A young English gentleman on his honeymoon sat sketching by the shore of Lake Como early in October 1833, one eye pressed close to a camera lucida. With this simple draftsman’s aid, consisting of an adjustable metal arm fastened at one end to the artist’s sketchbook or drawing board and supporting a glass prism at the other, the young man saw a refracted image of the Italian landscape superimposed as if by magic on the pages of his sketchbook. It seemed a simple task to trace the features of the village buildings, lake, and distant mountains with his pencil. But alas, it only seemed simple, he later recalled, “for when the eye was removed from the prism—in which all looked beautiful—I found that the faithless pencil had only left traces on the paper melancholy to behold.”

The would-be artist was William Henry Fox Talbot (1800–1877). A graduate of Trinity College, Cambridge, and a recently elected Liberal member of Parliament in the House of Commons, Talbot was a true polymath. His intellectual curiosity embraced the fields of mathematics, chemistry, astronomy, and botany; philosophy and philology; Egyptology, the classics, and art history. He had published four books and twenty-seven scholarly articles on a variety of subjects and was a fellow of the Astronomical, Linnean, and Royal Societies. Amid shopping lists and daily reminders, he filled his pocket diaries with the titles of books to read, complex mathematical formulas, and notations of experiments and experiences.

Talbot’s frustration that day with the camera lucida led him to recollect his experiences ten years earlier with another drafting aid, the camera obscura—a small wooden box with a lens at one end that projected the scene before it onto a piece of frosted glass at the back, where the artist could trace the outlines on thin paper. The camera obscura, too, had left Talbot with unsatisfactory results, but it was not his own feeble drawings that he remembered after a decade. Rather he recalled with pleasure “the inimitable beauty of the pictures of nature’s painting which the glass lens of the Camera throws upon the paper in its focus—fairy pictures, creations of a moment, and destined as rapidly to fade away.” These thoughts in turn prompted Talbot to muse “how charming it would be if it were possible to cause these natural images to imprint themselves durably, and remain fixed upon the paper.” “And why should it not be possible?” he asked himself. Talbot jotted down thoughts about experiments he could conduct at home to see if Nature, through the action of light on material substances, might be brought to draw her own picture.

In January 1834 Talbot returned home to Lacock Abbey, an amalgamation of buildings incorporating the thirteenth- and fourteenth-century remains of a former abbey about eighty-five miles west of London. Within a few months he began to experiment with the idea that had occurred to him at Lake Como and soon found that a sheet of fine writing paper, coated with salt and brushed with a solution of silver nitrate, darkened in the sun, and that a second coating of salt impeded further darkening or fading. Talbot used this discovery to make precise tracings of botanical specimens: he set a pressed leaf or plant on a piece of sensitized paper, covered it with a sheet of glass, and set it in the sun. Wherever the light struck, the paper darkened, but wherever the plant blocked the light it remained white. He called his new discovery “the art of photogenic drawing.”

As his chemistry improved, Talbot returned to his original idea of photographic images made in a camera. During the “brilliant summer of 1835,” Talbot took full advantage of the unusually abundant sunshine and placed pieces of sensitized photogenic drawing paper in miniature cameras—“mouse traps,” his wife called them—set around the grounds to record the silhouette of Lacock Abbey’s animated roofline and trees. The pictures, Talbot wrote, “without great stretch of the imagination might be supposed to be the work of some Liliputian artist.” His first successful camera image, a photograph the size of a postage stamp, showed the oriel window in the south gallery of Lacock Abbey. Although indoors, the subject was ideal: the camera could sit motionless on the mantelpiece opposite the window for a long exposure, and the bright sunlight pouring through the window provided strong contrast. The image on that first photograph, now in the National Museum of Photography, Film, and Television in Bradford, England, has, unfortunately, nearly faded from view. But using a slightly larger camera, Talbot photographed the oriel window again, probably that same summer. (He wrote “some [pictures] were obtained of a larger size,
Attributed to Antoine Claudet. French, act. in England, 1797–1867

The Chess Players, ca. 1845
Salted paper print from paper negative, 7 3/8 x 5 3/4 in. (19.5 x 14.5 cm)
Ex colls.: William Henry Fox Talbot; Fred Bird; Harold White
The Rubel Collection, Promised Gift of William Rubel
but they required much patience.”) The result, still miraculously well preserved, is the earliest photograph in the Rubel Collection and among the earliest surviving photographs anywhere (above). The diamond-paned windows are mysteriously visible in the purple chemical stains on this scrap of writing paper. Like the “Venus of Willendorf,” the crudely carved Paleolithic figure of a woman that is the first illustration in nearly every art-history survey because it seems to hold the promise of all that came afterward, _The Oriel Window_ stands at the very beginnings of a new art. One senses the still palpable excitement that Talbot felt at having brought to reality an idea that had until that moment existed only in his imagination, that Nature could record its own image independent of the artist’s hand. “A person unacquainted with the process,” Talbot would later write, “if told that nothing of all this was executed by the hand, must imagine that one has at one’s call the Genius of Aladdin’s Lamp. And, indeed, it may almost be said, that this is something of the same kind. It is a little bit of magic realised.”

