DEMONS INTO ANGELS

Hiroshi Sugimoto was maddened by the "miniature fireworks" of static electricity that interfered with the meticulous darkroom processes carried out in his New York studio. But, he tells **Mary Panzer,** the source of his exasperation became his new inspiration, after a visit to Lacock Abbey, one-time home of the father of photography, William Fox Talbot.

1 *Lightning Fields 236*, 2009.
All images © Hiroshi Sugimoto.

Whether printed extra large and installed in sets of panels on the gallery wall, or reproduced in ink on the pages of a book, at first glance Hiroshi Sugimoto's *Lightning Fields* appear to be simply the record of natural phenomena, a flash captured on film by a scientist; an-old fashioned one who works with negatives and paper. Except no flash of light you've seen before ever produced such intricately detailed shapes, some like thorned trees sprawled across a scorched landscape, others taking on the appearance of microscopic organisms, glowing with life.

His New York studio occupies one half of a high floor in an old warehouse building in Chelsea; one wall, comprising many panes of glass, faces a nearly monochromatic view of sky windows, bricks and rooftops. Inside, it's quiet, orderly and busy; Sugimoto's office at one end, his darkroom at the other. In between, on the large white walls, are a few outsize prints, familiar images from prior projects, and on selected tables is new work that he declines to discuss.

This maker of sensuous, austere conceptual art photographs tells good stories about his work, full of humour, disarmingly frank. Over the course of an hour, he offers a tour of his darkroom and studio, and describes two interlocking projects, *Lightning Fields* [1-6], and *Photogenic Drawing* [7-8]. They will be shown together at The Scottish National Gallery of Modern Art as part of the Edinburgh International Festival this summer.

He speaks with the free and unpredictable associations of a confident, self-educated thinker. The conversation starts slowly but, in the manner of a rollercoaster, reaches a summit and speeds around curves that you never anticipated. Chat about negatives, film, paper, and light veers suddenly to much larger subjects. You thought you had settled on William Fox Talbot and the beginnings of photography, but instead you are talking about the forces that contributed to the very beginning of life, and time.

Making positive out of negative

The story begins with his long struggle, never quite successful, to prevent any electric charge from entering his darkroom – the "spectres of static electricity that haunt silver halide photography". Once air in the studio becomes charged, as it will on a dry, cold winter day, the same tiny, irritating sparks that make your hair stick up, or your skirt stick to your tights, exasperate any photographer trying to control the light that falls onto a negative. It's especially maddening for Sugimoto, whose images rely on the exquisite controlled depiction of seamless fields of light for their power.

He describes the sparks as "miniature fireworks" or "tiny fireflies", and uses vivid and violent metaphors to describe their impact on his negatives. The tiny lights "gouge scars" into his pictures of glowing white movie screens, and "strafe" the delicate seascapes he began 30 years ago. He tried moving his studio (six times), created a Shinto shrine and prayed every day, sought out magic from any source he could find, East and West, and took cues from anthropological accounts of primitive cultures and their efforts to control the force of nature. He began to think the "demons" came from within his own imagination, yet he could not ever exorcise or appease them. After years of struggle, and intermittent, unpredictable success, he approached the problem in a new way. He set out to transform those demons into angels, by using the circumstances in which they typically frolicked to create something new.

A four-year process began. Sugimoto, with the help of studio assistant Gregg Stanger, analysed the

