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The Light That Stayed

A History of the Camera



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THE ITINERARY

Contents

A story from Margem 37 03
We went looking for the light 04
What crosses the wall 05
A window on metal 06
Light enters the print shop 07
The window and the face 08
The drowned man wrote the caption 09
Who would make the next portrait? 10
Photography enters the studio 11
The laboratory behind the camera 12
An outing and the return post 13
Color on glass, a camera in the street 14
From tape to someone else’s hand 15
The back of the portrait 16
Sources for the journey 17

EDITORIAL NOTE

A story from Margem 37

The Light That Stayed is a special edition of Time Machine, narrated by Margem 37. Artificial intelligence assisted with research, writing and layout under the magazine’s editorial direction.

Along the way we will come across a metal plate, labels for medicine bottles, a family letter and a camera that recorded on tape. The numbered references lead to the collections and historical texts listed at the end of the volume. The darkened room and the family portrait at the beginning are scenes we invite the reader to imagine.

Conceived and curated by Lis & Lev

DEPARTURE · NOVEMBER 2026

We went looking for the light

Turn over a family photograph, if you have one nearby. You may find a name penciled on the back. On the front is a person as the light found them that day. On the back is the work of someone who wanted that person still to be known by name, years later.

That small gesture was our way into the history of the camera at Margem 37. We wanted to know how an image learned to last long enough to reach someone who had never been there. In the archives we found rooftops barely traced on metal, a piece of glass blackened with soot, and a letter from a young man already working out what one might charge for a portrait made with the new invention. [03, 04, 17]

That letter made us linger. Where a family gained another way to keep a face, a painter might lose the next commission. We followed the story on both sides of the counter. We found artists looking for customers, a critic trying to hold a place for painting, and a landscape painter who kept photographs to work from. [15–18]

Before we reach the counter, though, there is a room we need to darken. Leave the portrait face down for a moment. We will come back to it at the end of the journey.

01 · THE CAMERA OBSCURA

What crosses the wall

Imagine closing the window of a room and leaving just a pinhole facing the street. Give your eyes time to adjust. If it is bright enough outside, an upside-down image appears on the opposite wall. The top of the street scene is at the bottom. Someone walking past outside can cross the wall headfirst, feet in the air.

In the eleventh century, Ibn al-Haytham investigated how light passes through small openings. Much later, camera obscuras were built as portable instruments. One in the Science Museum Group collection has a lens, a tilted mirror and a sheet of ground glass. Looking at that glass, a draftsman could trace by hand the outlines of a scene taking place outdoors. [01, 02]

Cover the opening and the street vanishes from the wall. The drawing, if someone made one, stays on the paper. It was in the interval between the two that we paused. The instrument could already bring an image to the eye. For the image to last, someone still had to find a surface that light itself could change.

We will look for that surface at a window in Burgundy.

02 · LE GRAS, FRANCE

A window on metal

In the image held by the Harry Ransom Center, it takes a moment to tell the courtyard from the rooftops. The view almost dissolves into gray. The object is a pewter plate that Nicéphore Niépce exposed in a camera looking out over his property at Le Gras. The center dates it to 1827. [03]

Before placing the plate inside the camera, Niépce coated it with bitumen. The areas that received the most light hardened. Washing the plate removed some of the coating where less light had fallen. What remained on the metal was a record of those differences. This is the heliograph we find in the collection. [03]

The exact exposure time is still uncertain. The center estimates that it may have taken several days. That helps explain the strangeness of the view. We are used to looking at a photograph for the fraction of a second in which something happened. Here we look for traces of light that had time to shift. [03]

The Le Gras plate is the oldest known surviving photograph made in a camera. The next object on our journey looks quite different. At first glance, you might think it came from a small print shop.

FROM THE PAST

View from the Window at Le Gras



01

On Niépce?s plate, the rooftops of Le Gras almost disappear into the sheen of the metal.

03 · VILA DE SÃO CARLOS, 1833

Light enters the print shop

At the Instituto Moreira Salles we find labels for medicine bottles. Their lettering came from a piece of glass that Hercule Florence had blackened with soot. He scratched the lines of his design into the soot with a metal point. Holding the glass against light-sensitive paper, he let sunlight through the scratches to print the design. [04]

Florence, a Frenchman who had settled in Brazil, worked in Vila de São Carlos, now Campinas. One problem that occupied him was how to reproduce drawings in a region with few printing facilities. The pharmacist Joaquim Corrêa de Mello helped him experiment with silver salts. According to the institute, in 1833 they also succeeded in fixing on paper an image projected by a camera obscura. [04, 05]

Set the label beside Niépce’s plate. In Burgundy, light from a courtyard passed through a camera. In São Carlos, it passed through letters scratched into glass. The label we are looking at is a contact print. What the experiments share is the work light did on a prepared surface. [03–05]

Florence’s question about how to make more copies travels with us to England. A little paper window will show us what could happen when an image made inside a camera could itself be used to make another.

