

Etched by Light

Photogravures from the Collection, 1840–1940

In the 1840s, scientists and artists across Europe discovered that the seemingly miraculous invention of photography was fundamentally flawed. They hoped that this medium would revolutionize how knowledge about the visual world was recorded and disseminated through a new way of making pictures. But they soon realized that while the daguerreotype process, developed by Louis-Jacques-Mandé Daguerre, created stable and astonishingly vivid images, each one was unique. William Henry Fox Talbot's negative/positive process held greater promise, but his silver prints faded when exposed to light and it proved difficult to make numerous identical prints.

Etched by Light follows the search—across 100 years—to find and perfect a method of printing photographs in ink, which were not as susceptible to fading as silver prints. The process that emerged, and came to be called photogravure, involved chemically etching a photographic image into a metal plate. Ink was rubbed into the etched surface, paper was laid on top of the plate, and both were put through a printing press to transfer the ink to paper. This enabled the creation of numerous identical, long-lasting, and beautiful prints, with a velvety matte surface and a remarkably rich tonal range.

This exhibition explores photogravure's evolution in three sections: its invention in Europe between the 1840s and the late 1870s; its adoption by the pictorialists from the 1880s to the early 1900s; and its embrace by modernist photographers working around 1910 to 1940.

The exhibition is organized by the National Gallery of Art.
All works are from the National Gallery's collection.

The Photogravure Process

In this photomechanical process, a photographic image is chemically etched into a printmaking plate. Ink is rubbed into the etched surface, paper is laid on top of the plate, and both are put through a printing press to transfer the ink to paper. The resulting ink print on paper looks like a photograph but is more stable than the fine grain silver print Talbot developed, which can fade, yellow, or “silver out” with time. Ink also yields dark, velvety tones, a quality difficult to produce in a traditional silver-based print.

Invention, 1840s–late 1870s

Between the 1840s and the 1870s, several people worked to overcome what they perceived to be photography's shortcomings. Some, like Armand-Hippolyte-Louis Fizeau, built on the experiments of Joseph Nicéphore Niépce, photography's earliest inventor, who had made some of the first photogravures by 1825. In the 1850s, visionary archaeologist and scientist Honoré Théodoric d'Albert, the Duke of Luynes, sponsored a competition to stimulate research into photomechanical methods of reproducing photographs. Ultimately, William Henry Fox Talbot discovered the most workable and successful solution. He recognized as early as the 1850s that the printmaking plate needed a network of lines or a dusting of powder to hold the ink and capture the full tonal range of a photograph. By 1879, Czech artist and scientist Karl Klíč had perfected Talbot's method, creating the photogravure process that is still in use today.

Pictorialism, 1880s–early 1900s

Around the turn of the twentieth century, photographers eager to prove the artistic merit of the medium embraced the photogravure process. Known as pictorialists and celebrated for their softly focused pictures with muted tones, they included James Craig Annan and Peter Henry Emerson in Great Britain and Alfred Stieglitz in the United States. They conceived of printmaking as an artistic practice, not a commercial endeavor, and thought of their photogravures as original art, not reproductions.

Working closely with printers or mastering the processes themselves, the pictorialists prized the individuality of their photogravures, carefully choosing the ink, paper, and size of the finished picture. They even adjusted the plate itself, burnishing (polishing) some areas and selectively wiping others to highlight or suppress details. They also took advantage of photogravure's reproducibility, circulating their work widely in exhibitions, journals, portfolios, and limited-edition books.

Modernism, c. 1910–1940

In the early decades of the twentieth century several modernist photographers embraced photogravure. Like their predecessors, they saw the medium as an ideal vehicle for distributing their pictures in books and limited-edition portfolios, or for displaying them in exhibitions. But these modernists came from more varied backgrounds and employed photogravure to tackle new subjects. Some were fine art photographers, such as Alvin Langdon Coburn. Others, like Margaret Bourke-White, were photojournalists. Still more, like Laure Albin Guillot, cleverly merged art, science, and commerce.

By the 1930s, the use of photogravure had waned as a changing aesthetic favored sharper, smoother reproductions. Rotogravure, a similar process but with machine-fed sheets, and other halftone processes largely replaced photogravure, which was expensive and labor-intensive.

In the 1980s and 1990s, photogravure saw a resurgence as master printers and artists' workshops in this country and Europe encouraged artists to explore its creative potential, often in combination with other media. Photogravure continues to be used to this day.

