



# Impact of Photography on Medical Knowledge: How to use this PDF file

- ▶ Be sure to click on the hyperlinks to other websites for more detailed information and lectures on different works of art. If the hyperlinks do not work for you, copy and paste the URL into your browser.
- ▶ A main objective is to note the growing connections between the study of the figural body by artists to the study of the medical body by physicians and scientists.
- ▶ This assignment will refer to video links in this lesson and the reading of Brian Wallis, “Black Bodies, White Science: Louis Agassiz’s Slave Daguerreotypes

# 19<sup>th</sup>-Century Photograms

- ▶ Early photographic process that did not require a camera
- ▶ Examples of early photograms:
  - ▶ William Henry Fox Talbot's photogenic drawings
  - ▶ Anna Atkins' cyanotypes
- ▶ Objects (leaves, lace, etc) are placed in direct contact with sensitized paper and exposed to light
  - ▶ Where light struck, paper would darken
  - ▶ Where the plant blocked light, the paper remained white



William Henry Fox Talbot,  
*Leaf with Serrated Edge*,  
c.1839



Anna Atkins,  
*Poppy*, c.1852

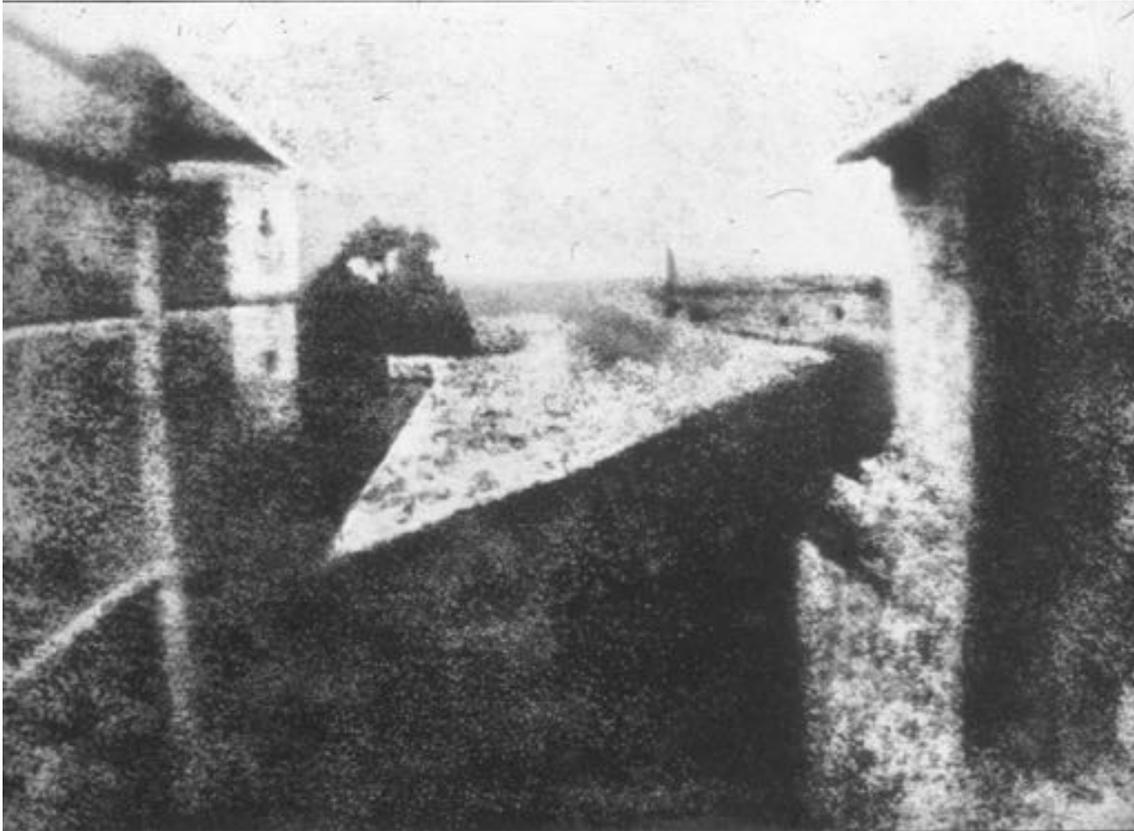
# 20<sup>th</sup>-Century Photograms

- ▶ Camera-less photography continued to be popular in the 20<sup>th</sup> century, especially between in the period the world wars
- ▶ Many contemporary photographers have revived historical photography processes
- ▶ Watch this video on Adam Fuss' production of photograms:  
[https://youtu.be/RHNvVm0Rp\\_4](https://youtu.be/RHNvVm0Rp_4)
- ▶ Fuss' *Love* photograph is in the collection of the Metropolitan Museum of Art:  
<https://www.metmuseum.org/art/collection/search/281940>