04 · ENGLAND AND FRANCE, 1835–1841

The window and the face

At Lacock Abbey, William Henry Fox Talbot pointed a small camera at a window. The negative he made in 1835 preserved the pattern of its panes. The bright areas of the scene darkened the sensitized paper. By laying the negative on a second light-sensitive sheet and exposing both to light, he could reverse the tones again to make a positive. The first sheet could go back to work. [06]

Meanwhile, in France, Louis Daguerre, once Niépce's partner, was refining a process that used a silver-plated sheet of copper. News reached Talbot in January 1839. In August, the technical details of the daguerreotype were made public in Paris. In the months between the announcement and the publication of the method, other experimenters already had reason to bring their own work out of the drawer. [03, 06, 07]

To read a daguerreotype, find the angle at which the figure appears in the polished silver. The detail can be startling. The plate itself is the portrait. With the calotype, which Talbot patented in 1841, a paper negative could yield several prints. The texture of the fibers could show in them, too. [06, 07]

Each process offered something to anyone who wanted to keep a face. Before we follow the customers, let us look at a man who chose to use his own portrait to lodge a complaint.

05 · PARIS, 1840

The drowned man wrote the caption

Hippolyte Bayard’s eyes are closed. His chest is bare, a cloth draped across his body. The text accompanying the photograph introduces him as a drowned man. Bayard, very much alive, had posed for the picture and written the story. The 1840 photograph became known as *Self-Portrait as a Drowned Man*. [08]

Bayard was experimenting with a direct-positive process on paper. He staged the scene to protest how little recognition he felt he had received beside the attention given to Daguerre. Photography gave him a way to make someone pause over a grievance they might otherwise have passed by. [08]

Look again at the face. The light records a pose. The caption gives us a reason for those closed eyes. The scene depends on how we read the two together. The camera had barely reached the public, and someone already knew how to guide what an audience would make of a picture.

Let us leave Bayard to get up. Across the Atlantic that same year, two brothers were trying to work out whether anyone would pay to sit in front of a camera for a few minutes.

FROM THE ARCHIVE

Self-Portrait as a Drowned Man



02

Eyes closed, Bayard poses for his own camera. The drowning is staged.

FROM THE BOOKSHELF

The Pencil of Nature



03

The six parts of Talbot?s book, issued between 1844 and 1846, brought photographs on paper into readers? hands.

06 · UNITED STATES, FROM 1840

Who would make the next portrait?

On April 11, 1840, George Fuller wrote to his father. He and his brother Augustus, a miniature painter, had seen examples of daguerreotypes. George discussed the cost of a plate, the short time a sitter would need to pose, and what a customer might pay for their own likeness. The brothers bought a camera and began making portraits. [17]

In the Metropolitan Museum’s collection, a whole trade comes into view around that letter. Miniaturists painted in watercolor on thin pieces of ivory. Their customers could carry a face in a velvet-lined case. A daguerreotype fit into just such a case. It is easy to imagine the same customer coming through either door with the same commission. [15, 17]

The museum records what happened next. Many American miniaturists left the trade as photography drew their customers away. Some took up hand-coloring photographs. Others offered painted and photographic portraits in the same studio. A job that had once meant painting an entire face could now begin with the face already on the plate. [15, 17]

We can follow the Fullers’ arithmetic and the changes in their trade. The letter preserves George’s enthusiasm. To know how another artist felt when commissions grew scarce, we would need that artist’s words, too. In France, a critic left us his.

07 · FRANCE IN THE 1850s

Photography enters the studio

In 1859, Charles Baudelaire wrote about photography in his review of the Salon. He allowed that it could serve science, document monuments and enrich a traveler’s album. He feared that photographic exactitude might take the place of imagination in art. In his account we can hear a concern of the time in the words of someone who felt it. [18]

Let us set his page aside and open a portfolio belonging to the painter and printmaker Théophile Chauvel. His collection of photographs reached the Musée d’Orsay almost intact. Among them are studies made for artists. The museum holds, for instance, a photograph of two peasant women taken before 1878. An artist drawing from such a picture could return another day to the fall of a skirt or the position of a hand. [16]

The Fullers’ letter helps us see what changed for people who lived on commissions. Chauvel’s portfolio shows what the same technique offered someone studying a figure. Read together, the two archives bring us face to face with painters working under different conditions, and with a tool whose purpose could change as it crossed the studio threshold. [15–17]

There is another place where it pays to look behind the camera. In a photograph from the American Civil War, part of the laboratory work is in plain sight.

