What the heck is this?

Or

A Brief Tour of 19th and 20th Century Photographic Processes,

How to Identify Them,

and

a Word or Two on Dating Images.
The Daguerreotype –

Introduced 1838

in use through the mid-1860s
François Arago, standing at the dais, announces the daguerreotype process at the joint meeting of the Académie des Arts and the Académie des Sciences, Paris, France, 19 August 1839.

Louis Jacques Mandé Daguerre and Isidore Niépce sit to M. Arago’s left.
Louis-Jacques-Mande Daguerre, Boulevard du Temple, 1838
The Daguerreotype - Standard plate sizes:

<table>
<thead>
<tr>
<th>Plate Size</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full plate</td>
<td>6-1/2” x 8-1/2”</td>
</tr>
<tr>
<td>Half plate</td>
<td>4-1/2” x 5-1/2“</td>
</tr>
<tr>
<td>1/4 plate</td>
<td>3-1/8” x 4-1/8“</td>
</tr>
<tr>
<td>1/6 plate</td>
<td>2-5/8” x 3-1/4“</td>
</tr>
<tr>
<td>1/9 plate</td>
<td>2” x 2-1/2“</td>
</tr>
<tr>
<td>1/16 plate</td>
<td>1-3/8” x 1-5/8“</td>
</tr>
</tbody>
</table>
Daguerre’s Camera

Commercially available beginning in 1839, this particular model is signed by M. Daguerre himself.

Notice the fixed lens and the sliding camera body.
W. & W.H. Lewis Camera

Commercially available beginning around 1851.

Notice the fixed lens and the “new” bellows added between the lens and the camera body.
Elements of a cased image include, from left, the case, the image, the mat, the glass, and the preserver. Additionally, one may find a seal of paper or tape and/or a photographer’s advertising card. (Art by David White)
Variations on a theme:

Three types of images cases from the 1850s and 1860s. These are examples of tooled leather applied over a wooden undercase.
An early thermoplastic case containing . . .
... a daguerreotype portrait, ca. 1845 ...
A daguerreotype is a negative/positive process . . .
... In which there is no separate negative ...
... But in which the negative and positive are one.
1/9 Plate - 2" x 2-1/2"

Behind the image:

Mother, Mother,
How I wish I had something to eat,
some bread or something
Up all these priests
That would tempt a thief
Of likeness of Thine

LSU
Collodion and Glass: The Introduction of Glass Plate Negatives and Positives, 1852
The Ambrotype: tonal qualities inverted

In 1852, Frederick Scott Archer discovered an underdeveloped collodion negative would appear as a positive if backed with something black. In the United States this process was called the *ambrotype*. The glass plate would most often have a thin metal matt placed on top of the glass, another pane of glass on top of that, and a decorative frame placed on top of all layers. This last frame sometimes had thin, flexible metal flanges that would be folded down and around all the layers to hold them together. This glass and metal sandwich would be housed as daguerreotypes were housed, in cases of leather covered wood or thermoplastic, with the addition of a piece of black cloth or paper behind the image to invert the tonal qualities and produce a positive image. Sometimes the photographer would use black, dark red, or dark purple glass as a base, none of which needed the additional black backing to reverse the image tones.
Charles Chevalier, France
Wet-plate collodion camera
Prudent René Patrice Dagron, France
Dagron Microphotographic camera
Ca. 1860

Viewing lens for micro image
R.S. Antoine, France
Wet Plate Stereo camera
Ca. 1860
An ambrotype, circa 1860, with applied color.
Collodion and metal: The Introduction of Images on Metal, 1855
Collodion and iron: The Evolution of Collodion Positives

Shortly after Archer introduced the collodion positive and the ambrotype began to supplant the daguerreotype, the American inventor Hamilton Smith patented a process for producing collodion positives on black enameled tinplate in 1855. He called this new process *melainotype*. Within a few years the most common name for this process had become *tintype* or *ferrotype*, which more accurately describes the metal upon which the image appeared.