Adam Fuss,  
*Love*, 1993



# The First Photographs



Joseph-Nicéphore Niépce, *View from the Window at Gras*, c. 1826

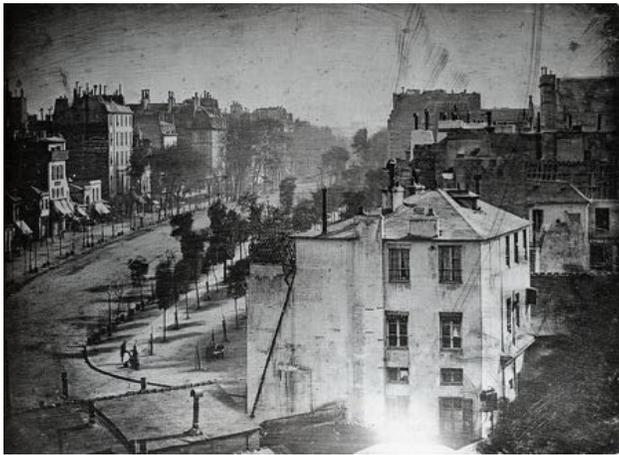


Daguerre, *View of the Boulevard du Temple*, c. 1839

# The First Photographs



Joseph-Nicéphore Niépce, *View from the Window at Gras*, c. 1826

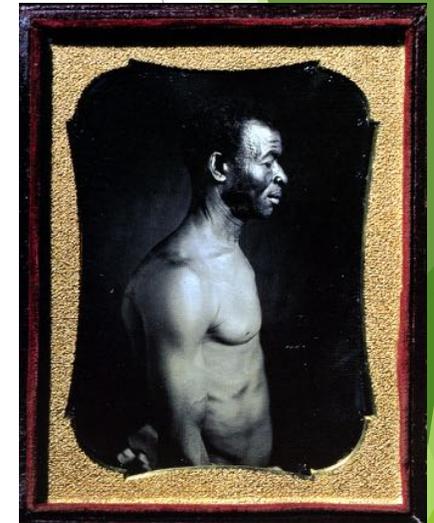
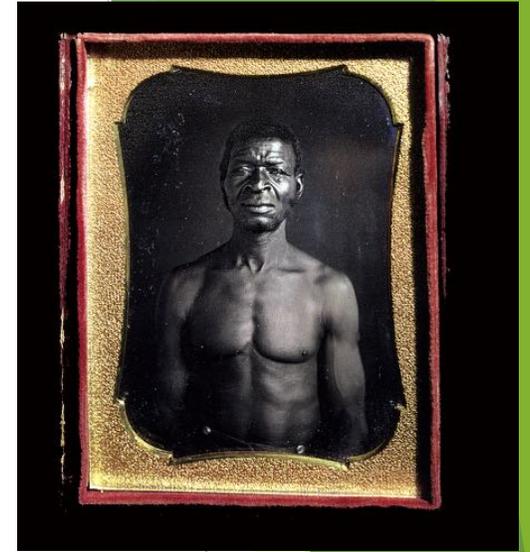


Daguerre, *View of the Boulevard du Temple*, c. 1839

- ▶ The earliest photographs were produced with the use of camera obscura devices
- ▶ Niépce's *View from the Window at Gras* is often labeled the first photograph.
  - ▶ It was produced on a pewter plate
- ▶ Read about Niépce's photo here: <http://100photos.time.com/photos/joseph-niepce-first-photograph-window-le-gras>
- ▶ Read about Daguerre's *View of the Boulevard* here: <http://100photos.time.com/photos/louis-daguerre-boulevard-du-temple>

# How do we evaluate visual evidence?

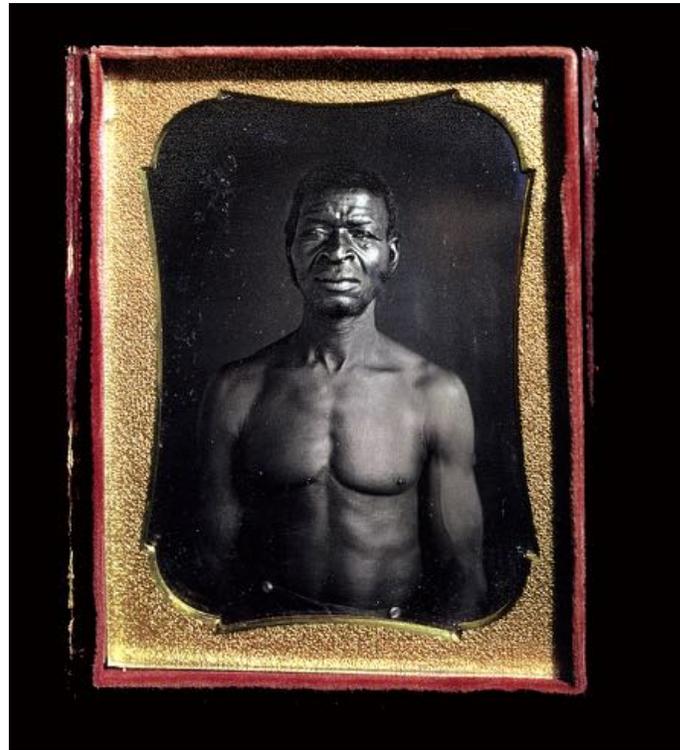
- ▶ The Brian Wallis article on the Zealy photographs, including these two images of Jack, raise questions about the power of photographs and how we analyze images.
- ▶ Points to consider in the article:
  - ▶ Agassiz's racist theory of polygenesis and his prejudice
  - ▶ The context of this theory: the interest in social anthropology and physiognomy, the pre-Civil War period and rising abolitionist movement
  - ▶ Photography as a new technology used in the service of science
- ▶ Think about who is a control in the making of these images:
  - ▶ The scientist Louis Agassiz, the plantation owner, and the photographer J.T. Zealy have more control over the production of these images than Jack the slave
- ▶ Consider how powerful the Zealy photographs were for a 19<sup>th</sup>-century viewer
  - ▶ 19<sup>th</sup>-century viewers recognized standard photographic portraits but the photographer uses new strategies to indicate these photographs are not portraits but scientific evidence



J.T. Zealy, 2 photographs of Jack, 1850s  
commissioned by Louis Agassiz to support  
his theory of polygenesis

