



SHADOWS OF THE INVISIBLE



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Curated by Claude Baillargeon
Associate Professor of Art History

Featuring
Michael Flomen, Amy Theiss Giese, Susan kae Grant,
David Maisel, Marie-Jeanne Musiol,
Chrysanne Stathacos, and Shimpei Takeda

Oakland University Art Gallery, Rochester, Michigan
October 11 – November 23, 2014



Figure 1. Shunkichi Kikuchi, *Flash Burn on Gas Holder, Hiroshima Gas Company, 6,500 Feet from Ground Zero*, 18 October 1945. Records of U.S. Air Force Commands, Activities, and Organizations, Record Group 342, National Archives at College Park, College Park, MD.



Figure 2. Edgerton, Germeshausen & Grier, *Rapatronic Photograph of Detonating Nuclear Device Mounted on Tower, Operation Tumbler-Snapper, Nevada Test Site*, 1952. General Records of the Department of Energy, Record Group 434, National Archives at College Park, College Park, MD.

SHADOWS OF THE INVISIBLE

Claude Baillargeon

Shadows of the Invisible explores the ability of contemporary photography to reveal what is invisible to the naked eye. Often echoing the conflation of science and art that shaped early photography, the current preoccupation with the unseen manifests itself in remarkable fashions ranging from the poetics of evocation to the dread of the unknown.

Bringing together the intriguing work of seven photo-based artists of international repute, *Shadows of the Invisible* casts light upon a spectrum of energy fields, emanations, perceptual imaginings, subconscious imaging, and alchemical transmutations rendered tangible by photographic technologies. Given the thrust of this modest foray into the representation of invisibility, no attempt was made to achieve comprehensiveness. Proposed instead is a succinct visual essay, which is designed, in part, to draw attention to the compelling affinities found between artworks reflecting an array of contemporary conceptions of the unseen.

Included in this personal selection are Susan kae Grant's fragmented recastings of rapid eye movement sleep awakenings, David Maisel's reimagined X-rays of art objects from antiquity, Chrysanne Stathacos's electromagnetically assisted aura portraits of spiritual beings from around the world, Marie-Jeanne Musiol's Kirlian images of electrical coronal discharges from tree leaves, Michael Flomen's monumental enlargements of photograms made at night by the phosphorescent light of fireflies, Shimpei Takeda's cameraless traces of radioactive soil from the Fukushima area, and Amy Theiss Giese's apertureless recordings of shadow plays in architectonic interiors.

Historical Precedents

The use of photographic methods to gain access to sights beyond the threshold of human vision has a rich history dating back to the advent of the medium. In her engrossing study *Brought to Light: Photography and the Invisible, 1840–1900*, the San Francisco Museum of Modern Art curator Corey Keller explored the productive interrelationship between nineteenth-century science, photography, and invisibility.¹ In the process, she identified six principal sites of interaction: microscopy, astronomy, motion studies, electromagnetism, radiography, and spirit and kindred fluidic photography.

As might be expected, the scientific application of photography has never ceased to yield new knowledge and imagery of phenomena beyond the realm of the visible.² Yet, the scientific curiosity that was the impetus behind so many nineteenth-century pictures has, over time, been expanded to include artistic and imaginative pursuits that would likely have perplexed observers prior to 1900. Despite notable shifts in intentionality, photo-based artists continue to make images that engage conceptually with every type of invisibility explored in nineteenth-century photography.

There was, however, a paradigm shift in the mid-twentieth century with the advent of the nuclear age. As an international team of scientists—secretly gathered in Los Alamos by the US military—succeeded in splitting the atom, a whole new facet of invisibility came to light. In tandem with the unfathomable amount of energy released in the process, nuclear detonations added invisible radioactivity to the standard blast and thermal effects associated with conventional explosive weapons. Although the phenomenon of ionizing radiation had been observed for some time, it was not until the bombing of Hiroshima and Nagasaki that its devastating effects were witnessed firsthand on a massive scale.

In addition to this insidious and unprecedented threat, the overwhelming thermal energy released in a flash by the A-bombs dropped on Japan turned every material surface caught in its path—including human skin—into a photographic-like negative. Surface areas protected by impervious barriers like ladders and guardrails were protected by radiant heat, while their surroundings were instantly charred (see fig. 1). From people’s silhouettes imprinted on the roadway of bridges to the sharp delineation of individual blades of grass on wooden fences, everything cast a lasting shadow in the blink of an eye. Numerous photographs testify to the ubiquity of these flash burns, which provide concrete evidence for the new space-time continuum unleashed by nuclear fission.

From the very beginning of nuclear testing and throughout the ensuing arms race, photography and motion picture played central roles in the representation of the increasingly devastating power of nuclear weaponry.³ In particular, the use of ultra-high-speed photography (with exposure times in the order of 10 nanoseconds) made it possible to capture aspects of invisibility far beyond the reaches of the imaginable, as in this mesmerizing depiction of a rapidly expending fireball from Operation Tumbler-Snapper, 1952 (fig. 2).⁴ Though only one contributor to *Shadows of the Invisible* is currently engaged with the representation of nuclear invisibility, the subject, like radiation itself, has a lingering effect pervading much of my own thinking about what it means nowadays to photograph the unseen.⁵

In the following sections, my intent is to show how each of the seven contributing artists engages with present conditions of invisibility, how their compelling images came to be, and how their work conceptually relates to historical precedents.

SUSAN KAE GRANT

The Poetics of REM Sleep Awakenings

The imaginative merging of art and science that fascinated nineteenth-century audiences is intrinsic to Susan kae Grant’s photographic and sound installation *Night Journey* (plates 2–3), initially conceived in 1999. As one can envision from the small-scale prototype reproduced as figure 3, *Night Journey* is comprised of twenty-four mural prints on translucent chiffon panels to be suspended from a gallery ceiling in a maze-like configuration enabling the audience to pass through the work. Most of the images depict the black silhouettes of female figures engaged in simple, often self-reflective narratives, whose thrusts are suggested

by minimal props, the occasional close-up details, and some interactions with other figures. As in Plato’s Allegory of the Cave, *Night Journey* is but a gathering of shadows standing in for other realities. The continual playing of two off-sync recordings of whispering voices further enhances the experiential dimension of the work and its connection to the invisible unconscious.

Looking for a means to access the symbolic core of her dreams and unconscious visual memory, the artist spent numerous nights under observation in Dr. John H. Herman’s sleep research laboratory at the University of Texas Southwestern Medical Center. When digital monitoring reported that she reached the stage known as rapid eye movement (REM) sleep, where dreaming has been shown to be especially active, the artist was awakened for interrogation by trained technicians. The recorded recollections, which shed some light on the artist’s dreamwork and her psychic state, became the inspiration for the photographic images and sound bites featured in *Night Journey*.



Figure 3. Susan kae Grant, *Small-Scale Prototype for Night Journey Installation*, 1999. Transparencies mounted on Plexiglas supported by wooden stands.

Using only the dark shadows cast from narratives enacted in her Dallas studio in front of a plain backdrop, Grant creates wondrous images reminiscent of childhood fairytales. Though some appear delightful, others suggest painful recollections. Intended as metaphors for the perceptual and psychological dimensions of oneiric logic, these works tap into a universal source of the marvelous that continues to hold deep mysteries. According to Dr. Herman: “Grant has created an artistic interpretation of REM sleep dreaming that is faithful to the properties of dreams that were simultaneously emerging from sleep laboratory studies: the desaturated appearance, the indistinct, ethereal properties of seemingly familiar objects, and the strong narrative quality.”⁶

Over the last fifteen years, Grant has continued to expand this work into a five-chapter series of large pigment prints on paper, two of which, *Encrypted Lessons* from *Theatrical Realms of the Whimsical and Tragic*, 2010–12 (plate 1) and *Thorn Girl* from *Visions of an Insomniac*, 2007–09 (plate 4), provide recent counterparts to the immersive installation.

DAVID MAISEL

The Uncanniness of X-Ray Imaging

Of all the nineteenth-century methods of gaining insight into the invisible, none proved more enthralling to the general public than the remarkable discovery of X-rays in 1895 by the German physicist Wilhelm Röntgen. The uncanny ability of high-frequency electromagnetic radiation to penetrate opaque substances and leave the shadowy imprint of their internal structure onto photographic film startled everyone, scientists and laypersons alike. Despite the uneasiness evoked by the sight of skeletal figures—always a poignant reminder of our own mortality—the technique flourished while captivating the popular imagination.⁷

Within the realm of art, conservators have long used X-ray technology to study the physical composition and condition of artifacts. Much can be learned from X-rayed artworks about the nature of the chosen materials, the techniques employed to create or restore them, the sequence of their execution, some adjustments made to the original composition, or to reveal evidence of later additions. Major museums often invest in the necessary technology and expertise to perform this type of scientific and analytical work in-house.

When David Maisel, an artist well known for his exquisite aerial photographs of sites showing environmental degradation, was invited to spend time as a scholar



Figure 4. David Maisel, *Charles-François Daubigny’s Cliffs at Villerville-sur-Mer (1864–72) Undergoing X-Ray Analysis at the Getty Conservation Institute, Los Angeles*, 2007.

in residence at the Getty Research Institute, his curiosity led him to the museum’s conservation lab (see fig. 4).⁸ It was this opportunity to see both original artworks and their X-rays simultaneously that made him realize how “The ghostly images of these x-rays seemed to surpass the potency of the original objects of art.”⁹ In turn, this awareness incited him to explore the museum’s radiological archives as a potential source of raw material for what eventually became *History’s Shadow* (see front cover and plates 5–10).

Working with the support of the Getty and of the Asian Art Museum of San Francisco, Maisel rephotographed a carefully curated selection of X-rays on color film, which he then digitally scanned in order to adjust, transform, and manipulate the images both globally and locally. The result of this creative merging of art and science is a haunting series of decontextualized representations of art objects from the distant past and different cultures, which now reveal, with no small wonder, some intimate secrets long hidden from public view. At times it is as though these inanimate objects have been infused with the

very soul that they were once metaphorically imbued with. Thus the head of Buddha (plate 9) now exudes more potently than ever the fortitude of mind, the power of concentration, and the aura of deep spirituality that it is intended to evoke as a sacred object. Here, art infuses new life into art using the tools of science.

CHRYSANNE STATHACOS

The Metaphysics of Fluidic Auras

According to the seminal study *The Perfect Medium: Photography and the Occult*, the effluvist tradition of photography, which concerns itself with the empirical, though controversial documentation of fluidic phenomena, originated in the 1860s. With the discovery of Röntgen rays three decades later, the “occultists were quick to use the scientific credibility of X-rays to legitimate old beliefs,” however tenuous they may have been.¹⁰ Renewed experimentation with fluidic photography ensued in the late 1890s, especially the attempted recording of individuals’ vital fluid and thought. By the mid-twentieth century, the work of Semyon and Valentina Kirlian—to be discussed further on—would once again expand the reach of the photography of fluids to new phenomena. In its most current manifestation, the perpetuation of the effluvist tradition takes the form of aura portraits, a technique introduced in 1970 by the American Guy Coggins and used over the last fifteen years by Chrysanne Stathacos for *The Aura Project*.

Coggins’s method relies on the use of a specially designed camera, which uses instant color film and biofeedback transferred to the computer-assisted apparatus by the hands of a sitter resting on electronic sensors. Portrayed against a black background, the subjects are rendered photographically under a colorful prismatic haze, the tints of which are induced by the aura they emanate. In Coggins’s classic procedure, the auras are then interpreted according to the predetermined meaning of their colors.¹¹ This practice was inspired from the teachings of Theosophy, as expounded by Helena Blavatsky and reiterated by her disciples Annie Besant and Charles Leadbeater in their *Thought-Forms* of 1905 (see fig. 5). As the historian of the occult Robert Galbreath explains, Besant and Leadbeater maintained that “In the highly developed person, characterized by sublime thoughts and selflessness, the mental body and the less delicate astral body display radiant, clear, and rippling colors; but the aura of the gross, insensitive person shows heavy, dull, muddy colors.”¹²

Despite her affinity with the metaphysical dimension of Theosophy, as a long-time practitioner of aura photography, Chrysanne Stathacos distanced herself from the role of “aura reader” and Coggins’s color scheme, preferring instead to reply to those seeking interpretation with a question of her own: “Are there any bad colours in the rainbow?”¹³ As if to emphasize her ambivalence with the interpretive aspect of color emanations, Stathacos inscribed a color chart from *Thought-Forms* with the words “Madame B colors” (see fig. 5), which can be