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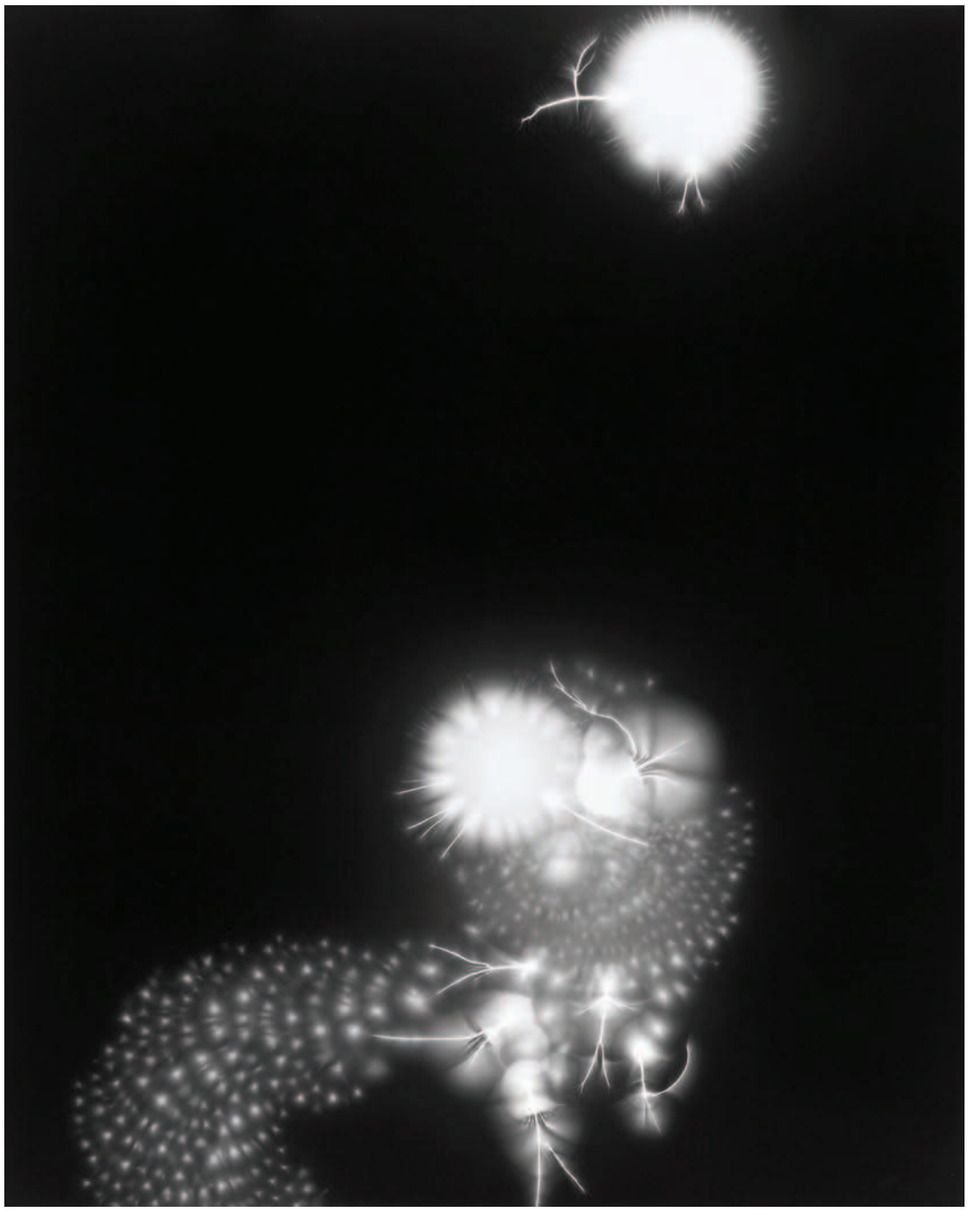