# Compare these two historical photographs

- ▶ The photograph of the writer Poe is typical of a photographic portrait
- ▶ Zealy was trained as a portrait photographer but used new strategies to produce 'scientific evidence' for the scientist Agassiz
- ▶ Zealy stripped Jack and used a strong light to highlight Jack's physical characteristics, including the lines across his brow
- ▶ Zealy took two photographs of Jack, one frontal and one profile
- ▶ Poe has his hand tucked into his waistcoat, a gesture often used when gentlemen are posing for a portrait



J.T. Zealy, *Jack*, 1850s



Unknown, *Edgar Allan Poe*, 1849

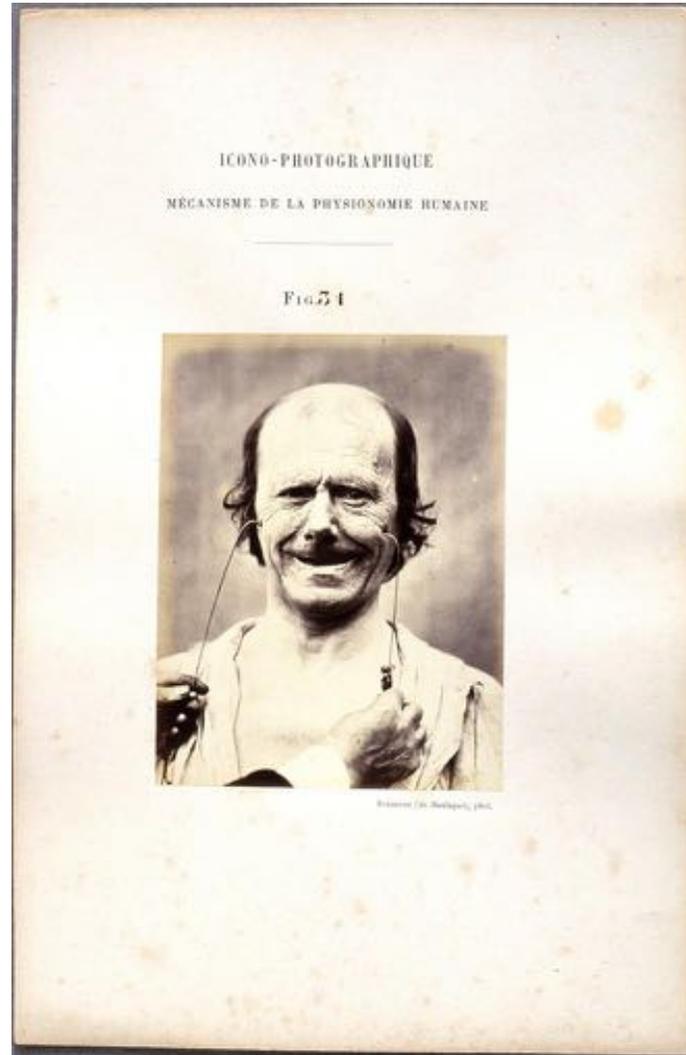
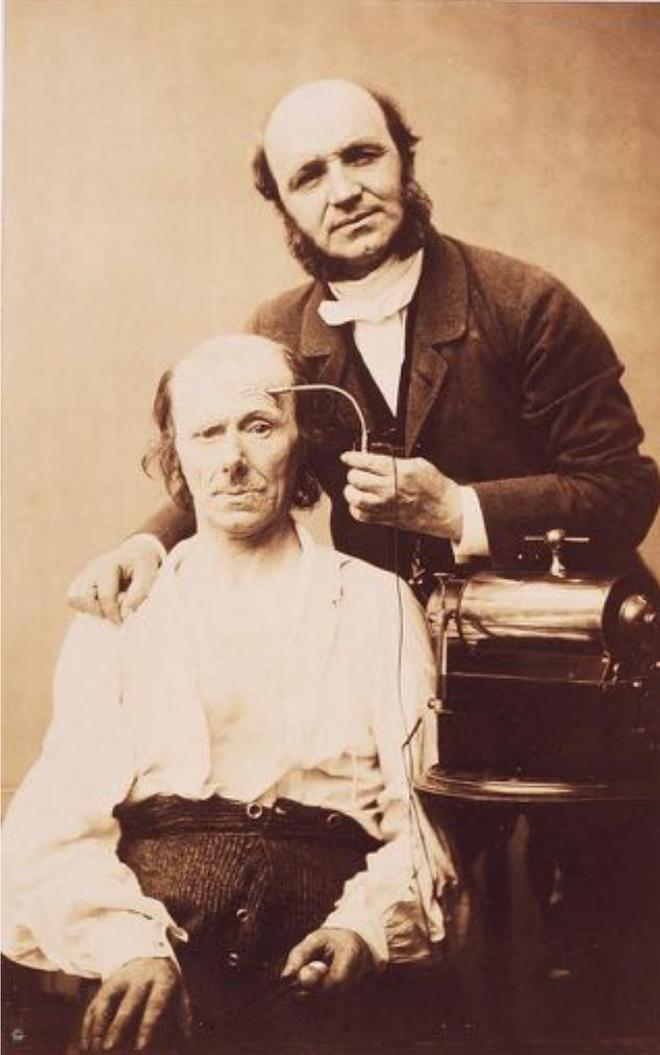
# Zealy's photographs for Louis Agassiz

- ▶ Zealy produced daguerreotypes, which at the time was the most popular form of photography in the U.S.
- ▶ Daguerreotypes are handheld objects that are small in size and placed in folding cases because the images are delicate
- ▶ **Read** and **listen** (scroll down for the audio) to how contemporary artist Carrie Mae Weems re-uses these images: <https://tinyurl.com/vefegz2>
- ▶ Watch a newsclip about last year's lawsuit against Harvard over these images: <https://tinyurl.com/y46ywfe9>



J. T. Zealy, four quarter plate daguerreotypes (1850): Renty, front; Renty, profile; Delia, front; Delia, profile. Courtesy of the Harvard Peabody Museum.