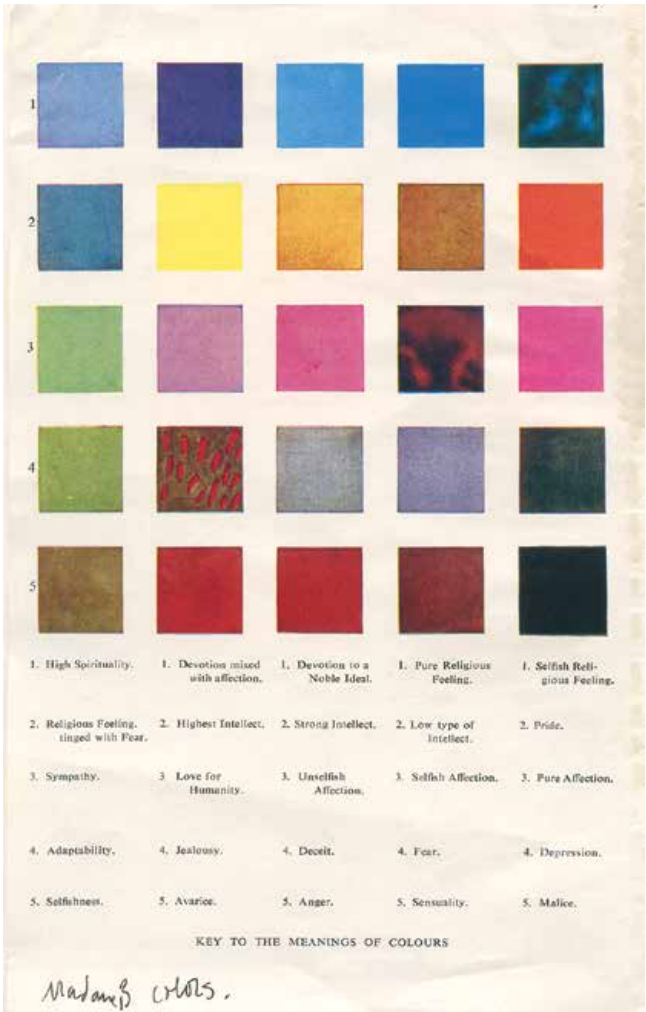


Figure 5. *Key to the Meaning of Colours*, frontispiece of Annie Besant and C. W. Leadbeater, *Thought-Forms* (London and Benares: The Theosophical Publishing Society, 1905).

read both as an homage to and a distancing gesture from Madame Blavatsky’s “intense” color interpretations.¹⁴

What also differentiates Stathacos’s practice from Coggins’s entrepreneurial undertaking is her commitment to travel the world in search of “spiritually advanced” people from different ethics and religious traditions (plate 14), including holy Hindu women and *sadhus*, Tibetan monks, Nepalese Buddhists, Japanese Shintoists (plate 16), and Caucasian psychics (plate 13).

MARIE-JEANNE MUSIOL

The Discharge of Life Forces and Black Holes

The search, initiated in the late nineteenth century, for objective evidence of the psychic energy fields central to the doctrines of Buddhism, Theosophy, and other spiritual traditions reached a new stage in the 1940s with the work of the Soviet electrician Semyon Kirlian and his wife Valentina. Given their isolation behind the Iron Curtain, the method they devised to capture the striking phenomenon of electrical coronal discharges emitted by human subjects and botanical specimens did not receive broad exposure until the 1970s.

Known today as Kirlian photography, the procedure involves no camera or lens, as it is a contact printing process rendering the original subject in its exact dimensions. To produce the typical image of a tree leaf, such as those created by Marie-Jeanne Musiol (plates 17–20), a specimen is laid in total darkness on light-sensitive film resting upon a metal conducting plate. To expose the film, a high-voltage electrical discharge, which can be modulated in several ways (polarity, voltage, amperage, frequency, duration, etc.), is applied for about a second. Figure 6 shows the artist in her studio with the device that is used to regulate the electromagnetic impulse sent to the metal plate. The high electrical current, which is said to have caused the Kirlians multiple burns, energizes the specimen and renders visible the spectacular life force emanating from its perimeter. Both color and black-and-white images can be produced, but Musiol shuns the use of color, preferring instead the more restrained effect of monochrome tonalities.

To gain an understanding of what led Musiol to Kirlian technology, some knowledge of the work she produced during the 1990s is relevant. For much of the decade she made repeated visits to and bodies of work about Auschwitz-Birkenau in attempts to represent the unrepresentable. As she explained, “Having walked Auschwitz extensively, I was experiencing the real impossibility of expressing

through photography the energetic presence felt in this site where the water of the ponds, the trees of the forest, with their roots grounded in human ashes, were acting subtly upon matter. To express this situation adequately, I felt that I needed more than a metaphoric equivalent. I set out to find an instrument that would render visible this intuited energetic presence and I accidentally came across Kirlian photography.”¹⁵

On account of its preternatural ability to conjure up simultaneously the sublimity of life forces and the black holes of darkness, Musiol found in the Kirlian method an exceptional tool of light to illuminate how living matter “gives out or reacts to” energy.¹⁶ As *Mirrors of the Cosmos*, her close-up video exploration of Kirlian leaves also confirms (see plates 21–22), even the smallest particle of energized matter contains a whole cosmic universe.

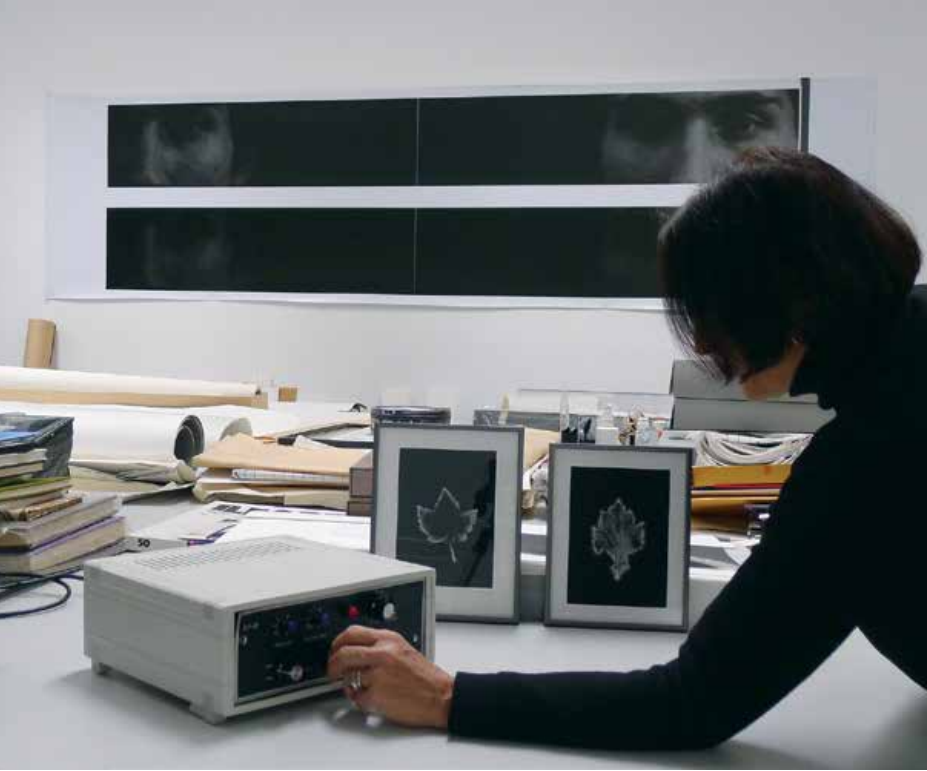


Figure 6. Marie-Jeanne Musiol, *The Artist in Her Studio with the Electronic Apparatus for the Production of Kirlian Photographs*, Gatineau, QC, 2013.

MICHAEL FLOMEN

The Bioluminescent Trail of Courtship

From the earliest days of photography, scientists and curious observers availed themselves of the ability of the medium, especially when combined with microscopes and other optical devices, to study microorganisms and the insect kingdom. Initially concerned mostly with issues of morphology and metamorphosis, these observational practices gave rise to absorbing images, many displaying spectacular forms and striking patterns, which artists did not fail to harness for their own aesthetic purposes.¹⁷ Much that was once invisible thus became familiar.

In the latter part of the nineteenth century, with substantial improvements in technology and the increased sensitivity of dry plates, a different breed of photographers turned its attention to another domain of invisibility, the study of motion. From human and animal locomotion to ballistic shock waves, motion studies proved equally effective in revealing what the unaided eye could not discern.¹⁸ Progressing by leaps and bounds over the next several decades, motion photography has taken our collective consciousness to the threshold of



Figure 7. Photo: © André Cornellier, *Michael Flomen at Work in the Field with Fireflies*, 2007, from the video *Under the Cover of Darkness*, directed by André Cornellier (Montréal: UMA La Maison de l’image et de la photographie, 2008), DVD.

quantum physics with images like the 1952 Rapatronic photograph of Operation Tumbler-Snapper discussed above (see fig. 2).

In the work of Michael Flomen, a photo-based artist who describes himself primarily as a painter—one who paints with light—we encounter a shared desire to make “the invisible visible.”¹⁹ Following years of working successfully as a street photographer in the modernist tradition, Flomen reinvented himself as a conceptual alchemist determined to experiment freely and intuitively with photographic materials and their fundamental light-sensitive properties.²⁰ Often working directly in nature—at night—and without a camera, Flomen has taken the notion of the cameraless photogram to uncharted territory. Known to lay unexposed photographic mural paper in snowy woods and in the shallow waters of marshy streams replete with aquatic life, Flomen interacts intuitively with the elements within arm’s reach to create abstract compositions. To expose these photograms, he relies upon small hand-held flashes, which he angles sharply to achieve a raking light effect.

In his most celebrated series to date, which includes *Double Trouble* (plate 23), a mural-sized diptych enlarged from two photograms on 8" x 10" color reversal film, Flomen relied entirely on the bioluminescence of male fireflies engaged in the courting process to expose the original photograms. As can be seen in figure 7, a night-vision photograph showing the otherwise invisible artist guiding specimens under his sheet film, the process is as unorthodox as it is enchanting. Like an abstract expressionist enthralled by the act of rhythmic mark making, the play of light and color, and the tension between utter flatness and illusionary depth, Flomen is indeed one who paints with light.

Yet, by recording the fireflies’ movement through time and space, in a manner analogous to the late nineteenth-century physiologist Étienne-Jules Marey, who studied moving subjects by means of multiple exposures on single glass plates, *Double Trouble* remains firmly grounded within the history of photography.

SHIMPEI TAKEDA

The Dread of Radioactive Fallout

One year after Röntgen made his momentous discovery of X-rays, the French physicist Henri Becquerel uncovered a more pernicious phenomenon, that of invisible radioactivity, the manifestation of which he corroborated with photographic evidence.²¹ Despite the subsequent research of Pierre and Marie

Curie and other scientists invested in the field of radioactivity, it was not until the A-bombing of Japan that the disease, which became known as radiation sickness, generated critical attention. Japanese scientists understood that they were confronted with nuclear radiation when they came across an entire stock of fogged X-ray films kept within their protective enclosures in the Hiroshima Red Cross Hospital located one mile from ground zero.²² Humankind has been struggling ever since with the fear of radioactivity.

A second dire warning on the global scale came with the 1986 Chernobyl nuclear meltdown, the effects of which continue to manifest themselves in parts of Belarus, Russia, and Ukraine, where an exclusion zone covering 1,000 square miles remains officially closed to human habitation. Similarly devastating is the damage unleashed by the Tōhoku earthquake and tsunami of March 11, 2011, which led to the meltdown of three reactors at the Fukushima Daiichi Nuclear Power Plant. With the Chernobyl precedent, this was only the second nuclear incident to reach level 7, the highest possible rating on the International Nuclear Event Scale.



Figure 8. Photo: © Keisuke Hiei, *Shimpei Takeda Collecting Soil Samples at Hyaku-Shaku Kannon in Soma, Fukushima*, 2012.

At the time of the Fukushima disaster, Shimpei Takeda, a native of the area, had been making art in New York for nearly a decade. The urge to respond led him to conceive a work that would address both the limits of representation and the dread of radiation. Early in 2012, he journeyed back to Japan to collect contaminated soil samples from twelve locations surrounding Fukushima Daiichi (see fig. 8). His selection criteria included not only places of personal significance to him, but also age-old shrines and temples, a medieval castle, former military bases, and sites of natural beauty tainted with tragedy, all of which imbued, as he put it, with “a strong memory of life and death.”²³ Distraught by his dosimeter clicking ever faster, Takeda remarked, “It was such an odd and terrifying experience to collect soil samples as I felt like gathering somebody’s ashes.”²⁴

Once carefully documented, the soil samples were laid over 8" x 10" black-and-white negatives protected in plastic sleeves, where they remained in contact for a month in total darkness. The enlargements obtained from the resulting autoradiographs reveal whole cosmologies of fallout particles seemingly irradiating some unexplored universe. Although these images originated from invisible gamma rays, their indexical dimension attests to the ability of photography not only to bear witness to unseen forces, but also to transform matter into energy, just as nuclear technology draws forth energy from the atom.

AMY THEISS GIESE

The Architectonics of Darkness

At least as early as the Renaissance, room-sized camera obscuras (Latin for dark chambers) have been used to observe natural light phenomena, including solar eclipses. Broadly considered a key forerunner of photography, the camera obscura remains an object of marvel given its nearly magical ability to project inverted images of the outside world onto dimly lit interior spaces. Part of the fascination lies in the elementary technology, as all that is required is a small opening to allow photons to delineate pictures in the dark without human intervention. To experience this wonder firsthand is to contemplate the origins of photography.