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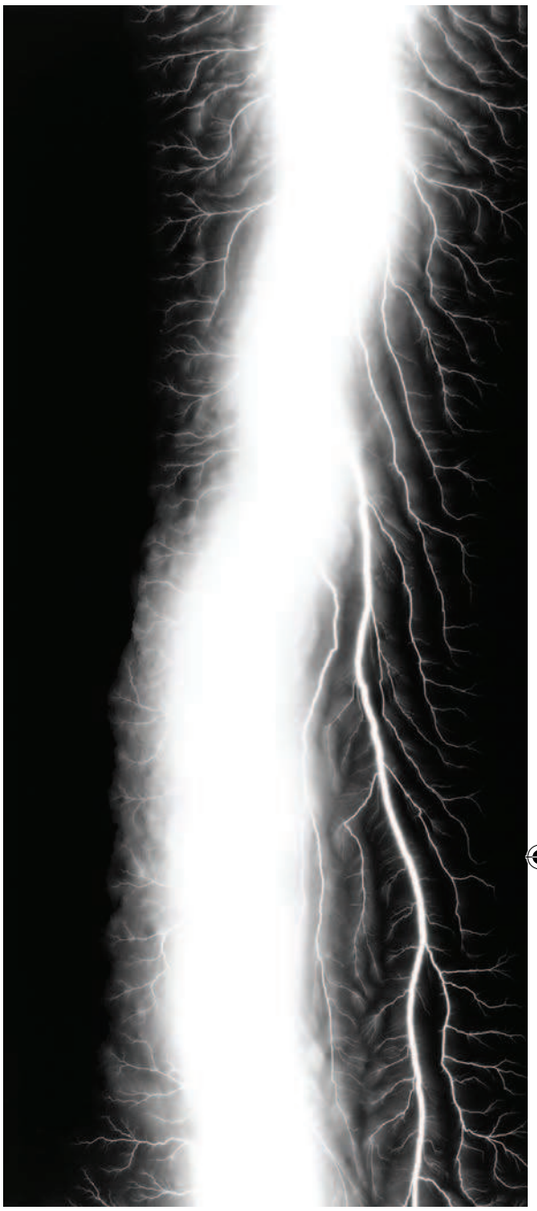

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2 *Lightning Fields 138*, 2009.

3 *Lightning Fields 163*, 2009.

problem as a scientist would. Static electricity is the product of a set of factors, and the charge itself can be produced by a generator. So, beginning with a very primitive, and not very powerful Wimshurst generator developed around 1880, similar to those used in the first experiments with electricity conducted early in the 19th century, then moving to the far more powerful Tesla coil developed by Nikola Tesla in 1891, he eventually settled on a Van Der Graaf generator, developed in 1929, which in its modern version can achieve five megavolts. The one Sugimoto uses has a 400,000-volt potential, although he and Stanger have not measured its actual output. But from experience, they learned that the Van der Graaf generator could cause "a painful shock but nothing more severe."

As Stanger explains, the generator "does not amplify the electrical current coming in from the electrical outlet, but rather uses that current to run a motor to create friction, and build up a static electrical charge." When that charge became sufficiently strong, it was possible to generate a spark, and record the spark on film.

But how to do it? And how to achieve results that approached what Sugimoto imagined? For the purposes of investigation they devised experiments around a simple set of factors – a generator, a table topped with a metal plate, a sheet of film placed directly on the meta, and then an instrument to conduct the charge generated in the air to the plate. They worked with different metals; created from fresh sheets of stainless steel, titanium, copper and brass (though not silver and gold – the cost was too high). The instrument to conduct the charge could be anything made of metal: a soup ladle, a cast iron frying pan, a piece of wire. The instrument was grounded, like a lightning rod, to prevent the charge from travelling through Sugimoto's body and becoming part of the experiment. Still part of the delicate