[DEX 55]

William Henry Fox Talbot

British, 1800 – 1877

Fern, 1852

photogravure

Alfred H. Moses and Fern M. Schad Fund

Talbot announced the invention of the negative/positive process of photography in 1839. But by the mid-to-late 1840s he realized that his silver-based prints faded and could not easily be produced in multiples for publication. He then devoted himself to perfecting a way to make photographs in ink. In 1852 he patented his first photogravure process, the photographic engraving, which he used to make this print of a dramatically curving fern frond. In 1858 he patented his second process, the photoglyphic engraving, which ultimately became the basis for the modern photogravure.

[DEX 46]

Armand-Hippolyte-Louis Fizeau

French, 1819 – 1896

Rooftops, c. 1840

photogravure (Fizeau process)

Alfred H. Moses and Fern M. Schad Fund

This view of a dense jumble of sloping Parisian rooftops and chimneys, likely made from the photographer's residence, is among the earliest photogravures. A physicist famous for measuring the speed of light, Fizeau also experimented with some of the first photographic processes, including the daguerreotype. To make multiple prints of a daguerreotype, Fizeau chemically etched the shadows of the copper daguerreotype plate and used it as a printmaking plate. But the plates wore down easily, restricting the number of prints that could be made.

[DEX 13]

Charles Nègre

French, 1820 – 1880

Cathédrale de Chartres — Portique du Midi (South Portico), c. 1857 photogravure

The Sarah and William L Walton Fund

Trained as a painter and skilled as an etcher, Nègre began to photograph in 1844 and by the 1850s had dedicated himself to photography. In 1856 he patented a photogravure process that improved on earlier techniques and enabled him to successfully render midtones and create large, detailed prints. In this picture even handbills on a wooden fence are visible at lower left. He submitted his process to the Duke of Luynes's competition for the best photomechanical reproduction method, but he did not win.

[DEX 43]

Louis-Auguste Bisson

French, 1814 – 1876

Auguste-Rosalie Bisson

French, 1826 – 1900

Notre-Dame, 1850s

photogravure

Alfred H. Moses and Fern M. Schad Fund

Like many early practitioners, the brothers Louis-Auguste and Auguste-Rosalie Bisson worked to improve the technology of photography, developing methods to increase contrast and detail. At the time, negatives were particularly sensitive to blue light, causing overexposed, cloudless skies. To correct this defect, the brothers either drew clouds onto the negative using ink and graphite or etched them into the printing plate. They also added lines and shading to the photogravure plate to further define architectural details, as seen in the rooftop windows on the building at left.

[DEX 44]

Joseph Cundall

British, 1818 – 1895

Robert Howlett

British, 1831 – 1858

Crimean Braves — “Men of the Trenches and Battle fields in the Crimea / Coldstream guards — Privates,” 1856

photogalvanograph

from Paul Pretsch’s *Photographic Art Treasures*, part II, January 1857

Alfred H. Moses and Fern M. Schad Fund

Posed stiffly in a pyramidal composition with their rifles and kits, these full-bearded men were part of a series of photographs commissioned by Queen Victoria to celebrate the heroism of British soldiers in the Crimean War. This print appeared in *Photographic Art Treasures*, a periodical devoted to promoting photography as art that was published by Austrian-born photographer Paul Pretsch and British photographer Roger Fenton. It included reproductions of photographs made by an electro-engraving printing process invented by Pretsch and called photogalvanography.

[DEX 3 and 4 share one label]

James Craig Annan

British, 1864 – 1946

from *Venice and Lombardy: A Series of Original Photogravures*, 1896

The Riva Schiavoni, 1894

A Black Canal, 1894

photogravures

Pepita Milmore Memorial Fund and Robert B. Menschel
and the Vital Projects Fund

Scottish photographer James Craig Annan traveled to Vienna in 1883 with his father, noted photographer, printmaker, and publisher Thomas Annan, to learn the photogravure process from Karl Klíč, the person who had perfected it. Soon after, their company T & R Annan and Sons became one of the foremost photogravure printers in the world. James demonstrated his superb printing skills in his 1896 portfolio *Venice and Lombardy: A Series of Original Photogravures*, with pictures such as *The Riva Schiavoni* and *A Black Canal* showing the extraordinarily subtle tonal range that could be achieved with the process.

