

A BRIEF HISTORY OF PHOTOGRAPHY

part 2:

how did we get images
to STAY?



but so far all of this is just light - how did people start getting the images to STAY?

discovery of photosensitive chemicals

by the Middle Ages, alchemists knew that silver salts turn black when exposed to light

in 1802, Thomas Wedgwood & Humphry Davy were able to temporarily capture images - but they wouldn't stay



Joseph-Nicéphore Niépce

(France, 1765 - 1833)

He took the first permanent
PHOTOGRAPH in 1826 or 1827,
he called it heliography - “sun writing”

After much experimentation, he had found a working
combination of materials:

- polished pewter
- covered in bitumen of Judea (related to asphalt; hardens and BLEACHES when exposed to light)
- afterwards, “rinsed” the plate with oil of lavender & white petroleum

he set up his camera obscura, put the asphalt-covered pewter plate inside, pointed it so it was looking out his window, and opened the shutter

EIGHT HOURS LATER...







in 1829, Niépce partnered with



Louis Jacques Mandé Daguerre

(France, 1787 - 1851)

Niépce passed away in 1833, but Daguerre continued their work on a new process, which he finished in 1837 and named “daguerreotype”:

- he discovered the “latent image” (an image that is invisible until you develop it)
- accidentally left an exposed plate in a dark space which also had a broken thermometer in it - he realized that the mercury vapors (from the broken thermometer) had caused a chemical reaction which “developed” the image
- this process shortened exposure time from over 8 hours down to 20 - 30 minutes

His process:

- highly polished copper plate exposed to iodine vapors (this makes silver iodide) - has to be used within an hour
- expose to light (about 10 - 20 minutes)
- develop the plate over mercury heated to about 170°F (heating creates vapors)
- fix the image in warm salt water
- rinse with hot distilled water