*Tintypes* had many commercial advantages: they were very inexpensive, unlike daguerreotypes and ambrotypes; they were fairly resilient and could withstand rough handling in the postal system; their substrate, a thin metal plate, could be easily manipulated and adapted to any number of containers. Because of these characteristics nearly everyone could afford a portrait.
≤ 1 inch

~2 ¼ inch

~ 1 ¾ inch
Works on paper: the first multiple-image printing processes –
Herschel’s Cyanotype
Talbot’s Callotype
Albumen “printing out” Papers
Cyanotypes: The First Blue Photographic Process

Sir John Herschel, only son of British astronomer William Herschel, building on his own research and that of others, discovered as early as 1839 how to stabilize the metallic salts used to capture an image by rinsing the image in a solution of hyposulphite of soda. In 1842, three years after the daguerreotype entered the market, he introduced the cyanotype process in which paper coated with iron salts would be used to contact print paper negatives, tracings, or objects. The print was then washed in water resulting in a white image on a deep blue background.

Herschel’s work with the photographic process led him to coin the terms *photography, negative, positive,* and *snapshot.* The new images now had a language of their own.
William Henry Fox Talbot and the Calotype Process

Working with Herschel in the early 1800s, Talbot created a means of capturing an image on light sensitive paper. Unlike the daguerreotype, which is a direct negative/positive process making each image unique, Talbot’s process created a negative. The negative then could be printed onto another sheet of light sensitive salted-paper to create a positive image.

The printing paper is prepared by first soaking a sheet of fine paper in salt water then coating one side of the salted paper with silver nitrate. The negative is placed on the salted paper in a printing frame, exposed to sunlight, and when thoroughly exposed, fixed with hypo. This method allows creation of multiple images from a single exposure, the intellectual foundation of pre-digital photography.
William Henry Fox Talbot, *The Footman*, 1840
The *Carte de Visite*: The First Photographic Craze

Archer’s introduction of the wet-plate collodion process in 1851 had enormous implications for the future of photography. Combined with *albumen printing-out papers*, introduced in 1850, with their improved image sharpness and glossy surface, photography began to come into its own.

One of the greatest effects of combining wet-plate collodion negatives with albumen printing-our papers was the first photographic craze – collecting cards with photographs on the front. These cards are called *cartes de visite*, allegedly because they were adapted from the common calling card of the day.
Measuring only 2.5 inches by 4.5 inches, these easily produced and inexpensive cards did not become instantly popular. The *carte de visite* proved a minor format until one day in May 1859 Napoleon III, on his way to Italy with his army, halted his troops and went into Disdéri's studio in Paris to have his photograph taken. Disdéri's became famous, the format became immensely popular, and two years later he was said to be earning nearly $70,000 a year from one studio alone.
During the 1860s the craze for these cards began to peak in Europe but grew tremendously here. For the first year of the Civil War, Baton Rouge photographer Andrew D. Lytle, the New Orleans studios of S. Moses & Sons, Theodore Lilienthal, and McPherson & Oliver among others, created thousands of images locally and reproduced the most popular images, particularly of Confederate States military men, originating elsewhere. After occupation by Union forces in 1862, these studios continued to prosper through serving the Federal forces. Many surviving carte de visite in northern states bear Louisiana studio stamps.
The Cabinet Card: Reviving a Sagging Market

As the carte de visite craze began to wane in the mid-1860s, photographers looked for a new format to increase sales. This new format was larger, 4.25 inches by 6.5 inches, but continued to employ the wet-plate collodion negative with albumen printing on paper. The London studio of Windsor & Bridge has been credited with first producing the cabinet card in 1863. American photographers waited until 1866 to introduce the new format.
Gelatin Silver Print Paper