[DEX 1]

Peter Henry Emerson

British, born Cuba, 1856 – 1936

A Winter's Morning, 1887 photogravure

Carolyn Brody Fund and Robert B. Menschel
and the Vital Projects Fund

[DEX 15]

Peter Henry Emerson

British, born Cuba, 1856 – 1936

The Poacher — A Hare in View, 1888

photogravure

Gift of Mary and Dan Solomon and Patrons' Permanent Fund

One of the most influential figures in late nineteenth-century photography, Emerson was also a writer with strong views about the medium. He advocated simple compositions drawn from the natural world and differential focus, which sharply rendered a single object and left the rest of the composition more softly focused. As can be seen in *The Poacher*, the photogravure process allowed Emerson to heighten this effect. By selectively wiping the printing plate in the center and foreground, he blurred the detail around the darker edges and sky in the background and focused attention on the poacher.

[DEX 59]

Anne W. Brigman

American, 1869 – 1950

The Cleft of the Rock, 1912

photogravure

Gift of Mark Katzman and Hilary Skirboll

Born in Hawaii, Brigman learned how to photograph by reading contemporary photography journals such as *Camera Work* while she was living in Oakland, California. Brigman sought to make the human figure “part of the elements,” as she said, “to embody it in rocks and trees.” She often depicted herself and others nude in the California landscape, merging their bodies with the natural forms around them.

[DEX 21 and 9 share one label]

Mathilde Weil

American, 1872 – 1942

Beatrice, 1899

photogravure

from *American Pictorial Photography, Series I*

Anonymous Gift

Clarence H. White

American, 1871 – 1925

Edge of the Woods, Evening, 1900

photogravure

Robert B. Menschel and the Vital Projects Fund

In 1899 and 1901 the Camera Club of New York, under Stieglitz’s direction, produced two limited-edition portfolios of photogravures by some of the foremost pictorial photographers of the time. Among them are Weil, a leading portrait photographer based in Philadelphia, and White, a self-taught photographer from Newark, Ohio. Stieglitz hoped the portfolio would be studied by “every serious student of pictorial photography.”

[DEX 30]

Alfred Stieglitz

American, 1864 – 1946

The Street, Fifth Avenue, 1900/1901

photogravure

from *The Work of Alfred Stieglitz*, 1904

Alfred Stieglitz Collection

In January 1904, Stieglitz issued large-format photogravures of his own photographs that were intended for sale either individually or as a group. Titled *The Work of Alfred Stieglitz*, the series included five prints on thin Japanese tissue printed in an edition of forty.

[DEX 24 and 25 probably share one label]

Alfred Stieglitz

American, 1864 – 1946

FAR LEFT

Old and New New York, 1910,
printed in or before 1913

LEFT

The City of Ambitions, 1910,
printed in or before 1913
photogravures

Alfred Stieglitz Collection

In 1910 when Coburn published a bound volume of photogravures of New York City — a subject Stieglitz had previously explored — Stieglitz responded. Focusing on the icons of New York’s modernity — its towering buildings and bustling port — he made a series of photographs with a graphic complexity and celebratory energy that were new to his work. Although he made these pictures with relatively small handheld cameras, he used the photogravure process to significantly enlarge them, creating bold, dynamic prints.

[DEX 12, 10, 60, and 11 share one label]

Alvin Langdon Coburn

British, born United States, 1882 – 1966

CLOCKWISE FROM TOP LEFT

The Battery, c. 1909

Brooklyn Bridge, c. 1910
photogravures

Robert B. Menschel and the Vital Projects Fund

Tunnel Builders, 1910
photogravure

Gift of Funds from John S. Parsley and Nancy Nolan Parsley

from *New York*, 1910
publisher, Brentano's, New York, and
Duckworth & Co., London

Trafalgar Square, 1909
photogravure

Robert B. Menschel and the Vital Projects Fund

from *London*, 1909
publisher, Brentano's, New York, and
Duckworth & Co., London

Fascinated by the art and craft of photography, Coburn mastered a variety of different printing processes, including photogravure, and exploited the aesthetic possibilities of each one. He used photogravure's rich, full tonal range to capture the massive forms of the cityscapes of New York and London. Each photogravure was an "original print," he insisted, that he "would not hesitate to sign." He prepared and etched the printing plates, ground the inks, and pulled prints on different grades of paper until he arrived at a satisfactory result that his printer could follow. "What such an undertaking involves," he noted, "no one will ever know save those who have experienced it."

[DEX 28 and 26 share one label]

Alfred Stieglitz

American, 1864 – 1946

FAR LEFT

The Steerage, 1907, printed in or before 1913

LEFT

After Working Hours — The Ferry Boat, 1910
photogravures

Alfred Stieglitz Collection

In the summer of 1910 Stieglitz made several large-format photogravures of his photographs of New York to include in an exhibition scheduled for later that year. Shedding the muted tones and soft focus he had used in his pictorial work from the turn of the century, he created sharply focused photogravures that depict the city as a potent mixture of monumental architecture and brute strength.

