In the moments of witnessing an object render itself, my position of seeking essence through making images asks: What, in what I observe describes the human condition? If I allow such a question to circulate in me, what is alive responds and separates from that which is synthetic. Approached this way, photography is a medium that naturally intertwines philosophy, art, and chemistry. Being of it, I search to be, as Roland Barthes desired, “a primitive without Culture.”¹

One day, without foresight, camera and cameraless ways of producing “proofs” of intangible things inexplicably merged into each other. The images represented in the *In/Visible Cosmos* archive are primarily black and white gelatin-silver prints, with the exception of my sun prints.² Sun printing—outside the darkroom—became an additional means for precognitive instincts to draw themselves. Sun prints require hand-coating



Fig. 3 Three Skeletal Leaves (1998) Vandyke brown silver-sunprints on Torinoko Gampi paper

1 Barthes, Roland [1980] *Camera Lucida: Reflections on Photography*, Hill and Wang, NY 1982; p. 7

2 Stanford University Special Collections Green Library purchased the *In/Visible Cosmos* exhibition in 2009.

iron salt emulsions to a surface. For the leaf images, I chose Gampi, a delicate translucent paper to place in contact, under glass, with my enlarged skeletal leaf films. Sealed, they are then exposed to sunlight (Fig. 3).

Working in this way, with inorganic and organic objects, detailed qualities become visible. In the *Empty Bottle* photogram series, exposed silver-halides rendered magnified forms. To my surprise, inorganic **Bottle No. 3** displayed an organic cell pattern.³ In the Vandyke sun printing process, UV-rays oxidize iron salts, the conversion moving from yellow to brown or from ferrous to ferric state. Somewhat metaphorically, cellular respiration, fused with sunlight (energy) and water (H₂O), permanently traced the leaf's form. While the leaf and bottle photograms are iconic symbols in their own right, a chemical equation of cellular life, nearly mirrors the cycle of photosynthesis, as I explain next.⁴

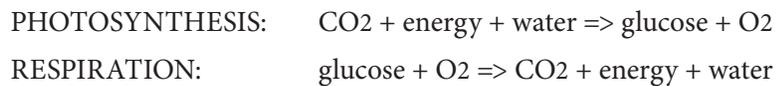


Fig. 4 Three microscope images (2001) P.O.P. Gold-toned sunprints

- 3 Bottle No. 3 (Fig. 2) is a typical Depression era glass bottle with rows of quarter size convex circles, each one capable of magnifying as eyeglass lenses do. In the light-drawing, a diffused expression of the bottle brought a flattened two-dimensional plane. Light, refracting and bending, selectively recorded details in and around the circles, making a hexagonal cellular pattern. The experiment showed that glass circles write a pattern in much the same way bubbles tessellate when gathered under pressure. In nature, bees construct honeycomb cells this way. Leaves also tessellate their membrane tissues, cell by cell. Though Bottle No.3 is a man-made object, the light refraction process mapped an organic phenomenon, the principle pattern being similar to the self-making system of Bérnard cells. See F. Capra: *Web of Life* p. 86 for further reference to this ordered pattern that emerges only in a *far-from-equilibrium state*.
- 4 Photosynthesis produces oxygen and glucose. Used in the set of reactions called cellular respiration, photosynthesis consumes CO₂ and gives off O₂, while (aerobic) cellular respiration consumes O₂ and gives off CO₂, making the two a perfect complement. The net effect is turning sunlight into potential energy for the chemical bonds, which comprise plants and animals. Reciprocal by nature, they are interdependent on each other. Likewise, humans breathe O₂ and exhale CO₂, in a similar mirror exchange process.

While respiration and photosynthesis systems are central to all breathing plants, animals, and humans, complexity in human-brain dynamics increases the number of receptor sites, well beyond plant and animal worlds. What in these reciprocal dynamics cause cell tissue to grow? How do mirror dynamics resonate with the origination of photography and the development of human consciousness? To learn more, I returned to using a 4 x 5 camera, one that was attached to a microscope. I photographed magnified cross-sections of plant cells and contact printed the negatives onto gold-toned printing-out-paper. It was possible to then compare how emerging leaf patterns hold the integrity of their form, from genesis until death (Fig. 4).