Amy Theiss Giese is one of many contemporary artists exploring the genesis of photography and its fundamental interactions with light, silver salts, the invisible latent image, and its permanent retention. *Concealed at First at Last I Appear*, the title of her current work, pays homage to Fox Talbot, the inventor of paper photography, who, in his early experiments of 1833–36, used light-sensitive



Figure 9. Amy Theiss Giese, *Site of Skiagram Recording, Hartford, CT*, 2011.

materials to copy this handwritten phrase, which a few years later would perfectly describe the latent image principle.²⁵

To produce her elemental images, which involve neither camera, nor aperture, Giese locates enclosed spaces, like the one seen in figure 9, where shadowy light filters in at night through partly shaded windows, gaps, and orifices. Although the resulting patterns are not inverted images like those obtained in camera obscuras, the sensation evoked by these dimly lit spaces is similar, as both require several minutes for the eyes to acclimate. Reflecting upon the play of light that became the sole element of her evocative architectonic compositions, the artist remarked: “Sometimes the patterns are informed by architectural elements of the building, sometimes it is something outside the building blocking the light, and sometimes there are elements within the room itself that change the patterns and shapes of light and dark.”²⁶

The recording process involves laying photographic mural paper directly in the path of the incoming light for a substantial amount of time, a factor that results in visual compressions of time and space, which the naked eye cannot perceive. Since no physical objects come into contact with the light sensitive paper, the resulting abstractions (plates 28–30) differ from traditional photograms, a realization that led Giese to refer to them, in a further tribute to Talbot, as *skiagrams* from the Greek words for written or drawn shadows. Back in 1835, Talbot himself had employed the terms “Photogenic or Sciagraphic process” to designate his newly conceived negative/positive system.²⁷ Yet, in Giese’s case, the final works are the negatives themselves, which make each artwork unique. Also contributing to the creative process are the unexpected and uncontrollable light incidents occurring during the exposure process, like car headlights, which often add details of interest.

It is fitting, I would argue, to conclude this essay on shadows of invisibility with Giese’s skiagrams, which attempt to capture one of the most elemental forms of energy: the humble photon. As we have seen, other contemporary photographers are making concerted efforts to help us visualize more complex energy fields, including X-rays, fluidic phenomena, and radioactivity. Yet, the environments in which we live are constantly subjected to and increasingly saturated with forms of energy invisible to the naked eye: microwaves, radio waves, Bluetooth, Wi-Fi, and various network-enabling remote controls, cell phones, GPS, satellite televisions, etc. Few people seem genuinely curious about the cumulative effects that all this radiation may be having upon us, but it would be interesting to see how these fields intersect. Perhaps it will take other creative photographers to reveal these effects and make us realize the extent of our dependencies upon invasive technologies. Meanwhile, we can be grateful for what the works of these artists reveal about the unseen world all around us.

Claude Baillargeon, PhD, MFA, is an Associate Professor of Art History at Oakland University. His most recent curatorial projects include the internationally traveling exhibitions *Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate* and *Revolutionizing Cultural Identity: Photography and the Changing Face of Immigration*. His current scholarship focuses on representations of the nuclear experience from a global visual perspective.

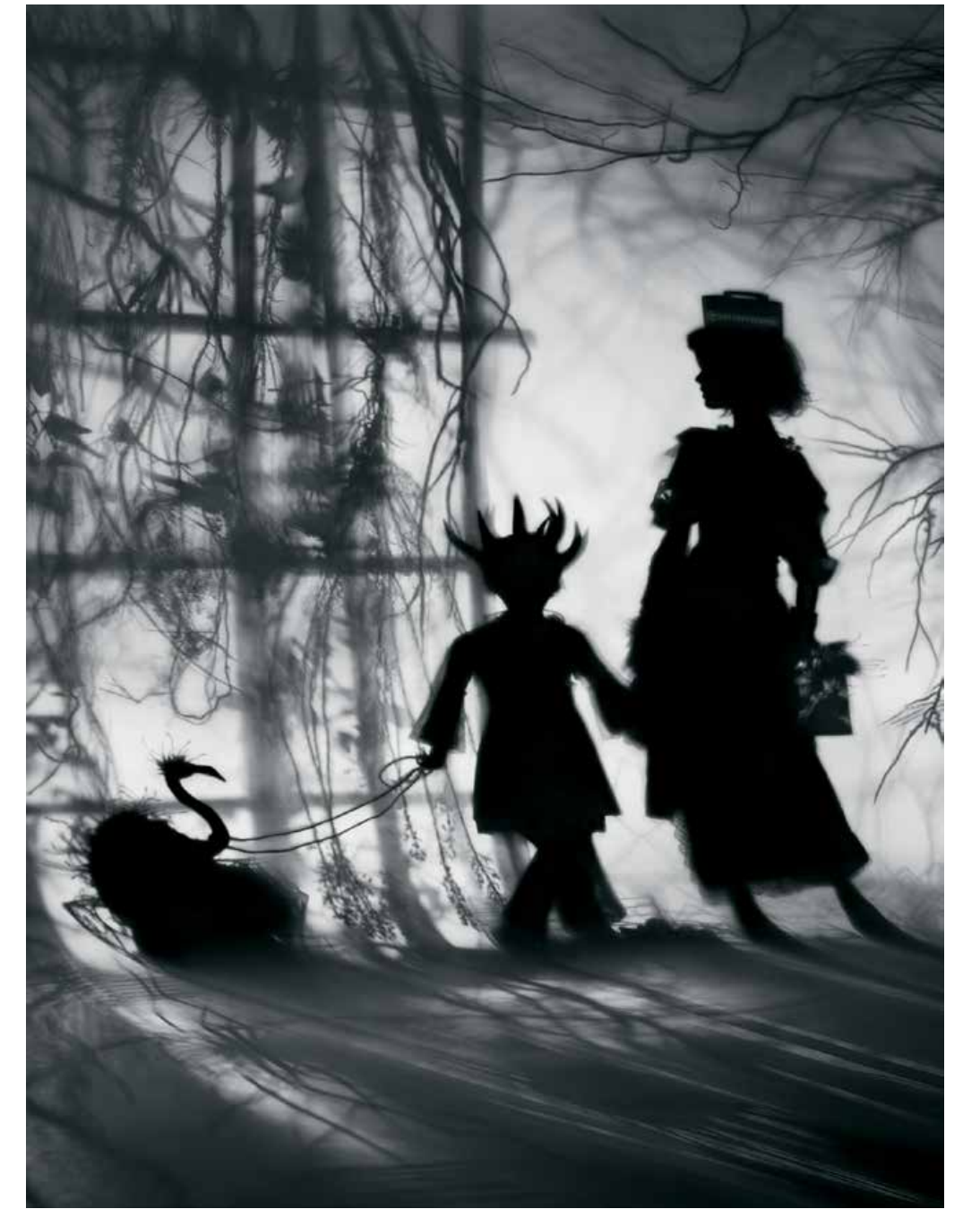
NOTES

1. Corey Keller, ed., *Brought to Light: Photography and the Invisible, 1840–1900* (San Francisco: San Francisco Museum of Modern Art in association with Yale University Press, 2008).
2. See, for instance, Ann Thomas, ed., *Beauty of Another Order: Photography in Science* (New Haven: Yale University Press in association with the National Gallery of Canada, Ottawa, 1997).
3. For one publication that specifically addresses the subject of invisibility as it relates to nuclear photography, see Robert Del Tredici and Blake Fitzpatrick, *Visibility and Invisibility in the Nuclear Era: The Atomic Photographers Guild* (Toronto: Gallery TPW, 2001).
4. Known as Rapatronic photographs, these remarkable images were commissioned from the scientific firm of Edgerton, Germeshausen, and Grier, see James Elkins, “Harold Edgerton’s Rapatronic Photographs of Atomic Tests,” *History of Photography* 28, no. 1 (Spring 2004): 74–81, and James Elkins, chap. 5, “The Rapatronic Camera,” in *What Photography Is* (New York: Routledge, 2011).
5. Susan kae Grant’s *Radio-Active Substances* (1994–95), which is not included in the show, is a bookwork, with lead pages, providing a feminist interpretation of Marie Curie’s graduate dissertation, which she defended at the Sorbonne in 1903. The work can be seen on her website, susankaegrant.com, under the heading “book arts.”
6. Dr. John H. Herman, “A Photographer’s Interpretation of Her Sleep Laboratory Dreams,” in Susan kae Grant, *Night Journey: Dreams, Memory and the Unconscious* (San Bernardino, CA: California State University, 2005). This essay was initially published in a trifold exhibition brochure accompanying a showing of *Night Journey* organized for the 17th annual meeting of the Associated Professional Sleep Societies held in Chicago.
7. On the history of Röntgen’s discovery and its significance within the discourse surrounding photography and the invisible, see Corey Keller, “X-Rays,” in Keller, ed., *Brought to Light*, text inserted between pls. 114–15; and Clément Chéroux, “Photographs of Fluids: An Alphabet of Invisible Rays,” in Clément Chéroux, et al., *The Perfect Medium: Photography and the Occult* (New Haven, CT: Yale University Press, 2005), 114–25.
8. For a comprehensive survey of Maisel’s aerial photographs, see his *Black Maps: American Landscape and the Apocalyptic Sublime* (Göttingen: Steidl, 2013).
9. David Maisel, “Trace Elements and Core Samples,” in David Maisel and Jonathan Lethem, *History’s Shadow* (Portland, OR: Nazraeli Press, 2011), n.p.
10. Chéroux, *The Perfect Medium*, 116.
11. On Coggins’s method, see *ibid.*, 166–67, and the website for his company Aura Imaging, auraphoto.com, which provides a chart to facilitate color interpretation.
12. Robert Galbreath, “Thought-Forms,” in Maurice Tuchman, et al., *The Spiritual in Art: Abstract Painting, 1890–1985* (New York: Abbeville Press with the Los Angeles County Museum of Art, 1986), 390.
13. “Chrysanne Stathacos: *The Aura Project*. An Interview by Jennifer Fisher,” in Jennifer Fisher, ed., *Technologies of Intuition* (Toronto: YYZ Books, MAWA, and Displaycult, 2006), 107.
14. In her interview with Jennifer Fisher, *ibid.*, Stathacos added: “I do like Madame Blavatsky’s chart which gives the significance for different colours perceptible in an auric field even though some of the meanings for the colours are a bit intense.”
15. Marie-Jeanne Musiol, “Penetrating Matter,” in Marie-Jeanne Musiol and Konstantin Korotkov, *Corps de lumière/Bodies of Light* (Hull, QC: Axe Néo-7, 2001), 17.
16. *Ibid.*, 18.
17. On photomicrography, see Keller, ed., *Brought to Light*, 74–75 and pls. 1–40; see also Ann Thomas, “The Search for Pattern,” in Thomas, ed., *Beauty of Another Order*, 76–119.
18. On motion studies, see Keller, ed., *Brought to Light*, pls. 74–97 and related text; see also Marta Braun, “The Expanded Present: Photographing Movement,” in Thomas, ed., *Beauty of Another Order*, 150–84.
19. As noted by Gary Michael Dault in his review of *NYX/1993*2013*, Maison de la culture de Côte-des-Neiges, Montréal, *Border Crossings* 33, no. 1 (March–May 2014): 100.
20. For examples of Flomen’s street photography, see his *Still Life Draped Stone* (Santa Barbara: The Paget Press, 1985).
21. See Keller, ed., *Brought to Light*, pls. 139–40 and related text inserted between pls. 114–15.
22. See D. C. Livingston, “Gamma Radiation Dosage at Hiroshima from Recovered Photosensitive Material,” LA-509 (January 24, 1946), Los Alamos National Laboratory, NM.
23. Shimpei Takeda, *Trace: Cameraless Records of Radioactive Contamination* (New York: Shika [self-published], 2012), n.p.
24. *Ibid.*
25. As noted in Geoffrey Batchen, *Burning with Desire: The Conception of Photography* (Cambridge, MA: MIT Press, 1997), 144.
26. Personal email communication, July 9, 2014.
27. As cited in Batchen, *Burning with Desire*, 149.