[DEX 32–41]

Man Ray

American, 1890 – 1976

Électricité, 1931

portfolio of 10 photogravures

Gift of Robert B. Menschel

1. **Lingerie**
2. **La Maison (The House)**
3. **Électricité**
4. **La Ville (The City)**
5. **Le Monde (The World)**
6. **Le Souffle (The Breeze)**
7. **Cuisine (Kitchen)**
8. **Salle à Manger (Dining Room)**
9. **Électricité**
10. **Salle de Bain (Bathroom)**

In 1931, a Parisian electric company commissioned Man Ray to make photographs promoting the domestic use of electricity. The artist's witty compositions, printed in an edition of 500, exploit photogravure's wide tonal range and deep blacks.

Most of the images are photograms, cameraless pictures made by placing an object on photographic paper and exposing it to light. Silhouetted appliances include a fan, a toaster, and an iron; other pictures focus on electric light (bulbs, a switch, a shade). A view of nude torsos beneath flashing currents playfully conflates electricity and eroticism, while a heating coil over a roasted fowl alludes to an oven. The lone outdoor photograph showcases the electric lights that emblazon Paris at night, including those on the Eiffel Tower.

[DEX 48 and 51 share one label]

Paul Strand

American, 1890 – 1976

from *Photographs of Mexico*, 1940
publisher, Virginia Stevens, New York

FAR LEFT

Virgin, San Felipe, Oaxaca, 1933

LEFT

Boy, Uruapan, 1933

photogravures

Alfred H. Moses and Fern M. Schad Fund

Carlos Chávez, a composer and the director of the fine arts department at the Secretariat of Public Education in Mexico, invited celebrated photographer Paul Strand to visit the country in 1932. Synthesizing his earlier modernist practice with a social documentary objective, Strand spent the next two years striving to create a visual record of the people and their culture. In 1940, he published twenty of his pictures as photogravures in a portfolio, *Photographs of Mexico*. Working closely with the printer, Strand selected slightly different ink combinations for each picture and varnished them by hand to impart a rich, smooth sheen. The portfolio is now widely considered one of the finest examples of the photogravure process.

[DEX 61, 64, 63, and 62 share one label]

Doris Ulmann

American, 1882 – 1934

from *Roll, Jordan, Roll*, 1933
publisher, Robert O. Ballou, New York

CLOCKWISE FROM TOP LEFT

Feet Washing, plate 35, 1929 – 1930
photogravure

Gift of Mary and Dan Solomon

Feet Washing, plate 36, 1929 – 1930
photogravure

Gift of Mary and Dan Solomon

Mangrove Scene, plate 47, 1929 – 1930
photogravure

Pepita Milmore Memorial Fund

Baptismal Scene, plate 33, 1929 – 1930
photogravure

Gift of Funds from Peter Edwards and Rose Gutfeld

In 1929, Doris Ulmann, a white New York photographer interested in American rural cultures, traveled to a former plantation in the Gullah region of South Carolina owned by white author Julia Peterkin. They wanted to document the lives and traditions of the formerly enslaved African Americans and their descendants in the area. Their book, *Roll, Jordan, Roll* (1933), pairs Ulmann's largely sympathetic portraits with Peterkin's sentimental and at times paternalistic text.

The title is drawn from a spiritual that was popular among enslaved African Americans. In the song, the river Jordan embodied the hope of escape to freedom via the Ohio or Mississippi River. *Roll, Jordan, Roll* was issued as both a regular edition with halftone reproductions of Ulmann's photographs and a special edition of 350 copies with ninety photogravures.

[DEX 53 and DEX 66]

Paul Strand

American, 1890 – 1976

from *Photographs of Mexico*, 1940
publisher, Virginia Stevens, New York

FAR LEFT

Cristo, Tlacoahuaya, Oaxaca, 1933

LEFT

Gateway, Hidalgo, 1933

photogravures

Alfred H. Moses and Fern M. Schad Fund

[DEX 65]

Margaret Bourke-White

American, 1904 – 1971

Shock Brigadier, 1930 – 1932

photogravure

from *Photographs of USSR*, 1934

publisher, Argus Press, Albany

Gift of Funds from Linda Hackett and Russell Munson
and Pepita Milmore Memorial Fund

The first Western professional photographer permitted into the Soviet Union, Bourke-White visited three times between 1930 and 1932 to document the Soviet dictator Joseph Stalin's efforts to modernize and collectivize the economy. His harsh policies cost millions of lives.