# Duchenne de Boulogne's *The Mechanism of Human Physiognomy* (1862)



## De Boulogne researched effect of electric simulation on facial muscles

- ▶ French neurologist Duchenne de Boulogne researched the effect of electric simulation on facial muscles
- ▶ His book, *The Mechanism of Human Physiognomy*, studied the physiology of emotions
- ▶ **Read** about de Boulogne here:  
<https://tinyurl.com/tnqlpsm>
- ▶ **Look** at the different photographs of emotions illustrated in de Boulogne's book in the Metropolitan Museum of Art's collection:  
<https://tinyurl.com/r82x5t7>



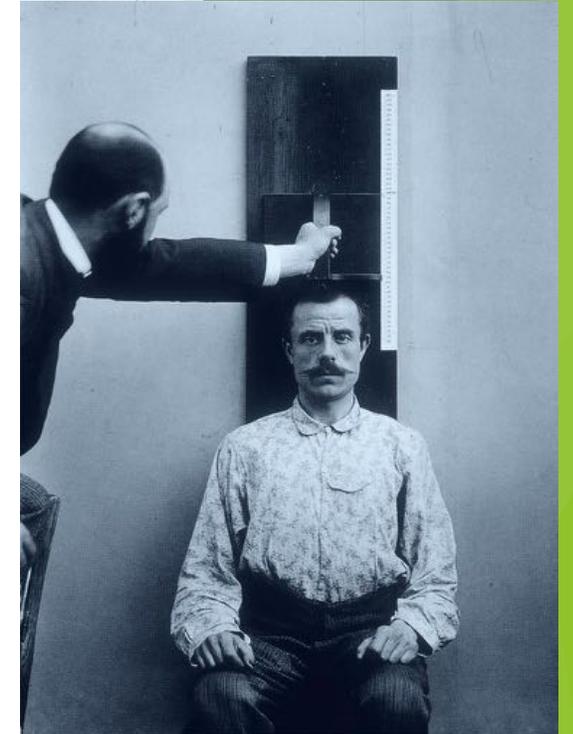
# Alphonse Bertillon and the Birth of the Modern Mug Shot

- ▶ Alphonse Bertillon was a Parisian police officer who created an identification system to identify repeat offenders.
- ▶ He believed that people who were liable to repeat a crime could be identified through physical characteristics, and that people with certain characteristics were more likely to be criminals.
- ▶ **Listen** to a NPR clip on Bertillon: <https://tinyurl.com/u5vx56y>



# Alphonse Bertillon's System of Criminal Identification

- ▶ Bertillon outlines standards for measuring and posing subjects
- ▶ Begins with 5 basic measurements:
  - ▶ head length
  - ▶ head breadth
  - ▶ length of the middle finger
  - ▶ the length of the left foot
  - ▶ the length of the "cubit" (the forearm from the elbow to the extremity of the middle finger)



# Bertillon Identity Card

- ▶ Bertillon's system was very popular and spread from France to the U.S.
- ▶ You can read about the use of the Bertillon system in the U.S. here: <https://tinyurl.com/ua9zvpj>
- ▶ Bertillon's system was replaced by the more efficient fingerprinting system but the mugshot continues to be used

024

Taille 1- 1.80	Long* 19.4	Pied g. 27.4	N° de cl. 3	Agé de 38
Voûte	Larg* 16.8	Médus g. 11.9	Aur* x or m	né le 22 Avril 1853
Enverg 1- 81	Long* 6.7	Auric* g. 9.9	Pér* ard. v. m.	à Paris
Buste 0- 95.2	Larg* 4.0	Condée g. 47.9	Coût de l'iris 6	dépt IV <sup>e</sup>
	6.249 - 147		Part*	Age app*

(Réduction photographique 1/7.)

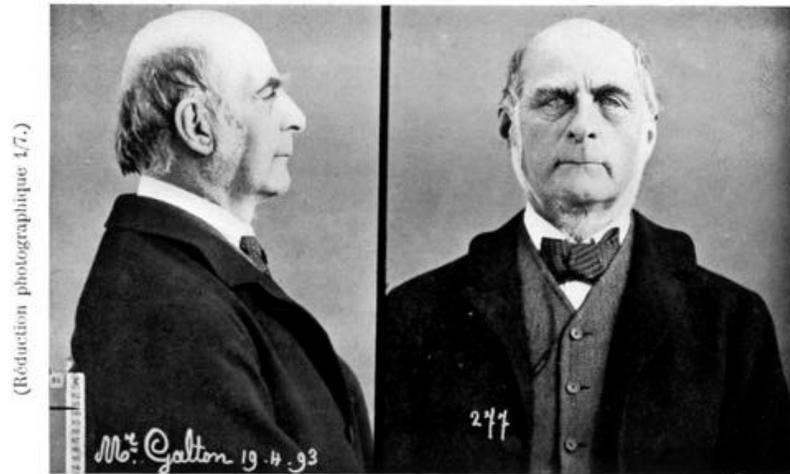
Inclin* d	Racine (cavité)	Bord. o. d. s. d. p. o. f. d.	Barbe ch. f.	Color* (pig* h. l. basanc)
Haut* 144	Dos c Baso b	Lob. c. a. a. m. 33 d. 33	Cheveux d. i.	(sang* 122)
Larg* d	Haut* Saillie. Larg*	A. trg. l. i. p. d. r. i. d. 33	Car. 333	Coût.
Part*	333 1 333 1 (d)	Pli. f. d. s. 333 h. b. E.	Autres traits caractéristiques :	
	Part*	Part.	Sig* dressé par M. D.	