Portfolio



Plates 1–2. SUSAN KAE GRANT, *Encrypted Lessons* and installation view, from *Night Journey*, 1999–present



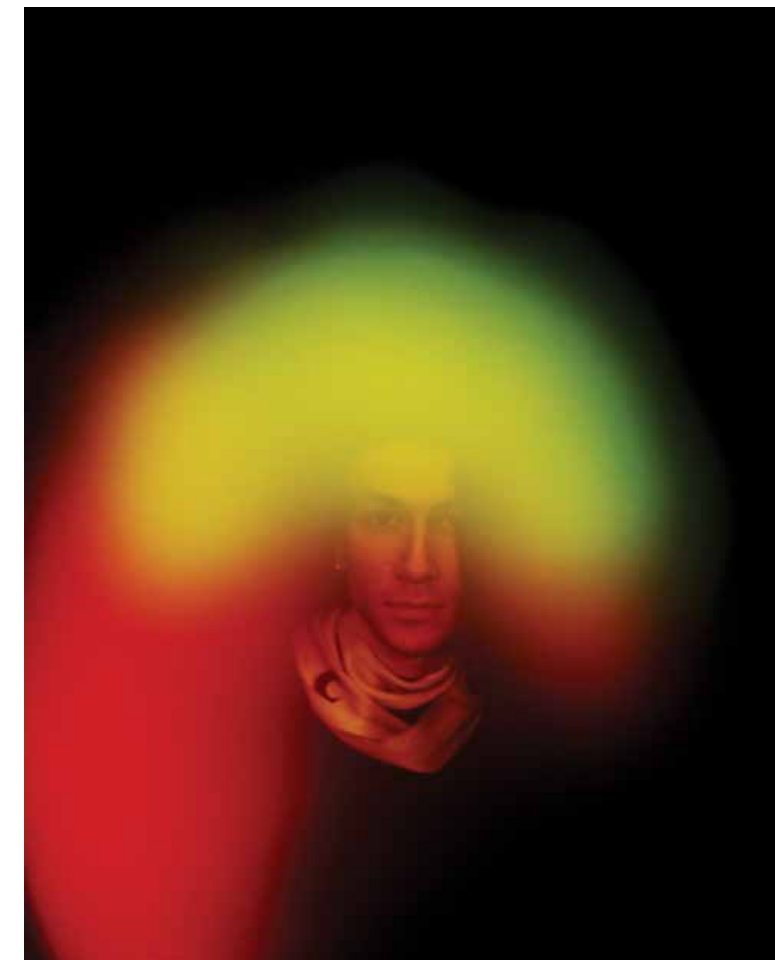
Plates 3–4. SUSAN KAE GRANT, installation view and *Thorn Girl*, from *Night Journey*, 1999–present



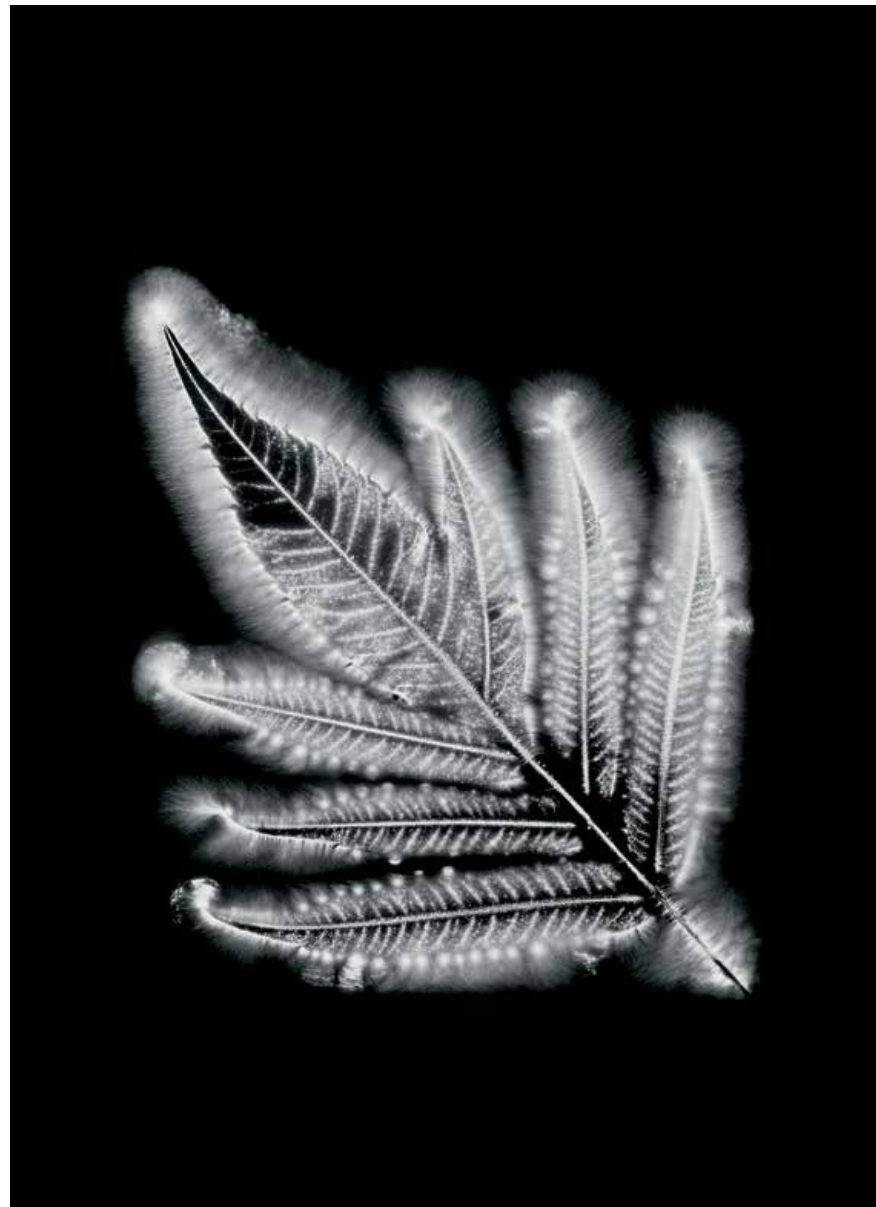
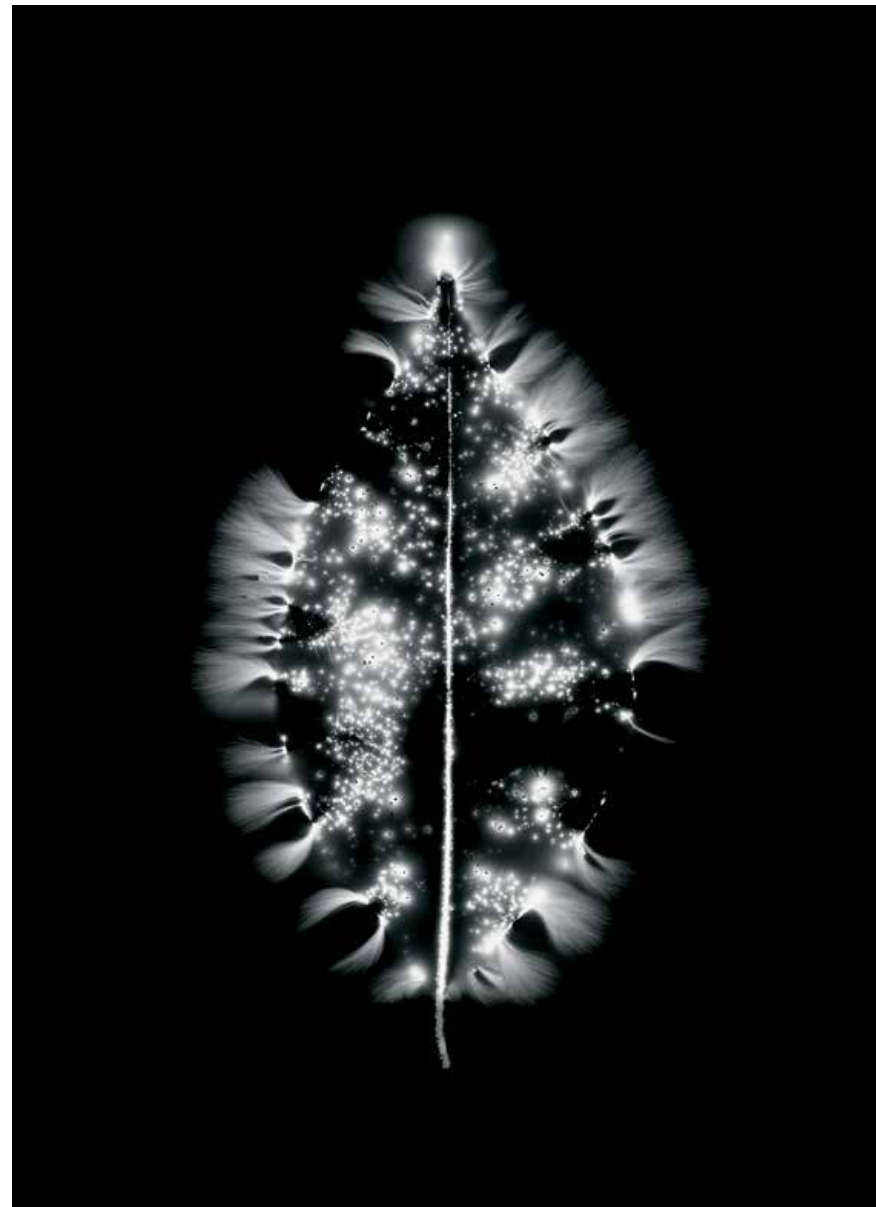
Plates 5–7. DAVID MAISEL, *GM10*, *AV4*, and *GM20*, from *History's Shadow*, 2010