So, attempts to consciously *reflect* and press the shutter preceded physical cameraless *refraction* experiments. How the first step made way for the second was a natural progression, as letting go of handheld devices provided direct access to subtler materials. Working strictly with alchemical physical properties allowed material sensibility to be refined. And, by continuing to discern: *what can be seen* and *what is veiled* in ordinary sight, an Art, Science and Technology of *living media* became a transdisciplinary study.⁵

MIRROR-LIKE FORCES

Photograms (cameraless light-drawings) are intriguing to read. A unified seamless trace results from this lens-less approach. Deciphering negative/positive, three-dimensional space is visually confounding when viewing the final flat, two-dimensional print. While achieving effects through chance experimentation, an inquiring mind, probing beyond the magic, garners something of the forces at play, as a newly blended “visual thought” emerges graphically and, sometimes, poetically.

It can be argued that all photographs are “mirror-like,” for inherent in the camera’s mechanical structure is either a mirror shutter or an electronically censored apparatus geared to throw back what “it” sees through the focal plane of a single lens. In cameraless images, light touching an object on sensitized paper casts a silhouette or a detailed drawing, if the object is transparent. For the human observer, a similar “mirror-like” function is internally summoned when assimilating an impression through “the mind’s eye.” Light touches a veil of tears that coats the front and back of the eyes, directly influencing mind/body receptors. An electrochemical message is sent to the brain for interpretation. Something sees and remembers.

Though the capacity for humans to see is regulated by any number of additional physical factors, the process of sensing and feeling ocular perceptions always begins on the surface of this reflective watery substrate that then precipitates light and crystallizes an image.

⁵ Transdisciplinarity is a research strategy where efforts to solve problems cross the boundaries of two or more disciplines. See Basarab Nicolescu’s *Manifesto of Transdisciplinarity* (2000) for further description of this methodology.

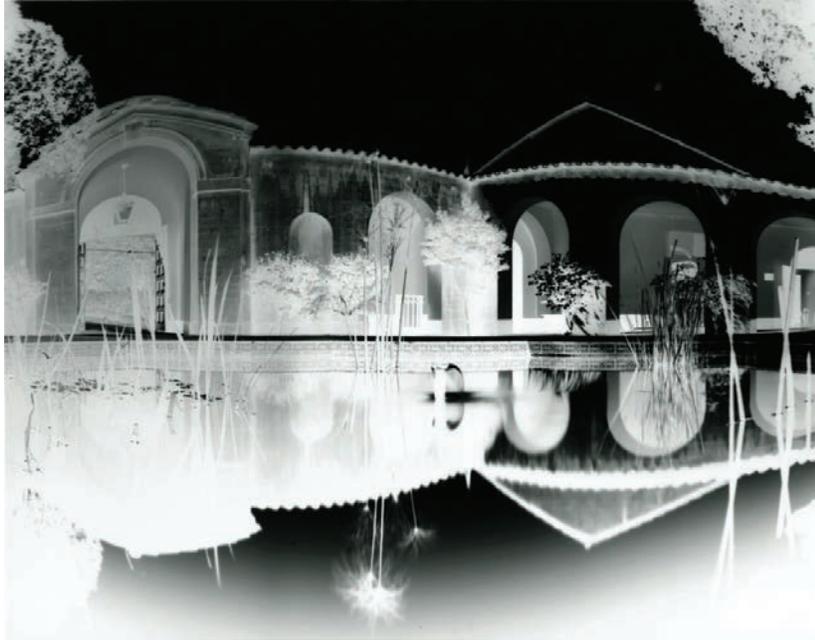


Fig. 5 Illuminated Garden (2002) pinhole light-drawing on gelatin-silver paper

My first attempt to create a lens-less mirror image “in the field” was a gelatin-silver pinhole light-drawing. A large Illy espresso coffee can, found in a recycle bin, served as a perfect 11 x 14 drum shaped camera obscura. The exposure, 10 minutes in length, drew a negative symmetry by way of a slight stream of light, passing through a tiny hole, positioned in the center of the container (Fig. 5).