Introduced in 1872, gelatin silver photographic paper consists of a sheet of high-quality, smooth surfaced paper coated with gelatin containing light-sensitive halides (usually silver salts). To produce a print, the paper is exposed under a negative, either by contact-printing or through an enlarger. These prints could be created on either printing out or developing out papers. In the printing out papers, the image appears with exposure to light and is then fixed. Developing out papers must be chemically developed, stopped, fixed, and dried. Gelatin silver prints are normally black-and-white, although they can be toned with various compounds or minerals to produce a wide range of hues. In addition, various commercial papers will also impart warm or cool tones to the black-and-white print.
Untitled [Peddler with horse-drawn wagon]
Photographer unknown, ca. 1900
The Rise of Amateur Photography:
George Eastman and
the Kodak Camera, 1888
Kodak camera, 1888 – the first film camera
Albums of Kodak prints “pasted” on black paper pages suddenly appear . . .
... and open a broader horizon ...
allowing a wider view of the world
... and those in it.
The 35 mm Film Format
1908 - present
The 35mm camera is introduced to the world

A number of 35 mm still cameras using perforated movie film were in production in the first two decades for the 20\textsuperscript{th} century. The first patent for one was issued to Leo, Audobard and Baradat in England in 1908. The first full scale production camera was the Homeos, a stereo camera, produced by Jules Richard in 1913.

The first big-selling 35 mm still camera was the American Tourist Multiple, which also appeared in 1913, at a cost of $175 (at today's prices, the same cost as a modern $3000 Leica.)
The first camera to take full frame 24x36 mm exposures seems to be the Simplex, introduced in the U.S. in 1914.

The Minigraph, by Levy-Roth of Berlin, another half frame small camera was sold in Germany in 1915. The patent for the Debrie Sept camera, a combination 35 mm still and movie camera was issued in 1918, but was not marketed until 1922.

Finally, the Furet camera (made and sold in France in 1923) took full frame 24x36 mm negatives and was the first cheap small 35 mm camera to look vaguely like today's models.
The Leica – 35mm takes off

Full scale production of the Leica began in 1925. The Leica was a success, and came to be associated with the format. The success of the Leica was attributed by contemporary photographic writers not only to the quality of its lens, its small size, and the precision of its construction, but also to its relatively high price, which established it as a "prestige" item among both photographers and people of fashion.
Kodak makes it easy . . . again

In 1934, Kodak introduced a 135 daylight-loading single-use cassette. This cassette was engineered so that it could be used in both Leica and Contax cameras and the camera for which it was invented, the Kodak Retina camera. The first Kodak Retina camera was a Type 117. Kodak launched 135-format Kodachrome color film in 1935. AGFA followed with the introduction of Agfacolor-Neu in 1936.
The Rapid Expansion of Photography in Everyday Life –
Color Photography
Polaroid
What We Haven’t Talked About –

Polaroid

Digital

Motion Picture Film
**Chronology of Photographic Processes**

The dates represent approximate dates of use in the United States rather than invention or discovery. Dates are approximate and will vary by geographical area and photographer. The thickness of line indicates relative use. Processes listed are those most commonly found in repositories, with the exception of calotypes, crysoleums, and some of the color processes. Copyright 1984, reproduced with permission from the Society of American Archivists.
Online sources for further information and greater detail:

- **Craig's Daguerreian Registry** – [http://craigcamera.com/dag/](http://craigcamera.com/dag/) – Craig's Daguerreian Registry is a unique compilation and cross-indexed reference to the Practitioners of the Art of the Daguerreotype in the United States from 1839 to 1860. Included as well are members of the Allied Professions including casemaking, apparatus and accessory manufacturing and distribution, coloring, die-engraving, &c.


- **National Park Service Conserv-o-grams** - [http://www.cr.nps.gov/museum/publications/conserveogram/cons_toc.html#collectionpreservation](http://www.cr.nps.gov/museum/publications/conserveogram/cons_toc.html#collectionpreservation) - What are Conserve O Grams? They are short, focused leaflets about caring for museum objects, published in loose-leaf format. New topics are added as needed and out-of-date issues are revised or deleted. Semiannual supplements will be issued for an indeterminate period.

- **The Image Permanence Institute (IPI)** - [https://www.imagepermanenceinstitute.org/](https://www.imagepermanenceinstitute.org/) - The Image Permanence Institute (IPI) is a recognized world leader in the development and deployment of sustainable practices for the preservation of images and cultural property. IPI accomplishes this through a balanced program of research, education, products and services that meet the needs of individuals, companies, and institutions.
Thanks for coming!