# Police Class teaching Bertillon's system to description



# Eugenics and Photography: Francis Galton's Composite Portraiture

Taille 1*	Long*	Pied g.	N° de ci.	Âge de
Voûte	Larg*	Médias g.	Aur*	né le
Enverg 1*	Long*	Auric* g.	Pér*	a
Buste 0,	Larg*	Coulée g.	Part*	dep*
				Age app.



Front.	Inclin*	Racine (cavité)	Bonf. o. s. p. f.	Barbe	Color (pig*)
	Haut*	Dos Base	Lob. c. n. m. d.	Cheveux	Color (sang*)
	Larg*	Haut Saillie Larg*	A. trg. i. p. r. d.	Car	Coint.
	Part*	Part*	Pli. f. s. h. E.	Autres traits caractéristiques :	
			Part.	Sig. dressé par M.	

Bertillon Identity Card  
of Francis Galton, 1893

Francis Galton invented the study of **Eugenics**. He believed it was possible to produce "a highly gifted race of men" by the process of selective breeding, which he termed "positive" eugenics. He discouraged the reproduction of "undesirables", which he termed "negative" eugenics.

# Galton's Composite Photographs

- ▶ According to Galton, composite imagery was "a system of pictorial statistics"
- ▶ **Read** a short entry on Galton's composite photographs at the Metropolitan Museum of Art: <https://tinyurl.com/yx5grx8l>



Francis Galton, *Untitled*, from *Inquiries into Human Faculty and its Development*, 1883

# “Death of Pain” Early Operations Performed with Ether



- ▶ This photograph shows Dr. John Collins Warren in the teaching amphitheater at Boston's Massachusetts General Hospital
- ▶ The use of ether was hailed as a milestone in surgical procedures
- ▶ Southworth & Hawes re-created surgery that first used ether in order to produce a document of the operation
- ▶ **Read and Listen** (scroll down to related media link for audio) about the photo: <https://tinyurl.com/vvchd6x>

Southworth & Hawes, *Early Operation Using Ether for Anesthesia*, 1847

# Amphitheatres and Surgery as Performance

- ▶ Surgical amphitheatres were teaching spaces where medical students and interested observers could watch the surgery
- ▶ Before electricity, amphitheatres relied on natural light and lights from candles
  - ▶ Many spaces featured a skylight above the area of the operating table
- ▶ **Read** more about early surgical spaces here:  
<https://tinyurl.com/ufogtee>

Unknown, *Dr. Vicenz Czerny, professor of surgery in teaching amphitheater, Heidelberg, 1905*

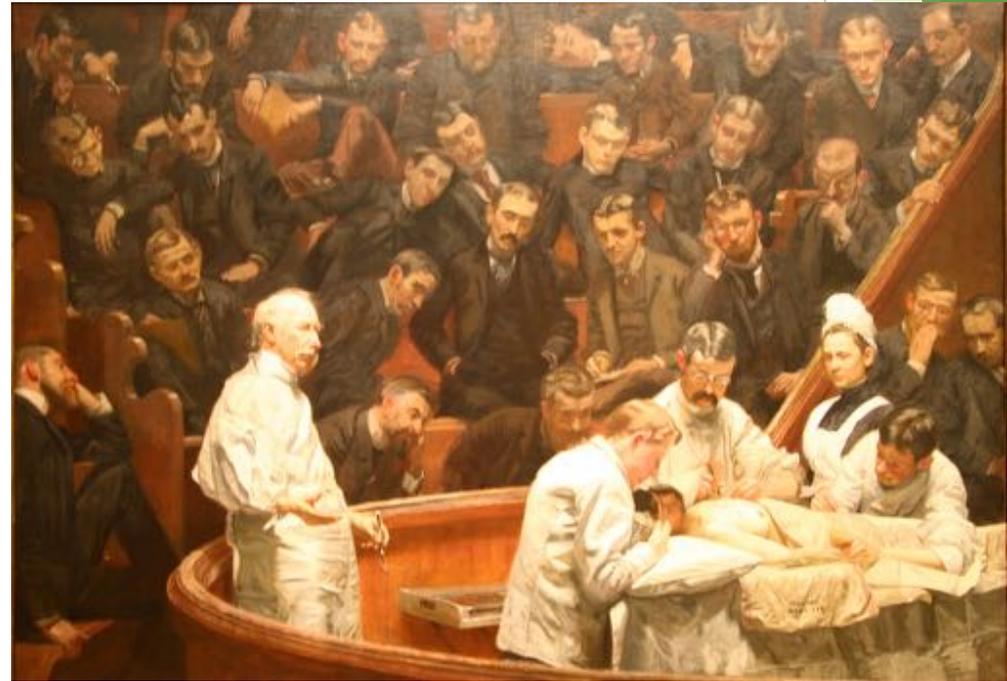


# Thomas Eakins' paintings of Doctors and Surgery in Philadelphia

- ▶ **Watch** a video on these masterpieces of American Realism: <https://tinyurl.com/txhsbru>