Bourke-White made thousands of photographs there, including this picture of a young "Shock" brigadier, an honor given to a highly productive worker in the USSR. Eager "to record the growth of the machine in a new setting," as she wrote, "among people who saw it with unaccustomed eyes," Bourke-White focused not on the machines themselves, but on the people operating them and the new society they were constructing. She published twenty-four pictures as photogravures in 1934 in a limited-edition portfolio. None show any evidence — if indeed she saw any — of Stalin's brutality.

Alvin Langdon Coburn, *The Copper Plate Press*, 1908, gum bichromate over platinum print, George Eastman Museum, bequest of the photographer, 1967.0155.0092

For this self-portrait, photographer Alvin Langdon Coburn placed himself not behind a camera but at a printing press making a photogravure. This choice underscores just how important the process was in his work. Four of his photogravures are on view in this exhibition.

[DEX 58] [case label on wall]

Armand-Hippolyte-Louis Fizeau

French, 1819 – 1896

Hôtel de Ville de Paris (Paris City Hall), 1842 photogravure (Fizeau process)

from Noël-Marie Paymal Lerebours's *Excursions
Daguerriennes, Vues et Monuments Les Plus
Remarquables du Globe*, 1844

volume with 2 photogravures and 49 etchings
publisher, Goupil et Vibert, Paris

Gift of Funds from W. Bruce and Delaney H. Lundberg and
Alfred H. Moses and Fern M. Schad Fund

Excursions Daguerriennes is the first book illustrated with photographic reproductions. Lerebours, a French optician and avid photographer, commissioned photographers around the world to make daguerreotypes of famous sights. Artisans reproduced nearly all the daguerreotypes by tracing them on paper, transferring the drawings to steel-faced copper printing plates (sometimes adding figures for scale), then etching and printing the plates.

But this view of the Paris City Hall was printed directly from the daguerreotype plate itself, using Fizeau's complex chemical etching process. It was the first real photogravure to appear in a major publication.

[DEX 22] [case label]

Peter Henry Emerson

British, born Cuba, 1856 – 1936

The Lone Lagoon, in or before 1895 photogravure

from *Marsh Leaves*, 1895
bound volume of 16 photogravures
publisher, David Nutt, London

Gift of Harvey S. Shipley Miller and J. Randall Plummer,
in Honor of the 50th Anniversary of the National Gallery of Art

An influential proponent of the creative use of photogravure, Emerson praised its subtle tonal range and delicate, matte surface. He illustrated seven books with photogravure reproductions of his photographs, with *Marsh Leaves* among his most celebrated. The spare, delicate, often unpopulated, and almost abstract landscapes show the influence of Whistler's nocturnes (night scenes) and Japanese prints.



James McNeill Whistler,
Nocturne, 1879/1880, etching,
Rosenwald Collection

[DEX 57] [case label]

Gertrude Käsebier

American, 1852 – 1934

Blessed Art Thou Among Women, 1899
photogravure

from Alfred Stieglitz's *Camera Work*, no. 1
(January 1903)

Alfred Stieglitz Collection

Stieglitz devoted his lavish periodical *Camera Work* (1903–1917) to promoting photography as a “medium of individual expression.” It was renowned for superbly produced photogravures by the era’s leading fine art photographers — such as Käsebier, who was noted for her portraits and depictions of motherhood. Printed in New York, Glasgow, and Munich, the photogravures were often made directly from the photographer’s own negatives, printed on Japanese tissue, and tipped (added individually) into each issue, frequently by Stieglitz himself.

Part of Stieglitz’s own set of *Camera Work*, this copy is bound in suede with many photogravures signed by their makers.

[DEX 42] [case label]

Laure Albin Guillot

French, 1879 – 1962

Acide margarique (Margaric Acid),

plate 12, 1929 – 1931

photogravure

from *Micrographie Décorative*, 1931

bound volume of 20 photogravures

publisher, Draeger Frères, Paris

R. K. Mellon Family Foundation and Pepita Milmore

Memorial Fund

Between 1929 and 1931, Albin Guillot photographed — through a microscope — slides that her late husband had made of crystals, specimens, and even the cross section of a rhinoceros horn. Working with the French firm Draeger Frères in 1931, she printed them as photogravures in color, often on metallic paper, and bound them into a limited-edition book of 305 copies. Blending art, science, and commerce, *Micrographie Décorative* transformed invisible patterns of nature into glowing abstractions that Albin Guillot hoped would inspire textile or wallpaper designers.