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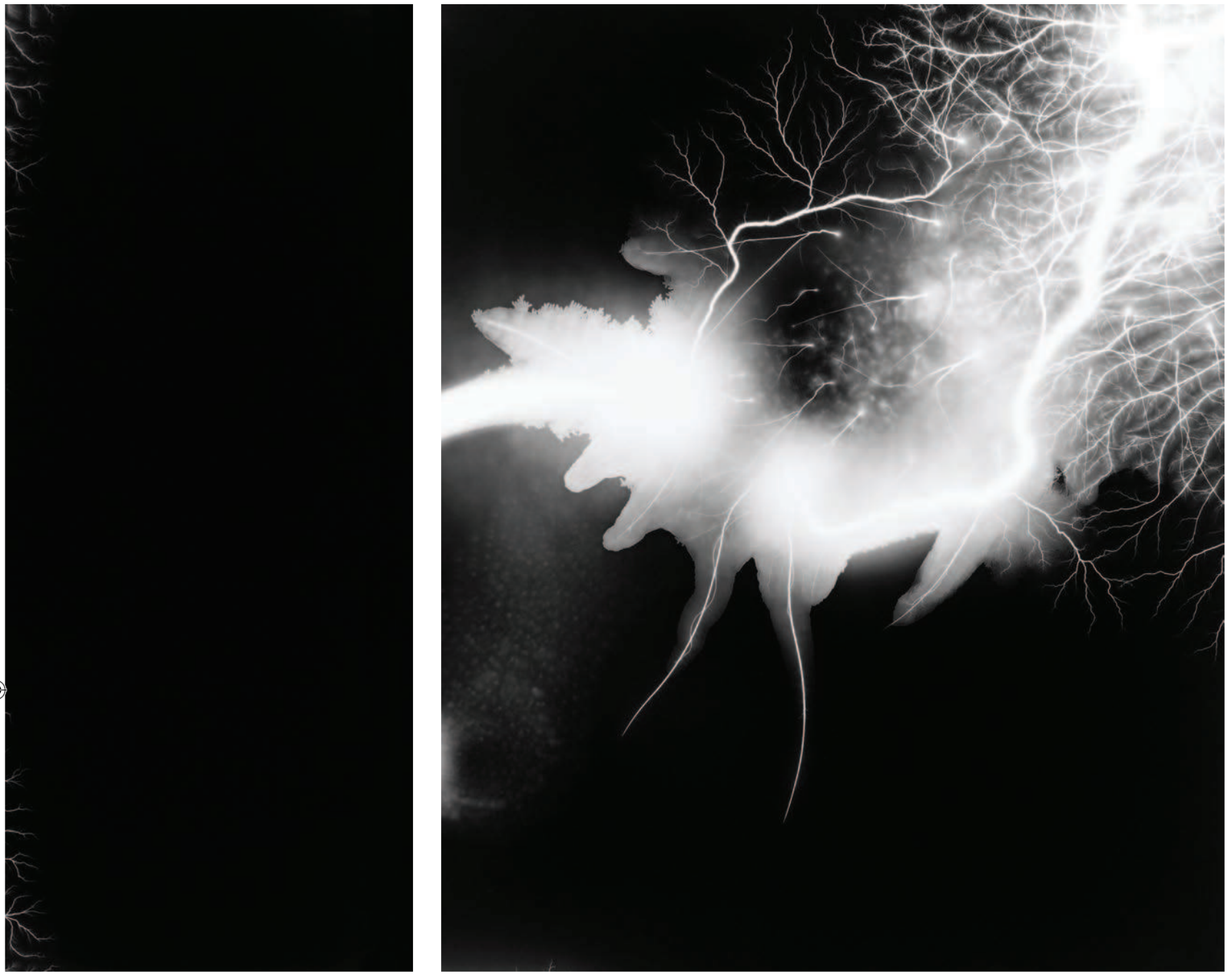

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equation, the condition of the atmosphere – humidity and temperature – were monitored as closely as in any museum or archive.

With the generator turned on, and a charge built up, the pair used a metal instrument to attract and conduct the spark from the air onto the plate, capturing the effect on the film. Once the exposure was complete, the film went directly into the developing tray placed nearby, alongside stop bath and water. Then began the painstaking process of altering one small factor at a time; changing the charge, the metal plate, choosing a new conductor, moving the conductor in a new way; each factor or gesture carefully recorded. The most difficult aspect of the process was to repeat a result they liked. Some results depended upon the weather: a set of images made one winter could not be repeated until winter came around again.

Film manufacturers have long guarded against interference from static, developing a special coating that interfered with Sugimoto's exposures. Thus they began a search for film that was less standardised, something that would ordinarily be considered a defect but, in Sugimoto's case, meant the film would be more responsive to the sparks. The quest led to Eastern Europe and China for obscure brands of film – some of which can be purchased easily on the commercial market.

Scientific origins

Missing from this appealing story is the source of Sugimoto's insight. What or who inspired him to turn the exasperating sparks into a means of making art?