Investigating “mirror-like” surfaces further, I began creating images that visually transmit how the surface of the eye looks, when it subsequently sends a signal to the brain. In **Fractal Tree** (Fig. 6) the mirror-like surface was a wet piece of glass found lying in the landscape on one of my walks. Digitally capturing the dual reflection, the reality of an eidolon image emerged, resonating with the quality of light refractions



Fig. 6 Fractal Tree (2014) FujiFlex Light Jet print

I achieve in my darkroom photograms. How qualities similar to photograms began to appear in nature were now an experience no longer limited to darkroom experiments. I could sense nature drawing them all around me. While I attribute learning to see forces at play in relation to my choice of objects, psychological energies and metaphysical relationships contribute a subjective human understanding. The medium of photography has taught me to see what would otherwise be an imperceptible dynamic layer in Nature.⁶

One value in making images on mirror-like liquid surfaces is their power to replicate substrates found in the human eye. The *Mirror Landscape* series, as a whole, intends to convey what human impressions undergo, prior to being “digested” by the mind.⁷ The process of seeing follows this medical description:

In order to see, there must be light. Light reflects off an object and—if one is looking at the object—enters the eye. The first thing light touches when entering the eye is a thin veil of tears that coats the front of the eye. Behind this lubricating moisture is the front window of the eye, called the cornea. This clear covering helps to focus the light. On the other side of the cornea is more moisture. This clear, watery fluid is the *aqueous humor*. It circulates throughout the front part of the eye and keeps a constant pressure within the eye. After light passes through the aqueous humor, it passes through the pupil. This is the central circular opening in the colored part of the eye — also called the iris. Depending on how much light there is, the iris may contract or dilate, limiting or increasing the amount of light that gets deeper into the eye. The light then goes through the lens. Just like the lens of a camera, the lens of the eye focuses the light. The lens changes shape to focus on light reflecting from near or distant objects. This focused light now beams through the center of the eye. Again the light is bathed in moisture, this time in a clear jelly known as the vitreous. Surrounding the vitreous is the retina. Light reaches its final destination in the photoreceptors of the retina. The retina is the inner lining of the back of the eye. It’s like a movie screen or the film of a camera. The focused light is projected onto its flat, smooth surface. However, unlike a movie screen, the retina has many working parts. . . Signals sent from the photoreceptors travel along nerve fibers to a nerve bundle, which exits the back of the eye. The bundle is called the optic nerve. The optic nerve sends the signals to the visual center in the back of the brain. Now light, reflected from an object, has entered the eye, been focused, converted into electro-chemical signals, delivered to the brain and interpreted or “seen” as an image⁸

6 A similar revelation occurred when I made **Fallen Sky**, (2001). After making the *Empty Bottle* series and microscope images, my eyes became acutely aware of particulate matter outside the darkroom and how matter might refract through the mechanics of lens and shutter. The difference in **Fractal Tree** was understanding the distortion—the physical scatterings of light—inherent in the structural formation of cornea, iris and retina. My book *Between Cedar & Vine* adds a meta-physical dimension to these experiences. They are discussed in the self-published essay: “Enacting Perception I & II” (Hays, 2009–2010).

7 R.A. Schwaller De Lubicz beautifully traces how human organs conduct and coordinate higher levels of perception. See *Esotericism & Symbol*, Inner Traditions, 1960; p. 48. He writes, “The animal is a freely moving plant because all the phases of its gestation are fixed in organs—in specific individualizations—because the root has become intestine, the leaf has become lung, the taproot has become stomach, the circulation of sap has become blood and veins, and the flower has become sex. This totality has been linked together by the marrow to form a conductive organ, the brain, and through that has become cerebral intelligence, which is conscious memory, and makes possible the expression of the innate consciousness that generated instinct. The faculty coordinating ideas is still lacking in order for man to exist.”

8 <http://www.webmd.com/eye-health/amazing-human-eye>

In **Equipoise Tree** (cover), pure elements of water organize the liquid mirror-like image of a landscape. How do moist eyes receive a reflective surface made of a similarly saturated, teary-like wetness? What does the organic image instill, for the viewer, if the reflection is privileged over the referent? In **Equipoise Tree**, the tree is made explicit from its implicit form. Not concerned with completing symmetry of the whole, it asks rather: In what space do reflections exist as part of real world fluctuations? How does the medium of photography lend itself toward preserving equilibrium in inert spaces of uniform motion? Imbued with a magical aura, nature's sublime beauty is suspended between two worlds.

