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## Lesson 4: Photography as Technology

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### Background

Greater Cincinnati was a major center for the development of early American photography. "Capturing Life" (1839-1869) examines how quickly two revolutionary new technologies spread throughout the world – photogenic drawings and the daguerreotype – when announced in Europe in 1839. The documentary introduces several regional photographers who transformed the new medium from a scientific innovation into a thriving business that forever changed the way we viewed life. In 1839, Dr. John Locke was the first to display a photograph in America. In 1841, Ezekiel Hawkins' daguerreotype studio in Cincinnati was the first one west of the Alleghenies. In 1849, James P. Ball, an African American entrepreneur, established one of the most successful daguerreotype studios in America. And, in 1866, Charles Waldack made the first photographs of a cave system in America using magnesium light. In the 1840s, the development of three new technologies - photography, the telegraph and railroads - created a "rupture point" that culminated in the "annihilation of space and time," according to Dr. Nathaniel Stein, Curator of Photography, Cincinnati Art Museum.

### Prompt

What scientific knowledge or disciplines were vital to the development of early photography? How did scientific reports of the photogenic drawings and daguerreotypes spread from Europe to Greater Cincinnati in 1839? How did scientists and photographers from our region contribute to technological advancements in American photography? How does the introduction of photography in 1839 compare to the introduction of a modern technology?

### Reference Images



Image 1

*Portrait of a Man*, daguerreotype, ca. 1841, Hawkins & Todd, Nelson-Atkins Museum of Art.



Image 2

Charles Waldack, stereograph, "Cliffs Over the Dead Sea," Magnesium Light Views in Mammoth Cave, 1866, Library of Congress

Link: <https://www.loc.gov/pictures/item/2022651641/>

### Academic Fields

#### Technology:

- Analyze and integrate textual, visual, and quantitative information (e.g., images, diagrams, maps, graphs, infographics, videos, animations, interactives) from multiple digital learning tools and resources.
- Critique specific instances of how technology has impacted access to information, communications and collaboration.
- Explain the positive and negative impact the use of technology can have on personal, professional and community relationships.
- Discuss and define how issues (e.g., economic, political, scientific and cultural) are influenced by the development and use of technology.
- Explain how new technology development is driven by factors such as commercialization, creative/inventive thinking and cultural/historical influence.
- Examine the progression of a product to identify how the functional, aesthetic and creative elements were applied.
- Synthesize textual, visual, and quantitative research and data (e.g., images, diagrams, maps, graphs, infographics, videos, animations, interactives) from a variety of digital learning tools and resources.
- Select a technology and analyze its global impact across multiple disciplines.
- Debate how demand for technology and innovation have reshaped the social, cultural, political and/or economic landscape, citing references and examples.
- Discuss how technological innovation has resulted when ideas, knowledge or skills have been shared across multiple fields.
- Explain the interrelationship between technology, creativity and innovation.

### Documentary Reference Clips

Clip 1: The Dawn of Photography, 3:20 - 8:05

Clip 2: The Rise of Daguerreian Studios, 8:05 – 9:47

Clip 3: The Wet Collodion Processes, 18:18 – 19:24

Clip 4: Charles Waldack, 38:40 – 43:52

### Discussion Questions

- Explore the three innovations of the time (railroads, telegraph, photography) and how each intersects and influences the other.
- Are there contemporary examples of concurrent innovations that have had an influence over space and time?

- Daguerreotypes captured life in great detail. How did improvement in resolution affect our understanding and perceptions of life at that time? What are some examples of the same today? (i.e., Hubble vs. Webb)
- What challenges would have been common to all innovators?
- Daguerreotype was considered 'open source' technology. Explore modern examples of open-source technology and look for motivations and similarities.

### Activities

- Locke was the first individual in the US to display a photograph. What other technological "firsts" is Cincinnati known for?
- Create a timeline of technological innovations in the 1800s and compare it to a timeline of technological innovations in the late 20th and early 21st century. Do you notice any overlaps in the pace of progress in each period?
- Write a letter of conversation between Louis Daguerre and Samuel Morse about their experiments and what they could mean.
- Provide examples of improved resolutions in photography (showing before and after), and describe how the improvements changed perceptions.
- Try to imagine what the next "rupture point" might be.

### Online Resources

- **Photographic Process Videos:** The George Eastman Museum photography collection is among the best and most comprehensive in the world. The museum also produced the best video series on the science behind early photographic processes, from early daguerreotypes to digital prints. Archive link: <https://www.eastman.org/processvideos>
- **William Henry Fox Talbot:** The Metropolitan Museum of Art has a large collection of photogenic drawings (aka Calotypes) made by William Henry Fox Talbot in England. This MET website has a great introduction of Talbot's contributions to photography and downloadable examples of his early works. Archive link: [https://www.metmuseum.org/toah/hd/tlbt/hd\\_tlbt.htm](https://www.metmuseum.org/toah/hd/tlbt/hd_tlbt.htm)
- **Louis Jacques Mande Daguerre:** The Metropolitan Museum of Art has a good introduction of Daguerre's contributions to photography. MET Archive link: [https://www.metmuseum.org/toah/hd/dagu/hd\\_dagu.htm](https://www.metmuseum.org/toah/hd/dagu/hd_dagu.htm)

### Bibliography

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There are plenty of outstanding books about the history of photography in America. Here are some of the academic publications that we used to research the documentary:

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