10 - 15 minutes of exposure

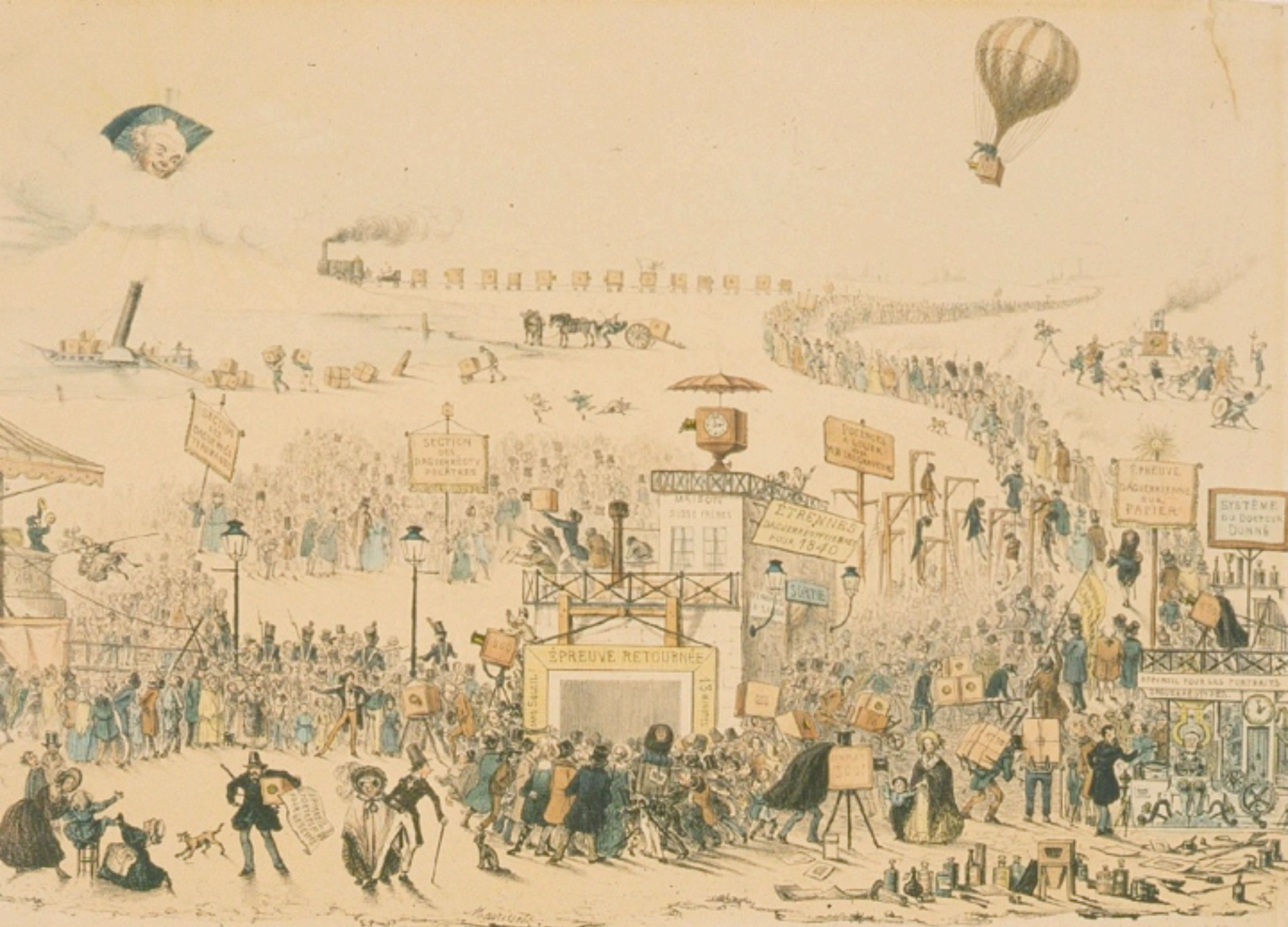




Daguerre gave the rights to the daguerrotype process to the French government in 1839 in exchange for a life-long pension for himself and Niépce's son.

France published instructions for the process in 1839 and made them available "free to the world," in the spirit of the 50th anniversary of the French Revolution.

the fact that the process was free from copyright meant that it spread quickly, causing "Daguerreotypomania"



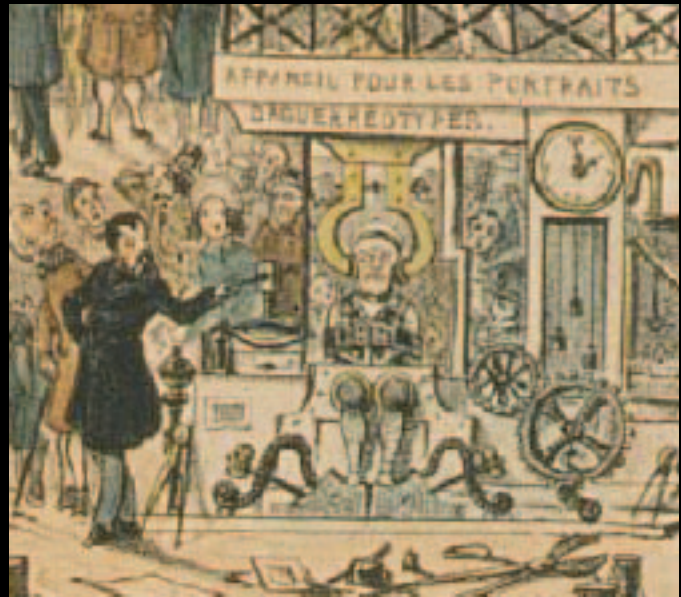
LA DAGUERREOTYPOMANIE



Marrisset
LA DAGUERREOTYPOMANIE



Marrivats
LA DAGUERREOTYPOMANIE



Marrisset
LA DAGUERREOTYPOMANIE



The price of a daguerreotype, at the height of its popularity in the early 1850's, ranged from 25 cents for a sixteenth plate (of 1 5/8 inches by 1 3/8 inches) to 50 cents for a low-quality "picture factory" likeness to \$2 for a medium-sized portrait at Matthew Brady's Broadway studio.

1850	{	25¢	=	\$10.64	}	2011
		50¢	=	\$21.28		
		\$2.00	=	\$85.12		

drawbacks of the daguerreotype:

- dangerous (poisonous)
- still pretty long exposure times
- still pretty expensive
- fragile - had to be kept in sealed cases
- left-right reversed (unless you had a fancy camera)

maybe most importantly:

- no “negative” is produced - it’s is a direct positive - and therefore no way to make more than one



William Henry Fox Talbot

(England, 1800 - 1877)

invention of the calotype / talbotype

he named it “calotype” from the Greek word “kalos” (meaning beautiful)

first negative/positive photographic process

got the exposure time down to SECONDS

his materials:

- paper coated with silver iodide
- developed in gallic acid, silver nitrate, and acetic acid
- fixed in hyposulfite of soda



negative to positive