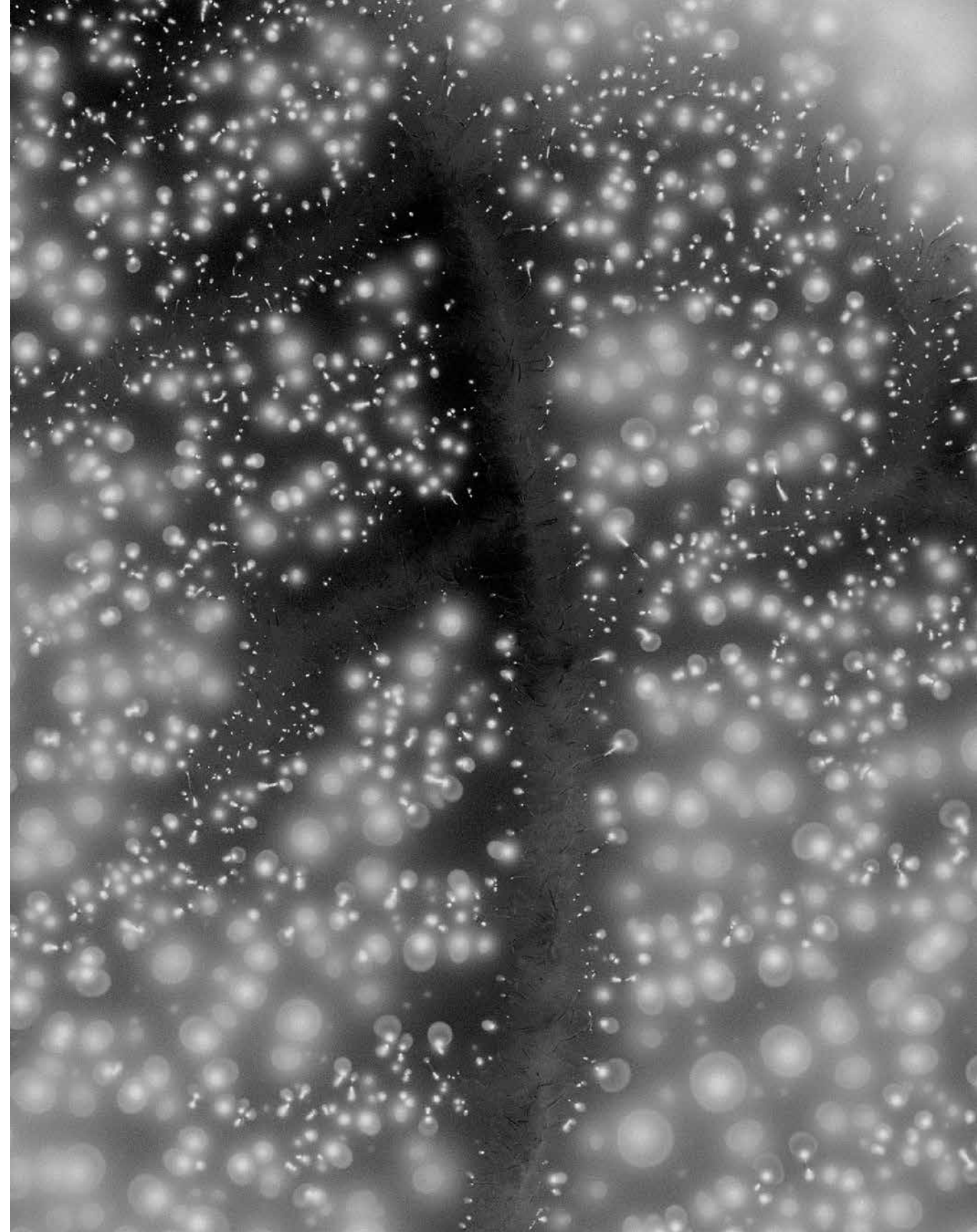




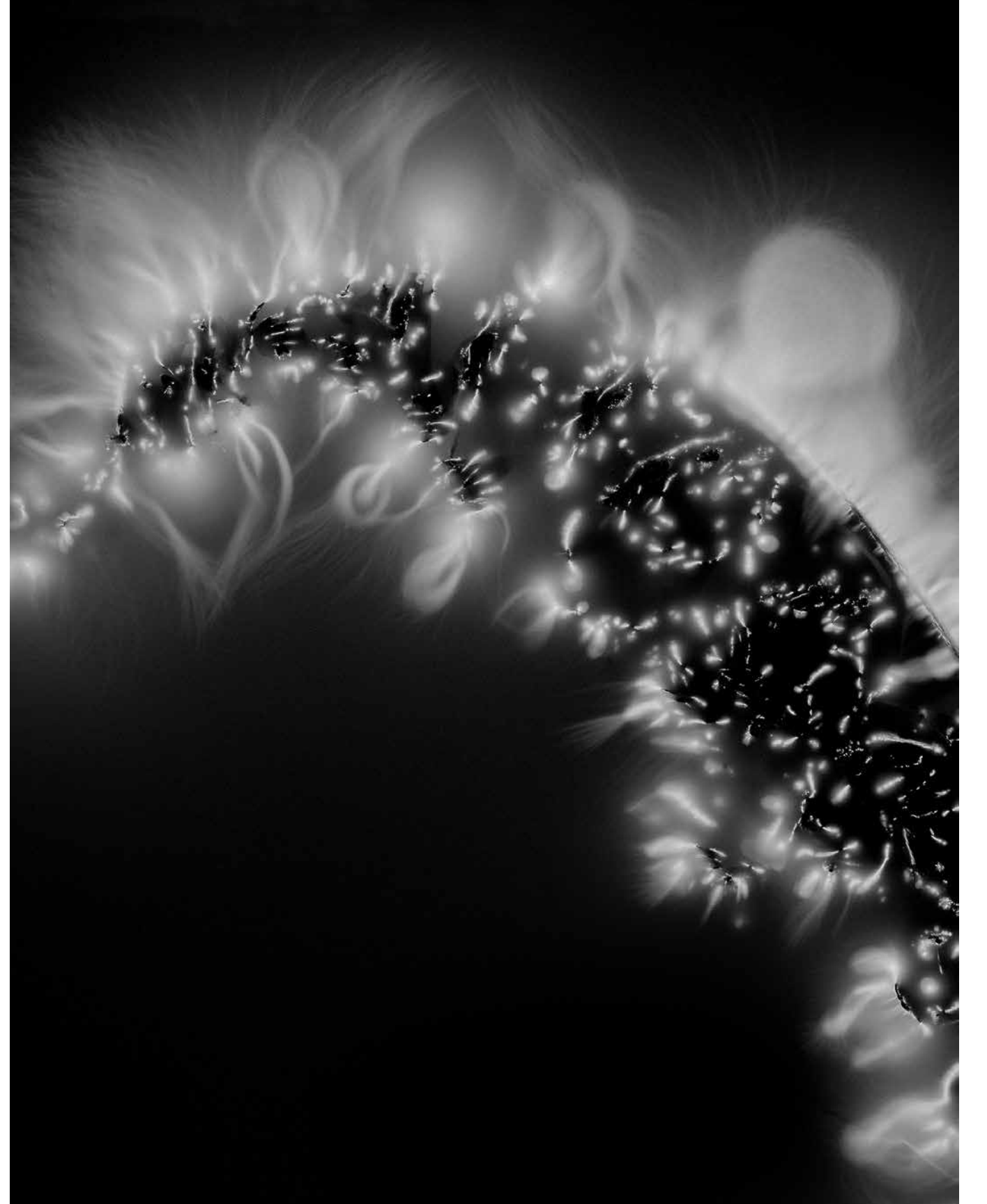


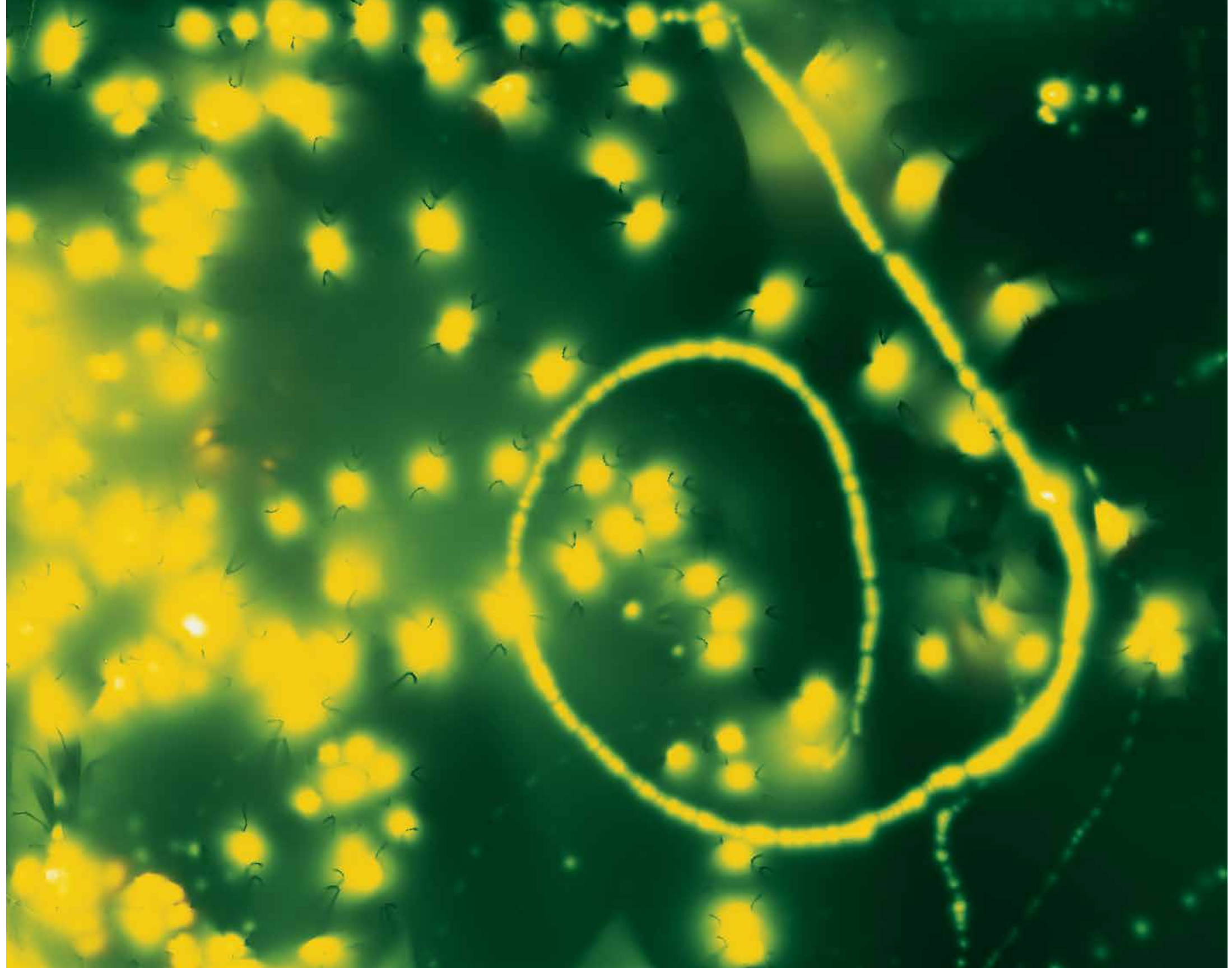
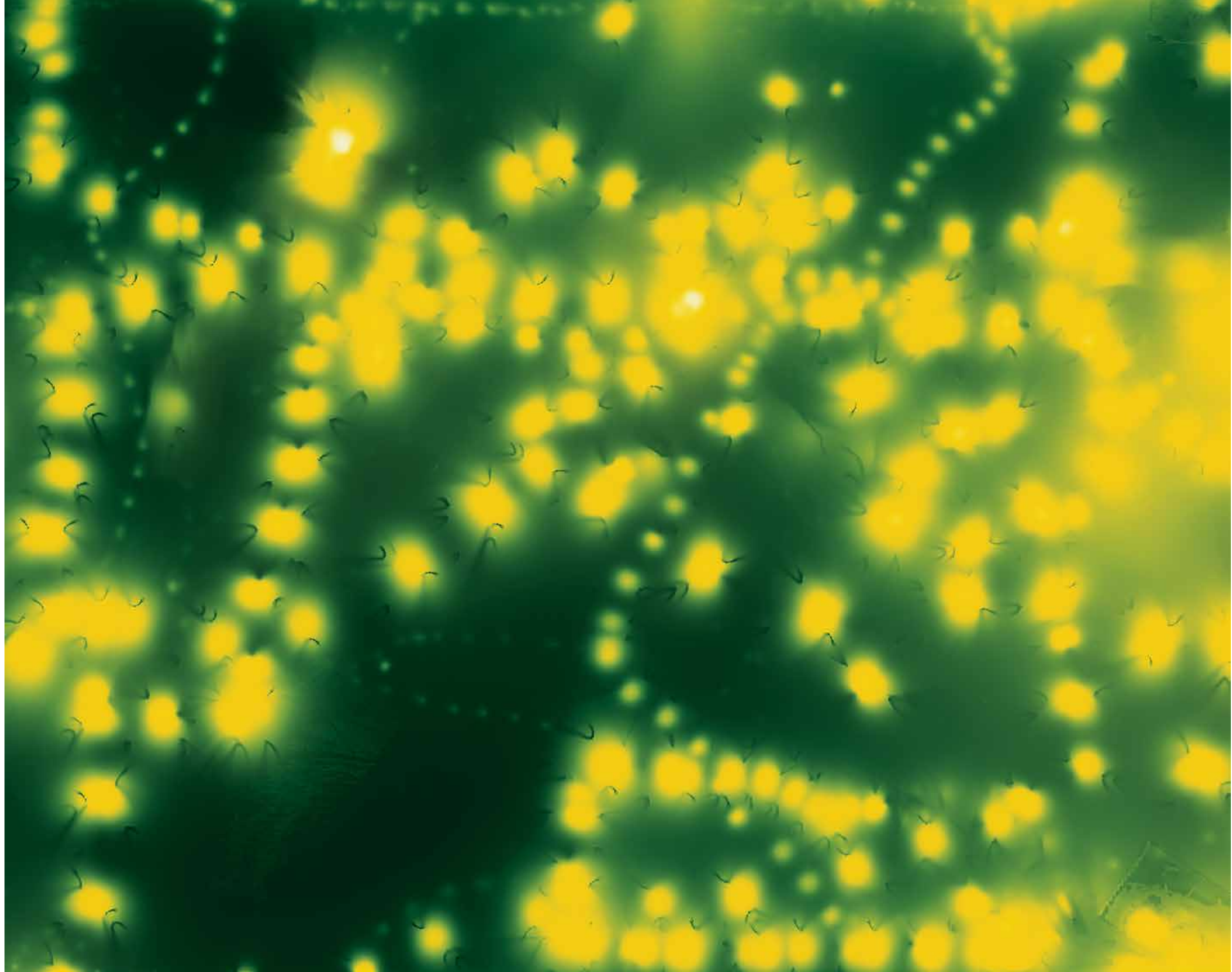
Plates 14–16. **CHRYSANNE STATHACOS**, *The Aura Grid*, *New York Artist*, and *Nara Baby*, from *The Aura Project*, 1999–present