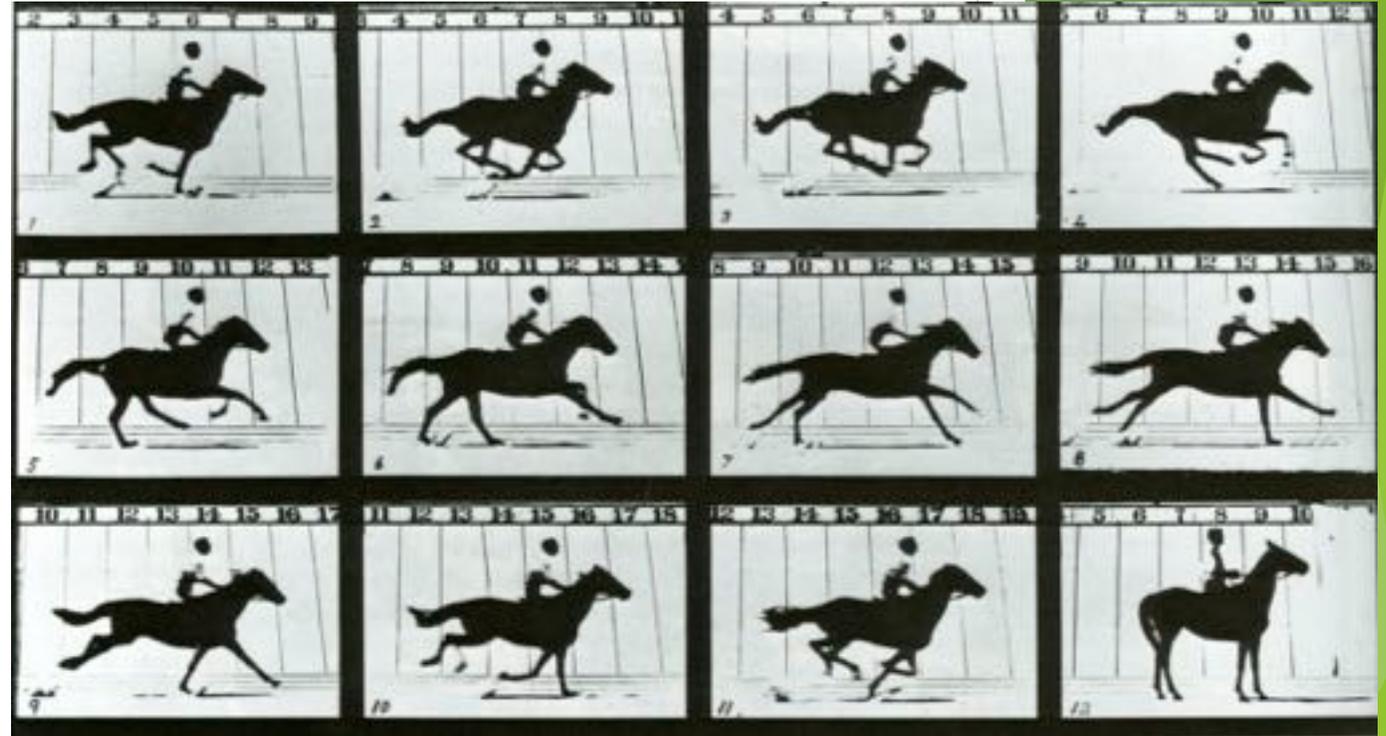
Thomas Eakins, *The Gross Clinic*, 1875



Thomas Eakins, *The Agnew Clinic*, 1889

# Motion Photography: Eadweard Muybridge (1830-1904)

- ▶ Eadweard Muybridge was interested in the study of animal and human locomotion
- ▶ Muybridge took multiple, sequential exposures to capture motion
- ▶ **Read** about this famous photo of a horse running here:  
<https://tinyurl.com/ybdn3vwm>
- ▶ Try this GoogleDoodle dedicated to Muybridge:  
<https://tinyurl.com/74hs5vu>



Eadweard Muybridge, *Sequence photographs of trot and gallop*, from *Nature*, 1878

# Case Study: Photography as Medical Evaluation Tool during the Civil War

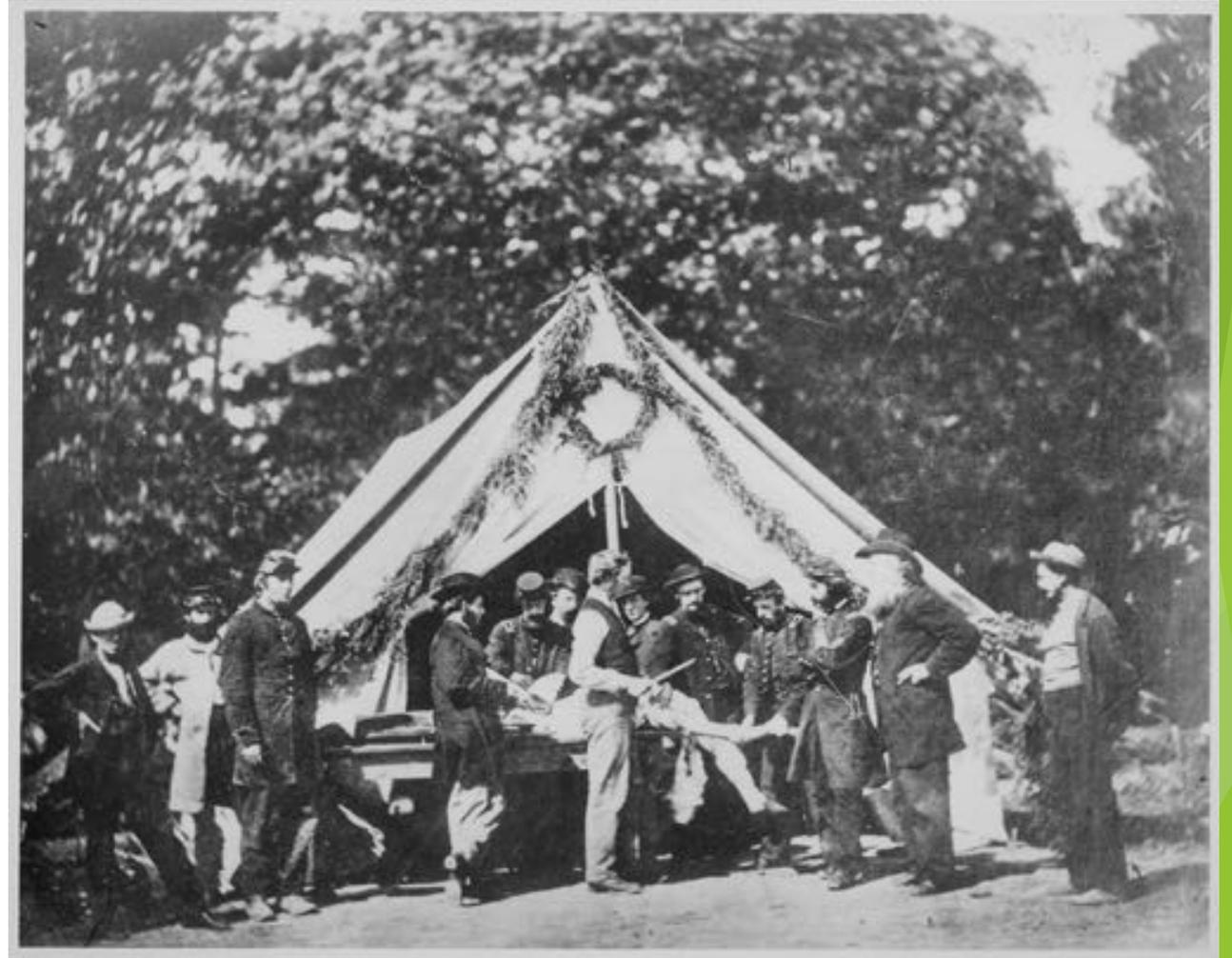
- ▶ Photography was used for multiple purposes during the Civil War
  - ▶ Documentation
    - ▶ Conditions of war
    - ▶ Medical diagnoses and treatments
- ▶ Poor conditions of field hospitals and overcrowding lead to outbreaks of infections
- ▶ Infections took more lives than battlefield injuries
- ▶ Watch a short video about a Civil War field hospital:  
<https://youtu.be/vStwBYOKMPo>