08 · FROM 1851 TO THE AMERICAN CIVIL WAR

The laboratory behind the camera

In 1851, Frederick Scott Archer published a process that used collodion on glass. The smooth plate preserved details that paper fibers could soften. Once developed, the negative could yield several prints. The difficulty came earlier. The plate had to be prepared, exposed and developed while the collodion coating was still wet. [09, 10]

In its record for a photograph of fortifications in Atlanta, the Library of Congress identifies photographer George N. Barnard’s wagon and portable darkroom. Consider how much had to be carried along to make a picture away from the studio. When the subject was far afield, the laboratory went too. [10, 11]

A fortification would stay in front of the lens long enough. A sudden movement might be over while the photographer was still preparing the plate. That difference helps us read what reached the archive. What people could photograph depended on what they could get ready in time, where they could go, and what stayed in front of them. [10]

Decades later, someone would take a camera on an outing without having to learn how to develop a picture. That also meant inventing a new way to get the photograph back into the hands of the person who took it.

09 · FROM 1888

An outing and the return post

The Kodak of 1888 came loaded for a hundred exposures. Once the roll was finished, the owner sent the camera to the company. Back came the finished prints and the camera, loaded again. In the early prints the pictures were circular. A little sky or part of a room disappeared at the round edge. [12]

The person who pressed the button was handing part of the work to someone else and settling in for a wait. Between taking a photograph and seeing it lay a trip to the laboratory and back. In the meantime, the film might already hold a game, an outing or a visit that nobody would have thought to bring into a studio. [12]

This is where the album begins to catch our eye. So far, we have followed portraits made to be kept. Alongside them we now begin to find moments whose importance emerges only later. Perhaps a photograph stays in an album because someone in the background came to that house just once.

Film continued to change format, and cameras changed size. Before we follow one out into the street, let us put a light behind a glass plate.

10 · 1907 AND 1925

Color on glass, a camera in the street

Under magnification, an Autochrome plate reveals grains of dyed potato starch. The brothers Auguste and Louis Lumière used these grains to filter the light reaching the sensitive layer. Commercial production began in 1907. The finished transparency could be viewed with a light behind it or projected onto a screen. [13]

At the Swiss Camera Museum, André Chapon’s still lifes give us a reason to look closely at the plate. The object in the photograph has long since left the table. Yet light passing through the glass brings its colors back for someone who comes along later. At Le Gras, it took us a moment to make out the rooftops. Here, color itself depends on how we look. [03, 13]

In another display case, the Leica I, marketed from 1925, opens a different route. The model helped popularize photography on 35 mm film. A small camera made it easier to go out with it ready to hand and respond to whatever turned up along the way. The chance to take a photograph might come on the walk itself. [19]

The Leica still needed film. In 1975, in a Kodak laboratory, an experimental device would finish recording an image by writing data onto tape.

11 · 1975 TO THE EARLY 2000s

From tape to someone else’s hand

At Kodak, Steven Sasson built a portable prototype that received light on a CCD sensor and converted the signal into digital data. The black-and-white image was recorded on magnetic tape. Recording took about twenty-three seconds. To see the result, you needed another device connected to a television. [14]

Between light reaching a sensor and a photograph appearing on a screen, work goes on that the eye can seldom follow. With Sasson’s device, the wait made that work apparent. Capturing the image was one step. Writing the data to tape and reading it back were others. [14]

In Japan in 2000, the Sharp J-SH04 brought together a camera and a way to send the picture, all in one phone. An image could reach someone else’s hand before the photographer got home. Today, taking, viewing and sharing a picture all fit on the same device, often within a single conversation. [20, 21]

At the outset, we wondered how much had to happen for someone to see tomorrow what we can see now. Sending can take seconds. Deciding what is worth keeping still takes the time of the person looking.

ARRIVAL · NOVEMBER 2026

The back of the portrait

We can turn the photograph over again. On the front, perhaps we see six people standing beside a table. The camera caught the fold of a sleeve, a corner of the tablecloth, a face turned toward whoever chose to press the button. If there is a name on the back, someone made the choice to write it there.