In _The Oriel Window_ and Talbot’s other early camera images, lights and darks were reversed; they were negatives, though the term itself was coined by Sir John Herschel only in 1840. As early as February 1835, however, Talbot recognized this tonal reversal as an asset rather than a defect, understanding that “if the paper is transparent, the first [photogenic] drawing may serve as an object, to produce a second drawing, in which the lights and shadows would be reversed” to yield a positive print. That a single negative made in the camera might serve as the matrix for multiple positives lay at the heart of Talbot’s conception and has remained a basic principle of nearly all subsequent photography.

Occupied with other activities, Talbot worked little on his invention between the sunny days of 1835 and January 1839, when the stunning news arrived that a Frenchman, Louis Daguerre, had invented a wholly different means of recording camera pictures with dazzling precision on metal plates. Preempted just at the moment when he was beginning to revisit his earlier experiments with an eye toward publication, Talbot scrambled to stake a claim to priority, to produce pictures that might compare favorably with Daguerre’s, and to solve the problems of lengthy exposure times and fugitive prints. Well before Daguerre revealed the details of his process, Talbot presented his own before the Royal Society in January and February 1839. At the time of Talbot’s announcement, his “art of photogenic drawing” was clearly better suited for recording the shadows of plant specimens, lace, or similar flat objects by direct contact—pictures we would now describe as photograms—than for camera images.

Others soon tried their hand at the new art. Nevil Story-Maskelyne, a teenager home from school during the summer of 1840, saw a demonstration of Talbot’s process at Basset Down, his home not far from Lacock Abbey. In later years, beginning at Oxford in 1842, Maskelyne became adept at using the camera, but his first trials, like Talbot’s own, were photogenic drawings made from
direct contact with objects. The arrangement of chicken feathers (below) is among his earliest pieces, and, as in Talbot’s botanicals, the medium’s capacity to record the soft texture of down, the detail of individual barbs, and the barred pattern of the feathers must have seemed an astonishing rendering of natural form.

About 1841, at the same time he wrote the first historical account of the two-year-old medium of photography and its much longer prehistory, Robert Hunt experimented with practical uses for photography and applied some variant of Talbot’s chemistry to paper, linen, and silk, perhaps seeking a new means of textile decoration (p. 8, top). The results look like delicately patterned damask—snippets of coffee- or wine-colored ribbon woven in a floral pattern by the most skilled of artisans. “Nature impresses herself in all her delicacy and decision,” Hunt would write of photography in 1844, “in all her softness and her grandeur, and in all her richness of tone and breadth of effect.”

Although such photogenic drawings were beautiful as objects and useful as scientific records, Talbot knew that a fast, permanent, and accurate means of producing photographic images in the camera was the true brass ring, and on September 23, 1840, he found a way to seize it. Talbot discovered that an exposure of mere seconds, leaving no visible trace on the chemically treated paper, nonetheless left a latent image that could be brought out with the application of an “exciting liquid” (essentially a solution of gallic acid). This discovery, which Talbot patented in February 1841 as the “calotype” process (from the Greek kalos, meaning beautiful), opened up a whole new world of possible subjects for photography. In the days that followed Talbot trained his camera on various features of Lacock Abbey and its grounds. Made only a few weeks after his September discovery, Top of Sharnton’s Tower (p. 8, bottom) reveals Talbot’s newfound ability to render the tones and textures of masonry and glass and the myriad architectural details of the sixteenth-century corner tower, built by the Abbey’s first lay owner.

These early Talbot photogenic drawings, in shades of lilac and lavender, remain fugitive, for they were only partially stabilized with a solution of salt. A more permanent means of “fixing” the image with hyposulfite of soda was proposed by Talbot’s friend the eminent scientist Sir John Herschel (see pp. 32, 33); “hypo” was adopted by Talbot for most prints beginning in the early 1840s and is still used today as a fixer for black-and-white photographs. With all the pieces of a workable process now in place, Talbot set out to promote his invention at home and abroad. He traveled to Paris in May 1843 to negotiate a licensing agreement for the French rights to his patented calotype process and to give firsthand

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**NEVIL STORY-MASKELYNE.** English, 1823–1911

[Chicken Feathers], ca. 1840

Photogenic drawing, 7 1/8 x 7 5/8 in. (18.5 x 19.3 cm)
Ex coll.: Basset Down House, Wiltshire
The Rubel Collection, Purchase, Lila Acheson Wallace and Anonymous Gifts, 1997 1997.382.5
Attributed to ROBERT HUNT. English, 1807–1887
[Botanical Specimens]. ca. 1841
Photogenic drawings. Top left: ferns on gray linen, 4 × 3⅞ in. (10.3 × 10 cm). Top right: ferns and leaves on grayish blue paper, 4⅜ × 3⅞ in. (11.3 × 9.5 cm). Bottom left: plant study on brown silk ribbon, 1⅞ × 3⅞ in. (4.8 × 8.6 cm). Bottom right: three leaves on wine-colored silk ribbon, 2¼ × 3½ in. (6.9 × 9.3 cm). Mount 7¾ × 10½ in. (20 × 26.8 cm)
The Rubel Collection, Purchase, Anonymous Gift, 1997
1997.382.6a–d