James F. Gibson, *Civil War Field Hospital*, June 29, 1862

# Civil War Amputations

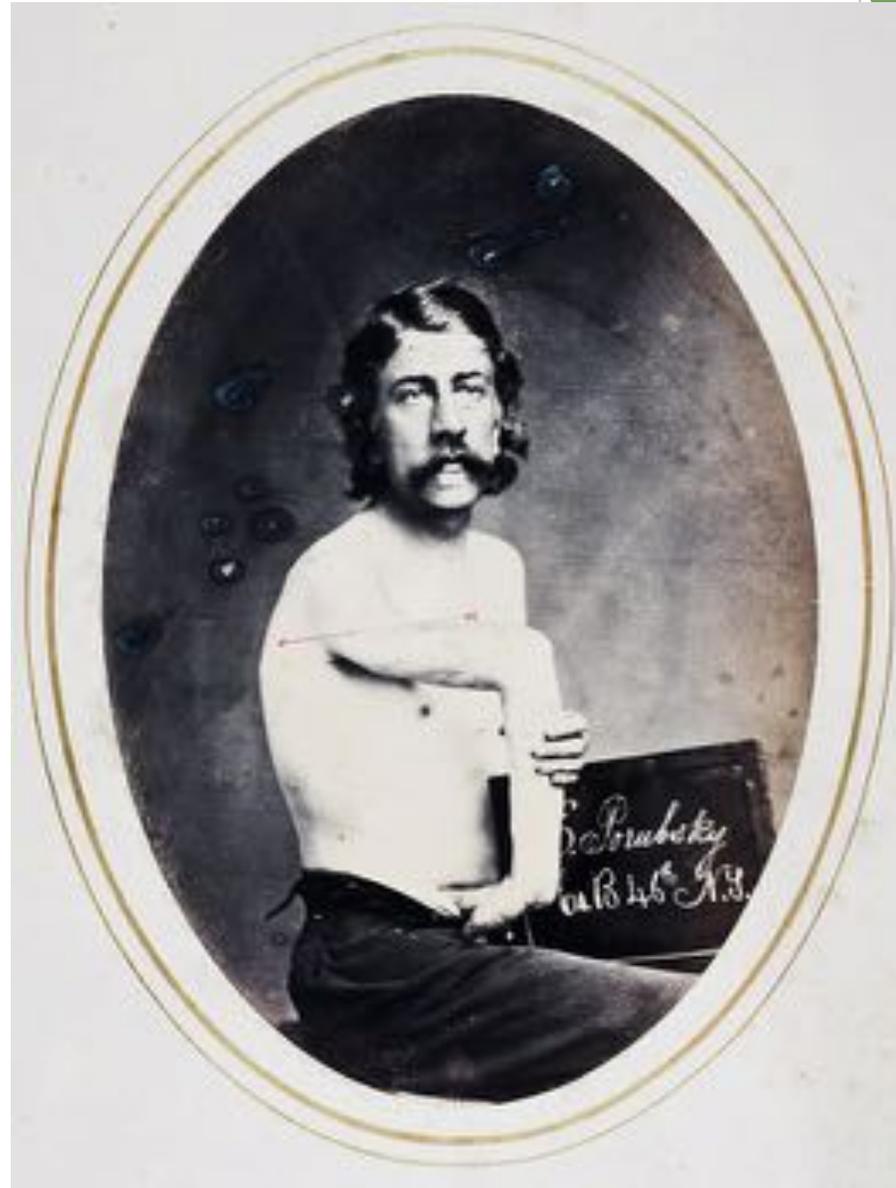
- ▶ Civil war surgeons developed many new surgical procedures
- ▶ With no antibiotics and lack of extensive medical treatment, doctors needed to perform frequent amputations to prevent the spread of infection
- ▶ Roughly three quarters of all surgeries (approx 60K) performed during the war were amputations
- ▶ Watch a short video about Civil War amputations: <https://tinyurl.com/tjvkspm>