We set out to find the history of a machine and spent much of the journey among people busy with other things. A draftsman wanted to copy what he saw. A printer needed to reproduce lettering. Two brothers were working out the cost of a portrait. A painter kept pictures of figures he could look at when he went back to work.

The light left something for each of them. Each had to decide what to do with what stayed behind.

Perhaps the name on the back is familiar. Perhaps the handwriting belongs to someone you can still ask. If the photograph has just arrived on your phone, the person who sent it may be waiting for a reply. However the picture reached you, our journey ends with a question someone can still ask at the other end.

Who’s in this picture?

FROM THE ARCHIVES

Sources for the journey

01 · ISLAM MUSEUM

Ibn al-Haytham’s dark room

Experiments with projection in a darkened room.

02 · SCIENCE MUSEUM GROUP

Camera obscura

Collection record for an optical drawing aid.

03 · HARRY RANSOM CENTER

The Niépce Heliograph

The Le Gras plate, its process and its dating.

04 · INSTITUTO MOREIRA SALLES

Hercule Florence

Collection containing the labels and an account of the technique.

05 · INSTITUTO MOREIRA SALLES

Sobre Hercule Florence

Experiments in Brazil and collaboration with Correa de Mello.

06 · THE METROPOLITAN MUSEUM OF ART

William Henry Fox Talbot and the Invention of Photography

Paper negatives and the development of the calotype.

FROM THE ARCHIVES

Sources for the journey

07 · LIBRARY OF CONGRESS

The Daguerreotype Medium

The history of the daguerreotype and how it works.

08 · J. PAUL GETTY MUSEUM

The 19th-Century Selfie Pioneer

Bayard, his process and his staged self-portrait.

09 · THE METROPOLITAN MUSEUM OF ART

The Rise of Paper Photography in 1850s France

The spread of paper photography and glass-negative processes.

10 · LIBRARY OF CONGRESS

Taking Photographs During the Civil War

Working with glass plates in the field.

11 · LIBRARY OF CONGRESS

Atlanta, Georgia. Confederate fortifications

Collection record identifying Barnard’s wagon and darkroom.

FROM THE ARCHIVES

Sources for the journey

12 · THE METROPOLITAN MUSEUM OF ART

Kodak and the Rise of Amateur Photography

The 1888 camera and the making of amateur albums.

13 · MUSÉE SUISSE DE L’APPAREIL PHOTOGRAPHIQUE

The Lumière brothers’ Autochrome process

Dyed starch, commercial production and the Chapon collection.

14 · MUSÉE SUISSE DE L’APPAREIL PHOTOGRAPHIQUE

1975 The Invention

Sasson’s digital prototype.

15 · THE METROPOLITAN MUSEUM OF ART

American Portrait Miniatures of the Nineteenth Century

Miniature painters and the portrait market.

16 · MUSÉE D’ORSAY

Études d’après nature

Théophile Chauvel’s collection of photographic studies for artists.

FROM THE ARCHIVES

Sources for the journey

17 · THE METROPOLITAN MUSEUM OF ART

American Portrait Miniatures in the Manney Collection

Dale T. Johnson cites George Fuller’s April 1840 letter.

18 · CHARLES BAUDELAIRE / ÉTUDES PHOTOGRAPHIQUES

Le public moderne et la photographie

Baudelaire’s 1859 Salon text, annotated by André Gunthert.

19 · SCIENCE MUSEUM GROUP

Leica I camera

The 1930 specimen and the history of the model.

20 · NATIONAL MUSEUM OF NATURE AND SCIENCE, JAPAN

Sharp J-SH04

Technical record dating the phone to 2000.

21 · SHARP

History of the J-SH04

The manufacturer’s account of the camera and its picture-sending feature.

Where the images came from

01 View from the Window at Le Gras

Nicéphore Niépce, 1826 or 1827. Plate held by the Harry Ransom Center, University of Texas at Austin. Photograph of the plate by Daderot, via Wikimedia Commons. Reproduction released under CC0 1.0.

Collection record Open JPEG file

02 Self-Portrait as a Drowned Man

Hippolyte Bayard, 1840. Direct positive on paper. Digital file from Wikimedia Commons, whose record cites the USC Annenberg image library. Reproduction marked as public domain.

Collection record Open JPEG file

03 The Pencil of Nature

William Henry Fox Talbot, 1844?1846. The Metropolitan Museum of Art, New York. Gift of Jean Horblit, in memory of Harrison D. Horblit, 1994. Accession 1994.197.1?.6. Public domain, The Met Open Access (CC0).

Collection record Open JPEG file