The answer to that question leads to a pilgrimage to Lacock Abbey in Wiltshire, once the home of William Fox Talbot, where the Englishman developed the negative/positive process in the late 1830s. Talbot lived in a time when it was nearly impossible to be

4 *Lightning Fields 168*, 2009.

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a professional scientist – in fact, the term wasn't coined until 1833. You could be a botanist, or an astronomer, you could study mathematics, or optics, or crystallography, and Talbot did all of these, as well as pursuing research in assyriology, etymology, electricity and mathematics, and engaging in reform politics, in addition to discovering the process upon which modern photography was built.

Photo historians fall into roughly two groups regarding the invention of the process. Some believe that it took a person like Talbot, with his wide curiosity, untrammelled energy, and training in deliberate, methodological experimental work, to unite the many fields of knowledge required to discover photography in the 1830s. Lens making, the control of light-sensitive surfaces, the systematic recording of natural history specimens and use of the camera obscura to aid representation were all in place early in the 19th century. Men such as Sir John Herschel, Samuel F B Morse, and Nicéphore Niépce had come tantalisingly close to the discovery long before January 1839 when both Talbot and Louis-Jacques-Mandé Daguerre made their announcements.

A second group of historians, following the work of Peter Galassi's *Before Photography*, believe that photography came about because artists needed, or demanded, new ways to create ever more realistic images. Though Daguerre, inspired by his own quest to make a more successful theatre of illusion, stumbled on his name-brand process and made a brilliant splash, his discovery was essentially stillborn – once perfected, the technology led nowhere. Daguerre and all the others lacked the imagination, the way of thinking, the ability to unite many disparate elements to form something fundamentally new, that would continue to grow. They lacked Talbot's spark, though an argument can be made that Niépce, equally curious, with catholic interests of his own, might have made his own discoveries, had he lived longer.

In 2008, Sugimoto acquired 15 Talbot negatives for which no known prints survive, and printed them. He brought to the task considerable experience in the darkroom, a deep understanding of negatives, and the benefit of advances in photochemistry made over the past century and more. The motivation came in part from his own dissatisfaction with the present-day art world, which in a recent essay, *Photogenic Drawing*, published in *Hiroshi Sugimoto: Nature of Light* (Izu Photo Museum, 2010) he compares to a motionless ship in a backwater, becalmed, without a breeze anywhere. Sugimoto's turn to Talbot was also inspired by a profound sense of dissatisfaction with the present. But his motive is far from nostalgia. Nor does he seek to recreate an antiquarian Eden.

"Now as the waves of 21st-century art seem to be stilling to a breezeless lull, I find myself aspiring to a wholly anachronistic art, travelling back through time to once again portray in photographs an inner phenomena that painting cannot depict. Printing the precious negatives that Talbot bequeathed, I head back to the origins of photography, to the origins of painting, perhaps to the origins of consciousness, to the very earliest milestone of my being."

Knowing that no museum would lend out their Talbot negatives for Sugimoto to print, he acquired his own from New York-based dealer, Hans P Kraus, Jr. He describes the process of selecting these images

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with immodest delight. "As a good photographer you easily read a negative. It's my advantage, I know how to make a beautiful negative, to make a beautiful print." He read Talbot's negatives as he would his own, looking for detail in the shadows, density in the dark and contrast in the highlights. He could read the composition by looking at what most of us would call a murky set of shadows on a very old piece of paper – more relic than essential facet in recovering a lost work of art. He chose several photogenic drawings including plant forms and lace, a few images of things and places that Talbot followers will know: the Laocoön, a china vase, the roofline of Lacock Abbey [7]. Showing off one of the new prints he laughs, "The result is exactly what I imagined."

The most surprising images are portraits [8], their dark soft tones recalling the high pictorialism found in the work of George H Seeley or Edward Steichen, but lack the melodrama of those ambitious works of self-expression. In its place, we sense the surprise that Talbot encountered with each new effort, balanced precariously between failure and an unanticipated success, often achieved while striving for another result entirely. Sugimoto, working with the benefit of present-day chemistry, paper, and knowledge, still had never

5 *Lightning Fields 182*, 2009.