*Amputation being performed in front of hospital tent,  
Gettysburg, July 1863*

# Civil War Amputations

- ▶ Image from Dr. R. B. Bontecou's teaching album
- ▶ Photograph of G. Porubsky of the 46th NY volunteer that illustrates the excision of the humerus
- ▶ Hypothetical path of the bullet is drawn in
- ▶ Dr. Bontecou's operation removed bone in the upper arm, leaving the patient with a useless limb.
- ▶ Many limbs were amputated during the civil war because of the lack of facilities and time to treat patients
- ▶ You can read more about this album here: <https://tinyurl.com/sgkpx5g>



# Exercise: How truthful are photographs?

- ▶ Alexander Gardner's *Photographic Sketch Book of the War* was published 1865-1866 with this image of the "Home of a Rebel Sharpshooter" – plate 41
- ▶ How do we read a photo?
  - ▶ Where is your eye drawn to? What do you see first?
  - ▶ For Gardner, who worked in Washington DC and a supporter of the Union side, a rebel sharpshooter would be a Confederate sniper
  - ▶ Gardner provided text for Plate 41 to teach viewers how best to 'read' the photograph, read the excerpt on the next page and noted the underlined descriptive details
- ▶ **Do you think this photograph was staged?**



Alexander Gardner, *Home of a Rebel Sharpshooter*,  
Gettysburg, July 1863

# Plate 41 in Alexander Gardner's *Photographic Sketch Book of the War*

Home of a Rebel Sharpshooter. Gettysburg, Pennsylvania, July, 1863 Photographed by Alexander Gardner

On the Fourth of July, 1863, Lee's shattered army withdrew from Gettysburg, and started on its retreat from Pennsylvania to the Potomac. From Culp's Hill, on our right, to the forests that stretched away from Round Top, on the left, the fields were thickly strewn with Confederate dead and wounded, dismounted guns, wrecked caissons, and the debris of a broken army. The artist, in passing over the scene of the previous days' engagements, found in a lonely place the covert of a rebel sharpshooter, and photographed the scene presented here. The Confederate soldier had built up between two huge rocks, a stone wall, from the crevices of which he had directed his shots, and, in comparative security, picked off our officers. The side of the rock on the left shows, by the little white spots, how our sharpshooters and infantry had endeavored to dislodge him. The trees in the vicinity were splintered, and their branches cut off, while the front of the wall looked as if just recovering from an attack of geological small-pox. The sharpshooter had evidently been wounded in the head by a fragment of shell which had exploded over him, and had laid down upon his blanket to await death. There was no means of judging how long he had lived after receiving his wound, but the disordered clothing shows that his sufferings must have been intense. ...

On the nineteenth of November, the artist attended the consecration of the Gettysburg Cemetery, and again visited the "Sharpshooter's Home." The musket, rusted by many storms, still leaned against the rock, and the skeleton of the soldier lay undisturbed within the mouldering uniform, as did the cold form of the dead four months before. None of those who went up and down the fields to bury the fallen, had found him. "Missing," was all that could have been known of him at home, and some mother may yet be patiently watching for the return of her boy, whose bones lie bleaching, unrecognized and alone, between the rocks at Gettysburg.



Alexander Gardner, *Home of a  
Rebel Sharpshooter, Gettysburg,*  
July 1863

# The Case of the The Rebel Sharpshooter

- ▶ Gardner took two photographs of the dead sharpshooter. Note the differences in settings/
- ▶ **Read** the Library of Congress' investigation into the Case of the Moved Body: <https://tinyurl.com/tnyxavg>



Alexander Gardner, *Home of a Rebel Sharpshooter, Gettysburg, July 1863*



Alexander Gardner, *Sharpshooter's Last Sleep, Gettysburg, July 1863*

# Andersonville: Civil War Prison

- ▶ The photographer Matthew Brady photographed Union soldiers incarcerated in Andersonville a notorious Confederate located in Georgia
- ▶ These photographs were reproduced as prints and in numerous news sources, creating an uproar that questioned the humanity of the Confederacy
- ▶ People were upset by the conditions and physical state of the prisoners
- ▶ For a short overview of Andersonville prison, **read** this:  
<https://tinyurl.com/vmrf95y>



Unknown, based on Photographs of Prisoners, cover of *Frank Leslie's Illustrated Newspaper*, June 18, 1864



Matthew Brady, *Union Soldier released from Confederate Prison in Andersonville, GA*

# Trends in Contemporary Photography: Sally Mann, *What Remains* series, 2000-2001 aka the *Body Farm*



- ▶ The photographer Sally Mann produced photographs at the Forensic Anthropology Center at the University of Tennessee, a teaching facility in Knoxville, TN of 3 acres with bodies in various states of decomposition
- ▶ Mann's series is very controversial and can be looked at here. Please do not go to the link if you find this material disturbing:  
<https://www.sallymann.com/body-farm>
- ▶ If you are interested in Mann, you can listen to this interview:  
<https://tinyurl.com/vavdy7h>

# Trends in Contemporary Photography: Andres Serrano, *The Morgue* series, 1992

- ▶ The controversial artist Andres Serrano photographed bodies in the morgue.
- ▶ You can read about Serrano here: <https://tinyurl.com/w56k7tb>
- ▶ These photographs are very graphic, therefore please do not go to the link if you find this material disturbing: <https://tinyurl.com/w4jn8ae>