ACTS OF TRANSUBSTANTIATION

Photographic representation, as an act of transubstantiation, has its origins in the search for truth and meaning. While “having your likeness taken” refers to the “mirror-like” results portrait studio artists achieved in the mid-nineteenth century, Scientists, Psychologists, and Philosophers of the same era, not knowing exactly what to call this wondrous phenomenon, defined the action of light on chemical properties variously. William Henry Fox Talbot and Sir John Herschel, two inventors of the medium, initially chose the terms *Sciagraphy*, *Photogenic Drawing* and *Physiognomic Trace* to articulate what they saw as being “cast off” the actual object, onto paper. Also heard was the enigmatic phrase: *That which leaves an impression*. This phrase, particularly poignant, pointed to invisible elements, tacitly present. And further, not only present, but also lasting—sometimes haunting—in an indescribable way. Disrupting the possibility for a photograph to make visible all of what one feels to be there, the expression *leaving an impression* implies there are forces that include not only the viewer's sight and ability to name objects, but also the human capacity to lay bare pressures of the unknown—*self consciously*.

The complexity in reading photographs seems to have always been tied to the corresponding complexity of being emotionally moved by them. Like impressionist painting, photography opened doors beyond the retention of symbols and their meaning. In *Camera Lucida* Roland Barthes describes a photograph as a representation and something else, where the referent adheres. He writes,

The photograph is literally an emanation of the referent. From a real body, which was there, proceed radiations which ultimately touch me, who am here; the duration of the transmission is insignificant; the photograph of the missing being, as Sontag says, will touch me like the delayed rays of a star. A sort of umbilical cord links the body of the photographed thing to my gaze: light though impalpable, is here a carnal medium, a skin I share with anyone who has been photographed.

It seems that in Latin “photography” would be said “*imago lucis opera expressa*”; which is to say: image revealed, “extracted,” “mounted,” “expressed” (like the juice of a lemon) by the action of light. And if Photography belonged to a world with some residual sensitivity to myth, we should exult over

the richness of the symbol: the loved body is immortalized by the mediation of a precious metal, silver . . . to which we might add the notion that this metal, like all the metals of Alchemy, is alive.⁹

Photography's effect of mimesis—being inseparable from its referent—depends on some difference between the thing and its reproduction. While Barthes, a brilliant semiotician, covers many of the paradoxes and conundrums that photography markets to us as a culture, his treatise speaks to my search not only for understanding *photography in and of itself*, but the genesis and future of my own being and becoming.

TRUER ILLUSIONS

When an observer sees an object as a photograph an otherwise ephemeral moment is arrested. While a photograph's rays are evidence of an event happening externally, photographs draw us simultaneously toward encountering our inner self-conscious selves. When we attempt to describe what we see reproduced, we return to look again and again, often seeing more. When it's observed that we do not see all there is to see at first glance, our assumptions are less easily overlooked. We become self-aware of our lack of attention and appreciate Barthes' distinguishing the hedonist's eye from the universal eye that generates his recantation, his metaphoric palinode.¹⁰

When first making distinctions between original and copy, I stripped the process bare of all apparatus, relying strictly on the alchemical laws of the medium. The immediacy of making photograms transcended all past images. By blackening and rendering permanent particles of silver, objects exposed directly to light gave way to seeing objects in and of themselves. As dense thick areas receive less light than subtler thin layers, patterns pronounced themselves in seamlessly real chiaroscuro tones in relation to exposure times. Touched by experimentation inside this closed field of examination, a shift occurred in my vision when walking in nature. While my first images of *Egypt* (Fig. 1) drew their importance from associated memory, the experience of pursuing a natural unmediated refraction process, imposed on translucent objects, moved me closer toward *seeing things for what they are, in and of themselves*.

But, by what endless number of possible experiments does light penetrating through a substance produce a deeper experience of reality? In learning the ways light penetrates, separates, filters, and diffuses the medium, more than the surface of things becomes visible. These temporary forms, marked by the forces of light and medium interacting, offer revelations of the unknown. What are these images really?