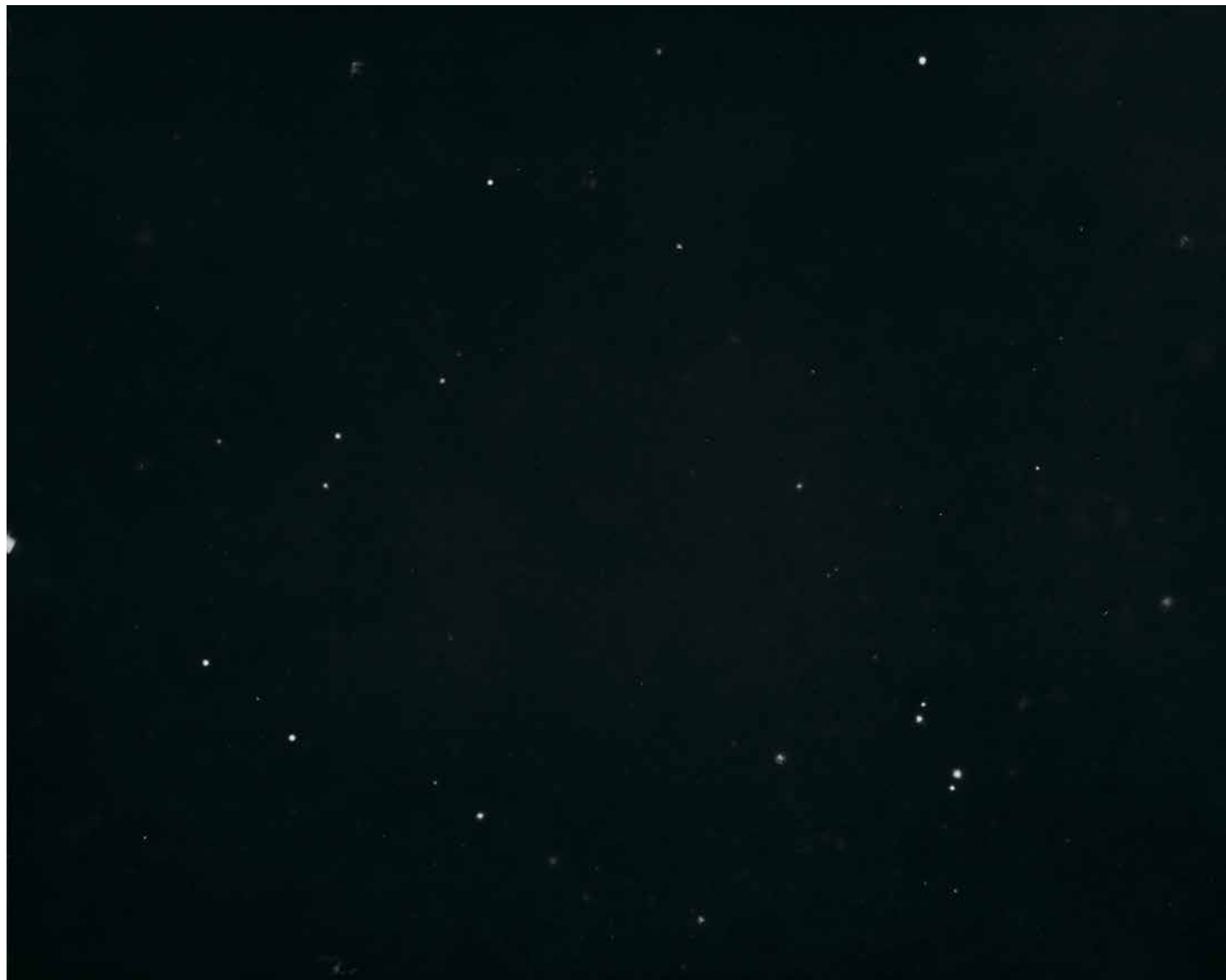


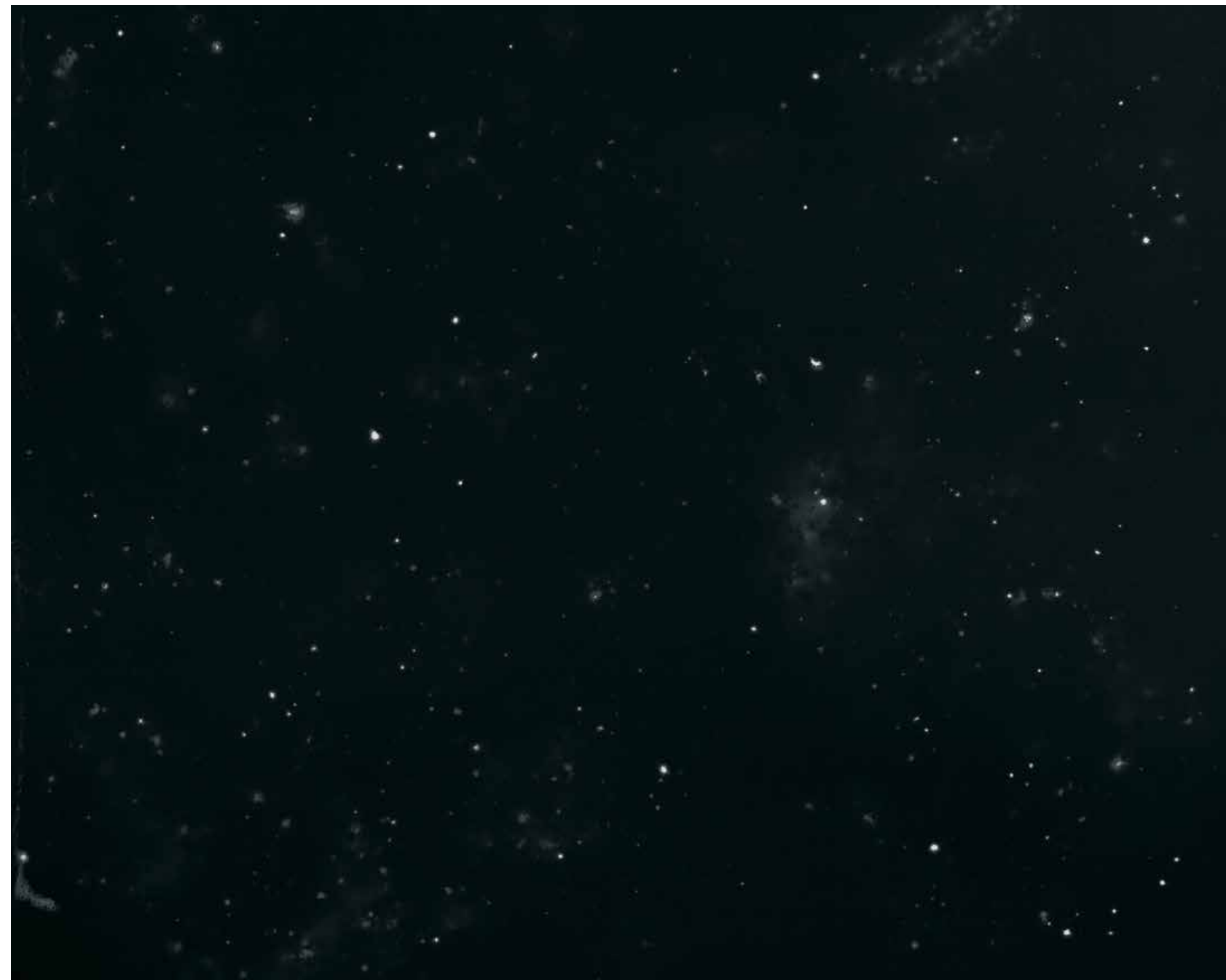


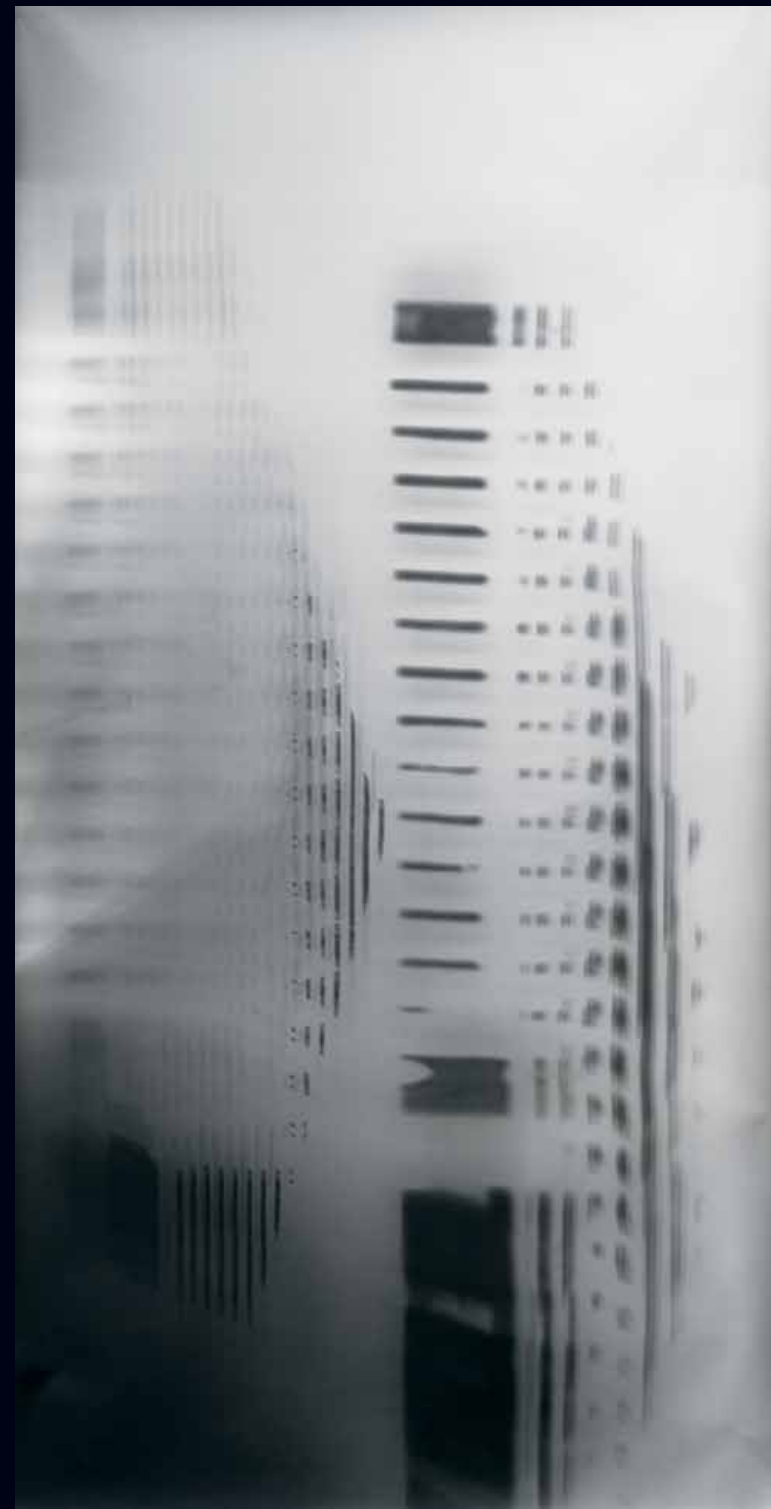
Plates 21–22. **MARIE-JEANNE MUSIOL**,
Plectranthus and *Lady Fern*, from *Mirrors of the Cosmos*, 2006







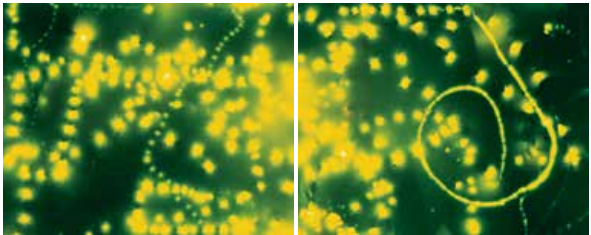




Catalog

CATALOG

All works lent by the artists unless otherwise stated.
Image dimensions are approximate. Selected
bibliographies follow artist statements and profiles.



MICHAEL FLOMEN

Born in Montréal, QC (1952)
Works in Montréal, QC, and New York, NY
www.michaelflomen.com

Diptych comprised of two digital chromogenic prints enlarged from photogram on color reversal film, from *Colors* (2001, printed 2014), each 71.5" x 91.5."

Courtesy of the artist and Ricco Maresca Gallery, New York.

ARTIST STATEMENT

The *Higher Ground* and *Colors* photogram series are the results of a dialogue between the artist and Nature, specifically fireflies. The large-format film used in the process documents the interaction of energies with the natural elements. Produced at night directly in the countryside, these photograms are solely illuminated by the natural light of the fireflies.

Captured in early summer, these encounters with the landscape are intended to engender a universal meditation on who we are and where we are. The macro and micro worlds meld together to create pictures with mystical and magical dimensions.

As an artist, I make photographs of things we do not see, but know are there.

I see in nightlight.

I try to take something quite ordinary and make people look at it again.

I am interested in expanding our visual vocabulary.

I seek to give form to things that have no form.

I make pictures of the earth, of humanity, of Nature, because this is where I am.

I make pictures of realities.

The images are born from memory and are fused with inner revelations. They can be seen as a runway to the void, where infinite regress might lead one into grace.

ARTIST PROFILE

Michael Flomen began taking photographs in the late 1960s and has been showing his work on several continents since 1972. He has been a darkroom printer and collaborator for many artists and curatorial projects, including Jacques Henri Lartigue's travelling exhibition of the mid-1970s, which circulated within Canada and the United States. His first book of street photographs, titled *Details*, which was strongly influenced by Henri Cartier-Bresson's formal style, was published in 1980. A second publication of street photographs, *Still Life Draped Stone*, followed in 1985. In the early 1990s, Flomen switched to a large-format camera and began a series of snow photographs published in 2000 under the title *Rising*. For the last fifteen years, this self-taught artist has used camera-less techniques to collaborate with nature. Water, wind, the light emitted by fireflies, and other natural phenomena now inspire his picture making. His work is represented in several major public collections, including those of the George Eastman House, the Los Angeles County Museum of Art, the Musée national des beaux-arts du Québec, the Norton Museum of Art, the Philadelphia Museum of Art, the National Gallery of Canada, and the Whitney Museum of American Art.

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AMY THEISS GIESE

Born in Philadelphia, PA (1977)
Resides in Allston, MA
www.amygiese.com

Three unique silver gelatin skiagrams from *Concealed at First at Last I Appear* (2009), ranging in scale from 52" x 42.5" to 85" x 42.5."

ARTIST STATEMENT

ski'a'gram *n.* [GK *skia* "shadow" + -gram from GK-*gramma*, from comb. form of *gramma* something written or drawn]

Enter the room. Captured light, both its absence and excess, is arrested as hanging scrolls on the walls. There is a compression of time and space encapsulated in these impressions that references the constant, ongoing emergence of the past, which can never fully materialize. Shadows are stilled, seized, lost. There is no camera. No lens. No aperture. Embedded in each scroll is an abstracted compression of an experience, yet they also simultaneously hold the direct reference to the actual space and time—light written, recorded, captured by an alchemical process. The work is mostly created *in situ*, with the idea of translating a familiar space into a parallel version of itself. It is about experiencing that space in a new way, noticing details, drawing attention to how light defines a room, the speed at which time passes, the impression of something fleeting. This is the physical presence of a space transformed by the light, or by the shadows that define it. The photographic paper holds the inscription of the interplay between the interior and the exterior, the private and the public, a factual understanding and the pull of memory.

What do we make of an image of a referent? A referent of a referent. What if the trace on the photographic paper is a trace itself, a shadow? The thing that existed in reality for my work is a shadow, the pattern of light and dark that is only made visible when the waves of light are arrested by a surface. This shadow inherently acts as proof of existence in the world—if you cast a shadow then you are present, existing in time and space. What if the photographic image of the shadow provides no visual reference to the original object, and the image is of something abstract? Can an abstraction of a referent evoke a more real experience? Can this translation in two dimensions convey a sense of the original, physical space? There is the recognition that a photograph is inherently a referent, removed from that

original experience, not the actual thing, though inexorably linked to that original moment. Yet our expectations for a photographic image still remains linked to a literal, visual re-telling of what was there. A mimetic, mechanical version of the world. So with these skiagrams there are two layers of proof, the direct trace of light onto paper, proving the light, the shadow did exist in reality and then the proof in reality, the shadow, that provides physical grounding to any and all objects—proof of existence, which is what is actually being recorded. And yet through all of these layers of veracity, the resultant image is removed from all literal telling of what was there, and the shadows have created a play of space and time that evokes reality rather than depicting it.