6 *Lightning Fields 190*, 2009.

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seen these images in positive form before he printed them. With these deep, lush prints, often difficult to view at first glance, he has picked up where Talbot left off. "History needed me," he explains. Without Sugimoto they would still be invisible.

On his visit to Laycock Abbey, Sugimoto saw evidence of Talbot's interest in magnetism and electricity, including a primitive generator. As Sugimoto tells it, that was all he needed to begin to reconsider the sparks that haunted his own darkroom. "Talbot led me to *Lightning Fields*," says Sugimoto. "I followed his experiments, and then took over," using materials and machines available today.

Among Talbot's perpetual interests was his search for ways to use electricity to generate bright light in such small intervals that an exposure could effectively stop time. He owed his friendship with Michael Faraday to their mutual interest in time, and how to stop it, which they called "fixing transience". Faraday was one of the best-known public intellectuals of his day, and perhaps one of the world's first professional scientists, thanks to his work on electricity and magnetism, and his popular Friday lectures at the Royal Institution, founded in 1799 (and still active today) to educate the public about modern science and provide laboratory space for scientific investigation. On Faraday's Friday lecture of 25 January 1839 he introduced Talbot's photographic process to the world, comparing the work of Talbot to that of Daguerre, whose images had been presented in Paris only weeks before.

To Talbot's disappointment, his work remained in Daguerre's shadow throughout his lifetime. But unlike Daguerre, Talbot's curiosity had no limit, nor was it confined to the making of images. Talbot's gift, the ability to make connections where no-one saw them, to apply information from one field to another, is amply shown in his text for *The Pencil of Nature*, in which he famously anticipates xerography, infra-red film, and offset type, among other modern uses of photographic technology.

A conversation with Sugimoto may be the closest thing possible to a sit-down with Talbot. Sugimoto's imagination does not veer toward the practical as Talbot's did, though they both share a firm belief in forces we cannot see. This conviction shines through as Sugimoto described the revelations that came when he enlarged the *Lightning Fields* negatives, the way the shapes he saw recalled other living systems, trees, roots, veins in leaves or the human body. He recalled his pleasure in studying tiny cells under a microscope, some of the most primitive forms of life we know. "If I were a serious scientist, that is what I would study." And from there, noted how the Big Bang theory about the beginning of life can be compared to thunder, which produces a spark, and that spark discharged in salt water can be credited with the very beginnings of life.

Sugimoto collects fossils because they please him, but where we see a pre-historic artifact he sees the first negative/positive record, the oldest example of a "pre-photography method". It has become fashionable for history-minded photographers to use that term to describe an image or visual effect that anticipates a photograph, such as the spectacular verisimilitude of a cityscape of Venice by Canaletto, or the blur from a camera obscura as found in the work of Jan Vermeer and his Dutch contemporaries. But Sugimoto extends the idea of a pre-photograph outside art, or time. For Sugimoto, the stone is like the first negative, a record of one of the earliest known forms of life that survives into the present.

In both Sugimoto and Talbot one can sense a great capacity for wonder, a quality that we associate with childhood, or with the imagination of a medieval collector, who installs amazing things in a cabinet of curiosities. An hour with Sugimoto is like a visit to that long-ago Cabinet of Wonders. The fossil, the film, the spark all become endowed with the capacity to stop time, and hold it, once animated by a powerful imagination. For those of us who have a hard time making the leap, Sugimoto, like Talbot, found a way to stop light with a negative, with which they could create a positive that would give the rest of us something to see. *BJP*

7 *Roofline of Lacock Abbey*, circa 1835 – 1839, 2008.

8 *Portrait of Charles Porter, April 7, 1842*, 2009.

On show

***Hiroshi Sugimoto's* Lightning Fields** *and* **Photogenic Drawings** *is on show at the Scottish National Gallery of Modern Art from 04 August to 25 September as part of this year's Edinburgh International Festival.*
Admission is £7 (£5 concessions).
www.nationalgalleries.org

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