WILLIAM HENRY FOX TALBOT
Top of Sharington's Tower, Lacock Abbey,
October 14, 1840
Photogenic drawing from a paper negative, 5¾ × 7 in.
(14.8 × 17.9 cm); sheet 7¼ × 8 ¾ in. (18.5 × 22.3 cm)
Ex colls.: Lacock Abbey; Mathilde Talbot; Harold White
1997.382.2
instruction in its use. No doubt excited to be traveling on
the Continent with a photographic camera for the first
time, Talbot seized upon the chance to fulfill the fantasy
he had first imagined on the shores of Lake Como ten
years earlier. Although his business arrangements ulti-
mately yielded no gain, Talbot made a number of beau-
tiful and complex pictures in Rouen, Orléans, and Paris.
In a letter to his mother from Rouen on May 15, 1843, he
described the scene depicted in The Seine at Rouen (p. 10):
“Great bustle and commercial activity manifest every-
where. From early dawn to dewy eve incessant rumbling
of carts & waggons—Ships constantly loading, unloading,
and moving away—At one moment the quay strewed
with large barrels—an hour afterwards not one of them
left. Weather growing extremely stormy and rainy—
nothing to be done in Calotype until it clears up.”

At home, Talbot’s hope for commercial exploitation
lay in the widespread distribution of large editions of
photographic prints, the principal advantage of his
negative-positive process over the daguerreotype. In
early 1844, in an effort to encourage the mass production
of paper photographs, Talbot supported Nicolaas
Henneman, his former valet, in the creation of a photo-
graphic printing establishment in Reading, a town on
the route from Lacock to London. The firm’s initial
project was Talbot’s Pencil of Nature, the first commer-
cially published book illustrated with photographs—a
milestone in the art of the book greater than any since
Gutenberg’s invention of moveable type. Issued in fas-
cicles from June 1844 through April 1846, The Pencil of
Nature contained twenty-four plates, a brief text for each,
and an introduction that described the history and

GEORGE WILSON BRIDGES. English, 1788-ca. 1864
Basso Relievo—of Wingless Victory—
Lately Found, 1848
Paper negative, 8 1/8 x 6 in. (20.6 x 15.2 cm)
Ex colls.: William Henry Fox Talbot; Mathilde
Talbot; Harold White
The Rubel Collection, Purchase, Lila Acheson
chemical principles of Talbot's invention. The photographs and texts proposed, with extraordinary prescience, a wide array of applications for the medium that included reproducing rare prints and manuscripts, recording portraits, inventorying possessions, representing architecture, tracing the form of botanical specimens, and making art. The publication, however, was not a commercial success, and as sales declined with each new fascicle, Talbot abandoned the project just before the seventh group of plates was made; *The Ancient Vestry* (opposite, bottom), a photograph of Talbot's friend and fellow calotypist Calvert Jones seated in the sunlit thirteenth-century vaulted vestry of Lacock Abbey, was to have been the first photograph in the seventh fascicle.

Talbot's second photographically illustrated book, entitled *Sun Pictures in Scotland* and published in 1845 with no text other than a list of plates, transported the reader via photography to sites significant to the life and writings of Sir Walter Scott. Among the images included was *The Tomb of Sir Walter Scott in Dryburgh Abbey* (opposite, top), a romantic expression perfectly suited to the writer. The tomb is embedded in the shadows of the Gothic ruin, itself nestled among the trees that grow where columns of the transept once rose, the whole scene in turn subsumed in the deep, rich tones of the calotype. Copies of this image in *Sun Pictures*, like many plates in *The Pencil of Nature*, faded dramatically from their original dark chocolate brown even in Talbot's time, due to impurities in the Reading establishment's water supply, to the printer having inadequately washed out the hypo fixer, and to the publishers having trimmed and affixed them to bristol, which left them more vulnerable to oxidation and exposed them to chemicals in the mounting glue. The Rubel Collection prints—never trimmed, mounted, or distributed—are extraordinary in their rich tonalities and exquisite state of preservation.

In less than a decade Talbot conceived and brought about a wholly new way of making pictures, perfected the optical and chemical aspects of photography, and learned to use the new medium to make complex images for the botanist, historian, traveler, and artist.
WILLIAM HENRY FOX TALBOT
The Tomb of Sir Walter Scott in Dryburgh Abbey, 1844
Salted paper print from paper negative, 6 7/8 x 7 in.
(16.8 x 17.9 cm)
Ex coll.: Lacock Abbey
The Rubel Collection, Purchase, Lila Acheson Wallace and Jennifer and Joseph Duke Gifts, 1997 1997.382.4

WILLIAM HENRY FOX TALBOT
The Ancient Vestry (also called Calvert Jones in the Cloisters at Lacock Abbey), ca. 1845
Salted paper print from paper negative, 6 1/2 x 8 1/4 in.
(16.4 x 20.7 cm)
Ex coll.: Lacock Abbey
The Rubel Collection, Promised Gift of William Rubel