It is my intent to draw attention to the history of photography while hopefully pushing an analog process to evolve and remain relevant in contemporary art. From Fox Talbot to Maholy-Nagy to Liz Deschenes to Walead Beshty, there has long been a vein in photography that addresses its own physicality, which can move the resultant images towards abstraction. This history grounds my ongoing visual experiments. I also hope to challenge the viewer's notion that photographs are "of" something, that they should be recognizable, factual. The skiagrams are difficult to place visually. There is little familiarity, though they are the literal imprints of the light that defines that space, a true index. There is a transformation, when that light is recorded and the invisible is revealed, that pulls me to make skiagrams, and they continue to surprise me. There is mystery to alchemy, and yet they must continue to engage with the changing definitions of photography. Here is what I grapple with, what I try to reconcile when I work.

ARTIST PROFILE

Amy Theiss Giese is Assistant Professor of Photography at the Community College of Rhode Island, Lincoln, RI. Recent exhibitions of her work include: *Image:Constructed: :Constructed:Image*, Society for Photographic Education's Southeast Regional Conference, Greenville, NC, fall 2014; *Fall Back, Spring Forward: Photography in New England*, Flash Forward Festival, Boston, MA, May 2014; *New England Photography Biennial*, Danforth Museum of Art, Framingham, MA, fall 2013; and *Re:Conceptualizing Vision*, Auckland Festival of Photography, Auckland, New Zealand, May 2013. Also in 2013, she was selected to participate in CENTER's Review Santa Fe juried portfolio review and to lecture about her work at the 50th Society for Photographic Education National

Conference held in Chicago. She earned an MFA in Photography at Parsons School for Design in NYC (2009), a certificate in Professional Photography at the New England School of Photography (2006), and a BA in Fine Arts from Amherst College (1999).

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SUSAN KAE GRANT



Born in Fort Atkinson, WI (1954)

Resides in Dallas, TX

www.susankaegrant.com

Immersive installation, *Night Journey* (2000), comprised of twenty-four dye sublimation prints heat-transferred onto chiffon panels (each 96" x 48"), with two overlapping soundtracks. Also two archival pigment prints (each 44" x 32") from complementary suite of photographs (1999–present).

ARTIST STATEMENT

Night Journey is an on-going body of work examining the perceptual and psychological aspects of dreams, memory, and the unconscious. The series consists of two complementary forms: a suite of large-scale black & white photographs and a room-size installation of murals printed on chiffon with evocative and contextual audio recordings of whispered phrases. The viewer journeys through the installation by passing between a "maze" of suspended translucent murals that sway and flow slightly with the motion created by the audience. The series as a whole currently consists of seventy-five images with the goal of creating one hundred for a final book edit of eighty.

The work represents a collaboration of artistic and scientific inquiry into the nature of REM sleep and provides pictorial access to the subconscious. It raises universal questions among viewers and re-creates an unexplainable experience all humans share.

The inspiration for *Night Journey* is a result of research conducted at the Southwestern Medical Center Sleep Laboratory in collaboration with sleep scientist, Dr. John Herman. Using myself as subject, I was tape recorded in the laboratory on many occasions while awakened from REM sleep. These awakenings provided vivid access to memory and the dream-state. Audio recordings captured in the sleep laboratory serve as inspiration to create the photographs for this series.

Taking inspiration from transcribed audio recordings produced in the sleep laboratory, memory and journal sketches, my interest focuses on capturing unconscious visual memory as opposed to illustrating specific dreams. I work intuitively, reading the phrases to spontaneously create images that have similar narratives, emotions, and gestures as in the recordings.

Using the shadow as metaphor, I photograph models and props in my Dallas studio using a 4 x 5 view camera with a medium format digital Leaf back. I spend between one to three months creating the sets. When the sets are finished, I invite models into the studio and intuitively direct them through a series of gestures and poses to finalize the narratives. Sessions with the models usually last about three hours. The suite of images consists of limited edition photographs printed on Hahnemüle 308 Rag.

The shadow implies a reality without being real. It allows fabrication of a world and a narrative that occurs only in the photograph. My research suggests that the dream appears to be pure thought and exists only in language. Thinking about the notion of language and memory, I use the shadow as a metaphor to bring pictorial representation to these thoughts.

By creating mythic characters and using incongruous objects, I delve into the fantastic to create phantomlike tableaux that capture lost and forgotten fragments of experience and emotion. These worlds create a mysterious space between illusion and reality and provide entry into imaginary and whimsical creations that portray life on the lyrical and playful edge of balance and stability. *Night Journey* oftentimes conjures up childhood imaginings, fairy tales and nightmares while deliberately portraying a sense of surprise and wonder.

ARTIST PROFILE

Susan kae Grant's photographic and book works are included in numerous collections, including: The George Eastman House, The J. Paul Getty Museum, The Minneapolis Art Institute, The Tokyo Museum of Photography, The Museum of Fine Arts, Houston, and The Victoria and Albert Museum National Art Library. She received an MFA in Photography and Book Arts in 1979 from the University of Wisconsin-Madison. She has conducted workshops, lectured, and exhibited her work throughout the United States, Canada, China, Europe, Australia, British Columbia, Africa and Japan. She is currently Head of Photography and Book Arts at Texas Woman's University and teaches workshops annually at the International Center for Photography in NYC.

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DAVID MAISEL



Born in New York, NY (1961)

Works in Sausalito, CA

www.davidmaisel.com

Seven archival pigment prints enlarged from scanned and manipulated color negatives of

X-rays, from *History's Shadow* (2010), each 30" x 40" or reverse.

Courtesy of the artist and the Joy of Giving Something, Inc.

ARTIST STATEMENT

Trace Elements and Core Samples

My work in photography has been a long-term investigation into the aesthetics of entropy, and a parallel consideration of the dual processes of memory and excavation. The *History's Shadow* project provides for the continuation and expansion of these intertwined themes.

During a residency at the Getty Research Institute, I began to explore the idea of images that were created in the course of art preservation, where the realms of visual art and scientific research overlap each other. While photographing the Getty Museum's conservation departments, I became captivated by X-rays of art objects from the museum's permanent collections. The ghostly images of these X-rays seemed to surpass the potency of the original objects of art. These spectral renderings were like transmissions from the distant past, conveying messages across time, and connecting the contemporary viewer to the art impulse at the core of these ancient works.

Through the X-ray process, the artworks of origin become de-familiarized and de-contextualized, yet acutely alive and renewed, revived. The shadow-worlds they occupy are informed by the black space surrounding the images, which in some instances becomes a vast nether world, and in others becomes the velvety ground of some kind of brain scan/portrait. The project's title of *History's Shadow* refers both to the literal images that the X-rays create as they are re-photographed, and to the metaphorical content informed by the past from which these objects derive.

Rendering three dimensions into two is at the heart of the photographic process. With the X-ray, this sense is compounded, since it maps both the inner and outer surfaces of its subject. The mysterious, archetypal images that result seem to encompass both an inner and an outer world, as the two-dimensional photograph brings us into a realm of indeterminate space, depth, and scale.

The X-rays I have photographed were elements of previously existing archives made for the purpose of art conservation. It was the process of culling through thousands of them, of excavating and bringing selected X-rays to light, which gave them their charge. To re-photograph these records, each was laid on a light box in a darkened room; the emanations of light were transmitted by long exposures onto color film, which was subsequently scanned and extensively manipulated.

The resulting images are both trace and index, as well as physical manifestations of chance, of subjectivity informed by the layering of different technologies and timeframes onto each other—the X-ray, the photograph, the scan; the filmic, the analogue, the digitized. At a critical juncture in the development of the photographic medium, when the digital seems about to subsume the analogue, these images extend the moment of the photographic instant, through the grafting and synthesis of multiple technologies and the depictions of the past filtered through them. In a sense, the project is an extended inquiry into some way of defining photography's essential qualities, its ways of constructing meaning.

The elements of *History's Shadow* are art, time, and technology. The X-ray-derived images serve as mediated expressions of the artists and artisans who created the original objects, however many centuries ago; as vestiges and indicators of the societies that produced these works; and as communications from the past, expressing immutable qualities that somehow remain constant over time. What do these works of art from past cultures have to teach us about our current point in human history, or about our relationship to the past, largely formed through archaeology and transmission of cultural objects across national borders? The X-ray provides a filter and a means (much as perception itself is both filter and means) to read the intrinsic properties of these works, the trace elements with which these objects are imbued. They encourage an understanding—made through feeling and art, as well as science and reason—that both spans and collapses time.

As with all photographs, these images are fragments; the X-ray, which in *History's Shadow* seems to slice through both material and time itself, furthers that connotation. The X-ray has historically been used for the structural examination of art and artifacts much as physicians examine bones and internal organs; it reveals losses, replacements, methods of construction, and internal trauma that may not be visible to the naked eye.

These images, using X-rays as source material, are encrypted codes for the viewer to decipher. They make the invisible visible, and express through photographic means the shape-shifting nature of time itself, and the continuous presence of the past contained within us.

ARTIST PROFILE

David Maisel received his BA from Princeton University (1984) and his MFA from California College of the Arts (2006), in

addition to study at Harvard University's Graduate School of Design. Maisel was a Scholar in Residence at the Getty Research Institute in 2007 and an Artist in Residence at the Headlands Center for the Arts in 2008. He has been the recipient of an Individual Artist's Grant from the National Endowment for the Arts and an Investing in Artists Grant from the Center for Cultural Innovation.

His work has been exhibited internationally, including in *Infinite Balance: Artists and the Environment* (Museum of Photographic Arts, San Diego, 2011), *Imagination Earth* (Seoul Arts Center, 2011), *Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate* (Museum of Contemporary Canadian Art, Toronto, 2006, and the National Gallery of Art, Ottawa, 2008), *Dark Matters: Artists See the Impossible* (Yerba Buena Center for the Arts, San Francisco, 2007), and *Ecotopia: The Photography Triennial* (International Center of Photography, New York, 2006). In recent years he has shown at the Victoria & Albert Museum (London), the Yale University Art Gallery (New Haven, CT), and the Los Angeles County Museum of Art (Los Angeles), among many other venues.

His photographs are included in many public collections, including the Metropolitan Museum of Art, the Los Angeles County Museum of Art, the Victoria & Albert Museum, the National Gallery of Art, the J. Paul Getty Museum, the Brooklyn Museum of Art, the Santa Barbara Museum of Art, the Yale University Art Gallery, the Nevada Museum of Art, and the Museum of Fine Arts, Houston. His work is the subject of five major monographs: *Black Maps: American Landscape and the Apocalyptic Sublime* (2013), *History's Shadow* (2011), *Library of Dust* (2008), *Oblivion* (2006), and *The Lake Project* (2004).

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MARIE-JEANNE MUSIOL

Born in Winterthur, Switzerland (1950)
Resides in Gatineau, QC

www.musiol.ca

Ten electromagnetic (Kirlian) transparencies from *The Radiant Forest* (2011–present), each 7 ½" x 5 ½,"

displayed on a wall-mounted module. Also *Mirrors of the Cosmos* (2006), video on DVD with original soundtrack by John Seck and Alvaro de Minaya, 16 min. 46 sec.

ARTIST STATEMENT

I have been recording the luminous imprints of plants with electromagnetic photography for twenty years. I also assemble an energy herbarium at the junction of two visions that guide my adventure at the core of the luminous world of plants: Goethe's prescient understanding of nature's workings and David Bohm's far-reaching considerations on cosmic enfoldings.

In the course of his walks, Goethe could see the forest radiate and his ravishment would sometimes bring him to the point of fainting. He observed the living as an active principle in constant metamorphosis and visualized the leaf-form unfolding on the stem as a condensation of all the vegetal potential. Two centuries later, physicist David Bohm interprets in the quantum dimension this persistent intuition of fluid states of matter enfolded or unfolding in planes of existence of growing complexity. To facilitate our understanding, he describes as a *holomovement* this back and forth relationship between the concrete reality of the world we experience in space/time and its more subtle levels of insertion in other dimensions.

As an energy herbarium, *The Radiant Forest* explores light and its expression in various planes.

For centuries, naturalists have named and classified their specimens in herbaria to understand the underlying plan of the vegetal world. Without aspiring to the same exhaustivity, the emblematic herbarium that I constitute liberally regroups small

figures of radiating plants. Different species are sometimes associated in botanical groupings, more often brought together as direct transcriptions of a momentaneous energy state registered by electromagnetic photography. The ten images of leaves presented here—Manitoba maple, ash, silver maple, sumac, sugar maple, cherry, oak, and mountain maple—capture the essence of the Eastern forest.

The leaves of the energy herbarium are delicate interfaces at the intersection of two highly reactive phenomena: photography and electromagnetism. Their luminous corona, first revealed in an electromagnetic field induced by a calibrated machine, imprints the emulsion of silver halide film with micro-states invisible to the naked eye. Fragments of plants, extracted from the image and enlarged, present as surprising *Mirrors of the Cosmos*, an echo of these other cosmic spaces revealed by the Hubble telescope. Astral landscapes buried inside the emanations of the radiating images also echo David Bohm's intuition of enfolded worlds wrapped in the visible world. They evoke the holographic nature of the universe and the manifestation of its non-linear dimensions in matter.