9 Barthes, Roland [1980] *Camera Lucida: Reflections on Photography*, Hill and Wang, NY 1982; p. 80.

10 Ibid. p. 60. Palinode is a term poets use when they retract a view or sentiment expressed in a former poem. In *Camera Lucida*, Barthes makes a recantation, effectively dividing his treatise into two parts.



Fig. 8 Icarus (2010) Archival pigment print

From this place—this position of not projecting but questioning and receiving impressions—does the ontological nature of a “mirror-like” process raise and affirm pictorially truer illusions? In a final example, a photograph I was directed *how to make* depended on my re-imagining the flight of a bird, at the same time as being aware of the exact angle in which I physically stood.

To “see” **Icarus** (Fig. 8) it was necessary to move around to detect how and if this something (of startling beauty) was actually there.¹¹ To capture what was only visible in raking light, I moved quickly, for access to the image lay contingent on the sun illuminating the windowpane, which was also moving moment by moment. If a spectacle was ever glaring, this mark on the glass appeared as an encapsulated existential moment. It was just as much a gift as discovering the far more objective photogram, sealed in **Bottle No. 3** (Fig. 2). In every way, **Icarus** was also a photogram—the positive and negative already one. “—The windowpane and the landscape, and why not Good and Evil, desire and its object, dualities we can conceive but not perceive (I didn’t yet know that this stubbornness of the referent in always being there would produce the essence I was looking for.)”¹²

I let objects render themselves because the *punctum* (Barthes’ term for the element in a photograph, which pierces the viewer) or *Tuché* (as Lacan says the THIS) are “proof” to me that we are discussing living forces, which leave a “mirror-like” impression. Like an arrow, impressions strike electrical nerves in the body. For organic truths to emerge, it matters exactly how an object is simulated. To perceive the nature of *how* a mark is made is essential to **receive**. Only then does the mark become a penetrating sign. For the viewer, a clear conscious representation brings the capacity to transmute signs of the outer world, from inside. But then, I am a photographer in search of making Ariadne’s thread In/Visible (as Art).

11 In Greek mythology, Icarus is the son of the master craftsman Daedalus who escaped from the isle of Crete using wings his father constructed from feathers and wax. Failing to heed his father’s instructions (to be ware that if he flew too close to the sun, the sun’s heat would melt the wax in his wings), Icarus fell to sea. In the photograph, a city pigeon, not seeing the glass from the reflection of the sky, crashed into the windowpane, leaving a perfect chalk-like trace of its body.

12 Barthes, Roland [1980] *Camera Lucida: Reflections on Photography*, Hill and Wang, NY 1982; p. 6.



Fig. 9 Mirror Landscape 8 (2014) FujiFlex Light-Jet print



Fig. 10 Mirror Landscape 3 (2014) FujiFlex Light-Jet print



Fig. 11 Mirror Landscape 1 (2014) FujiFlex Light-Jet print



Fig. 12 Mirror Landscape 2 (2014) FujiFlex Light-Jet print



Fig. 13 Mirror Landscape 7 (2014) FujiFlex Light-Jet print



Fig. 14 Mirror Landscape 9 (2014) FujiFlex Light-Jet print



Fig. 15 Mirror Landscape 4 (2014) FujiFlex Light-Jet print



Fig. 16 Cathedral Forest (2013) Archival pigment print



Susannah Hays' photographs reveal the essential interconnectedness of all systems in our universe—from the smallest leaf to the cosmos itself. She steps quietly in the footsteps of Henry Fox Talbot and other early pioneers of photographic image-making, looking for clues that connect a photographer with the essence of the medium and the motivation that lies deep within the impulse to photograph. Her Interdisciplinary PhD dissertation, "Nature as Discourse," inquires into the relationship between artists and systems theorists.

Hays' work has been exhibited and collected in numerous public and private Institutions, including Stanford University who acquired her archive in 2010. Visiting Faculty at the San Francisco Art Institute from 2002–2012, she is presently Contributing Faculty of Santa Fe University of Art and Design.

—Heather Snider
Director, San Francisco Camerawork