In ordinary life, we still entertain a rather vague notion of the vast non-local field where the totality of our energy transactions occurs through multidimensional channels. However, the reckoning of this integral field opens us to imagine a world of immaterial forces that shape matter, transfer information, and guide evolution.

Can the small icons of the radiant forest challenge fixed perceptions on the consistency of things and shape a vision predicated on the luminous matrix of the universe?

ARTIST PROFILE

Marie-Jeanne Musiol records the luminous imprints of plants in electromagnetic fields.

She regularly adds specimens to her energy herbarium set forth in several gallery and outdoor installations in Canada, Europe, and Asia: *Garden of Shade, Garden of Light* (2005, Montréal Botanical Garden); *Bodies of Light* (2005–06, ZKM, Karlsruhe; Medialab, Madrid; V2/TENT, Rotterdam; Ludwig Museum, Budapest; La Maison Européenne de la Photo, Paris); *Mirrors of the Cosmos* (2006, Pierre-François Ouellette art contemporain, Montréal); *The Radiant Forest* (2008, Riga, Latvia; 2011, The International Techno Exhibition of New Taipei; 2012, Canadian Museum of Nature, Ottawa; 2014, Reford Gardens, Grand-Métis, Québec).

Marie-Jeanne Musiol's recent works probe how mirror images of the cosmos are enfolded in the light corona of plants. The artist explores magnetic fields as carriers of information, emblematic of a holographic universe she envisions as the underlying reality. In parallel to these investigations, she continues to question the absence of light and the enduring black hole embodied by the concentration camp of Auschwitz where she regularly walks.

The artist is represented by Pierre-François Ouellette art contemporain (Montréal).

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CHRYSANNE STATHACOS

Born in Buffalo, NY (1951)
Lives and works in Toronto, ON, and
New York, NY

www.chrysannestathacos.com

Two digital chromogenic prints
(30" x 38" and 16" x 13") and eight unique Instant Color Film
(each 4.25" x 3.25") from *The Aura Project* (1999–present).

Courtesy of The Aura Project/Stathacos.

ARTIST STATEMENT

The Aura Project

During the past fifteen years I have taken over 1000 photographs of people while traveling around the world. My intention has been to produce a body of work, *The Aura Project*, which investigates the relationship between color and portraiture beyond our usual definitions of race, gender, religion, and ethnicity.

The Aura Project includes portraits of *sadhus* and holy women by the Ganges in Rishikesh, India, Tibetan refugees in the mountains of Dharamsala, Buddhist monks and dancers in the hills of Kyoto, Sikh families in Long Island, and artists in New York, Germany, and Canada. The biofeedback camera registers and reads the thermal electrical touch from the sitter's hands, which is transmitted into a small computer in the camera. This biofeedback component of the camera from the hand plate to the camera release connected me to the sitter, and allowed for creative experimentation within the process.

Since the Theosophists, Steiner, and Nikola Tesla there has been an interest by artists and scientists to capture the "aura." Color theories based on these spiritual/scientific ideas and experiments (including Goethe) had a profound influence on the modernists in the early 20th century, which formed the basis for how we look at and feel about color today. These ideas influenced me to embark on this project one hundred years later to investigate how our relationship to color has transformed with new technologies.

The Aura Project refers to the unseen colors that we imagine are there, the unconscious projections of our reactions to color. Historical artworks depicting halos emanating from the subjects' heads fill museums, temples, and churches adding to our long cherished belief that we can project light from our bodies through our life energy. Science has proved these beliefs true with the new technologies of diagnostic imaging machines.

The Aura Project evens out the territory by dismantling the seen differences of gender, ethnicity, and race breaking through to the unseen values of light and color.

The Aura Grid is a large digital photograph incorporating forty images within a color grid. This photograph and other works are produced within a black overlay evoking the feel of a stained glass window metaphorically capturing light though color. The subjects are placed accordingly by their color emanations in a rainbow formation breaking through bias of prejudice.

ARTIST PROFILE

Chrysanne Stathacos lives and works in Toronto and New York City. Originally trained as a printmaker, Stathacos brings together printmaking, photography, video, and installation in various ways, often creating participatory public art projects. She aims to make new connections between cultures, historical periods, technologies, and environmental issues, which mirror the human processes of change, hope, healing, and mortality. Stathacos has received awards from Art Matters, the Japan Foundation, the Canada Council, and the Adolph and Esther Gottlieb Foundation. She has presented over twenty-five interactive public art projects, installations, and exhibitions in Asia, Europe, and North America, including The Wish Machine, presented by Creative Time at Grand Central Station, New York, and The Power Plant Contemporary Art Gallery, Toronto. Her work has received attention and international press from *Hyperallergic*, *Art Forum*, *China Weekly Magazine*, *Art in America*, and *Whitehot Magazine*.

The Aura Project has been exhibited in *Blur of the Otherworldly* at the Center for Art, Design, and Visual Culture, University of Maryland, Baltimore County (2006) and in *Concerning The Spiritual in Photography* at the Photographic Resource Center, Boston University (2004). *The Sadhus of The Aura Project* was most recently included in the groundbreaking exhibition The Temptation of AA Bronson at The Witte de With Center for Contemporary Art in Rotterdam (2013).

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SHIMPEI TAKEDA

Born in Sukagawa, Fukushima
Prefecture, Japan (1982) Resides
in Inzai, Chiba Prefecture, Japan

www.shimpeitakeda.com

Six gelatin silver prints enlarged
from autoradiographs, from *Trace—Cameraless Records of Radioactive Contamination* (2012), each 16" x 20."

SHIMPEI TAKEDA | SUPPLEMENTARY INFORMATION



Re: **Trace #3.**
Former Kasumigaura Naval Air Force

Kasumigaura Naval Air Force was opened in 1922, focusing on flight education for pilots. The site is currently used as Japan Ground Self-Defense Force. On the premises, dozens of WWII tanks are on display, and there is also a memorial hall exhibiting young pilots' portraits, notes, and belongings.

SOIL SAMPLE DATA
Collected Date: 1/3/2012
Weather: Sunny
Location: Ami, Ibaraki
(104.9mi /168.8km SW)
Radiation Measurement: (Air) 0.415
(Ground) 1.007µSv/h



Re: **Trace #7.**
Nihonmatsu Castle

Built in 1414, the Nihonmatsu Castle became an important battle site during the Boshin War (1868–69), a series of battles that led to the overthrow of the Tokugawa shogunate and the restoration of the imperial rule in Japan. The Nihonmatsu Youth Corps, twenty young warriors between the ages of 12 and 17, perished here.

SOIL SAMPLE DATA
Collected Date: 1/4/2012
Weather: Sunny
Location: Nihonmatsu, Fukushima
(34.7mi /55.9km NW)
Radiation Measurement: (Air) 1.91
(Ground) 4.299µSv/h



Re: **Trace #9.**
Asaka Kuni-tsuko Shrine

This shrine was built in 135 AD, when Asaka province was founded, and dedicated to Wakumusubi, a god of farming in Japanese mythology. In the late 8th century, Sakanoue no Tamuramaro, a general in the imperial court prayed for victories against the native population, pushing them further north.

SOIL SAMPLE DATA
Collected Date: 1/4/2012
Weather: Sunny
Location: Koriyama, Fukushima
(35.1mi /56.5km W)
Radiation Measurement: (Air) 1.152
(Ground) 3.780µSv/h



Re: **Trace #16.**
Lake Hayama (Mano Dam)

Built in 1991, the reservoir used to be popular for black bass fishing. As a result of the nuclear meltdowns, the village of Iitate was evacuated by the central government order. Despite the immense beauty of the scenery, my Geiger counter clicked continuously.

SOIL SAMPLE DATA
Collected Date: 1/8/2012
Weather: Sunny
Location: Iitate, Fukushima
(24.7mi /39.7km NW)
Radiation Measurement: (Air) 1.848
(Ground) 6.438µSv/h

ARTIST STATEMENT

On Trace

I have always been drawn to abstract patterns formed by natural phenomenon. Whether they are cracks inside a mineral or salt crystals swaying in water as they dissolve, these elemental expressions of the earth tell stories of much greater cycles of time and space. In recent years, I explored them through the making of photograms. Approaching the subject through direct light felt integral to my vision both conceptually and aesthetically. The resulting works invariably reflect my respect for and appreciation of the grandeur of nature untouched by humankind. Yet, it had never occurred to me, or been my interest, to merge my creative process with documentary photography until March 11, 2011.

What happened during and in the wake of the Great East Japan Earthquake of 2011 had a strong emotional impact to me, especially since Fukushima is my birthplace. Though I was in New York City at the time, the tragedy strained not only myself, but also the entire community with anxiety. Empathy for the victims led to countless disaster relief events following the incident. Before the Fukushima Daiichi nuclear disaster, I did not have much understanding of radioactivity. Reliable sources of information on the subject were not easily accessible back when the world was wrapped in confusion. Seeing data documenting radiation in the air, soil, and ocean did not feel real. Therefore my natural instinct was to make this invisible incidence visible in some way.

Soon after, I noticed that film and enlarging paper were sensitive to radiation just as they are to visible light. Within the structure of photographic materials, silver halides darken when exposed to electromagnetic radiation. During the research process one of the terms I learned was “autoradiography,” which is a procedure that uses X- ray film to record molecules or fragments of molecules that have been radioactively affected. In order to apply the technique to my own experiments, I tried several approaches to figure out a practical method of production and the proper exposure time.

I chose soil as the material to work with. I thought that any change perceived in an element as primal as a particle of earth could potentially lead to a picture of the aftermath in the most direct and accurate manner. After the soil sample had been interacting with the light-sensitive film for a month, I discovered the trace of radiation lurking in among the silver halides—a physical record of the catastrophe.

ARTIST PROFILE

Shimpei Takeda is a Japanese artist working with photographic materials. Moving to New York City in 2002, in his early career, Takeda collaborated with composers and sound artists through video works. In recent years, he has primarily focused on cameraless photographic techniques to capture otherwise unseen interactions of materials and light. His works have been featured in exhibitions such as *A Different Kind of Order: The ICP Triennial* (International Center of Photography, New York, 2013) and *Survive: The Towada Oirase Art Festival* (Towada Art Center, Aomori Prefecture, Japan, 2013). In 2014, he was nominated for the ICP Infinity Award for Young Photographer.

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Curator’s acknowledgments

SHADOWS OF THE INVISIBLE

Shadows of the Invisible could not have been successfully organized without the support and contributions of many individuals.

As exhibition curator, my first expressions of gratitude go to Dick Goody, director of the Oakland University Art Gallery, for his unwavering endorsement of this international undertaking, and Jacqueline A. Leow, his assistant and the gallery’s registrar, for solving the logistics involved in borrowing, shipping, and installing works originating from Japan, Canada, and the United States.

For their generous support of the exhibition and its related programs, the Oakland University Art Gallery joins me in expressing our heartfelt appreciation to Vagner M. Whitehead, chair of the Department of Art and Art History, and Kevin J. Corcoran, dean of the College of Arts and Sciences, without whom the Oakland community would not get the opportunity to engage with our visiting artists. We are also indebted to the Québec Government Office in Chicago and its Public Affairs Officer, Kerith Iverson-Vosters, for their financial assistance with the shipping of Michael Flomen’s oversized work from California to Michigan.

For the crucial loan of David Maisel’s artworks, we are indebted to the artist; the Joy of Giving Something, Inc., Wayne Maugans, the foundation’s education and outreach director; and Liz Milnes, project manager with Crozier Fine Arts. We are equally grateful to the artists Michael Flomen (and his New York gallery, Ricco/Maresca), Amy Theiss Giese, Susan kae Grant, Marie-Jeanne Musiol, Chrysanne Stathacos, and Shimpei Takeda for the loan of their precious works and their invaluable contributions to every aspect of the exhibition and its catalog.

For enabling us to host a public showing of *Susan kae Grant / Artist Video* (2014), we thank Genevieve Russell, videographer, and Verve Gallery of Photography, Santa Fe. For the showing of *Under the Cover of Darkness: The Work of Michael Flomen* (2008), we thank André Cornellier, videographer, and UMA, La Maison de l’image et de la photographie, Montréal.

Credit goes to David Lambert, photo/media lab technician, Department of Art and Art History, for technical assistance with the audio-visual components of the exhibition. Thank you Debra Lashbrook, art director, and Laura Phillips, account manager with University Communications and Marketing, for making this publication a reality.

Also deserving of mention are Sara Angelucci and Marcus Schubert, who brought my attention to the relevance of Shimpei Takeda and Chrysanne Stathacos to the topic of this exhibition.

Last, but not least, the exhibition curator is blessed with the opportunity to partner with Katy McCormick, not only for her sharp editing of the introductory essay, but also for her unconditional love and engagement with every aspect of this curatorial journey.



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Catalog edited and sequenced by Claude Baillargeon

Designed by Debra Lashbrook, University Communications and Marketing
Printed by Colortech Graphics, Inc.

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Annual programming is made possible by a grant from the Michigan Council for Arts and Cultural Affairs/National Endowment for the Arts, The Kresge Foundation, and by the College of Arts and Sciences, Oakland University.

ISBN: 978-0-925859-64-8



