Researching Ungilded Daguerreotype Treatment

The 1830s were a dynamic time in photographic experimentation. On one side of the Atlantic, scientists and amateur hobbyists alike tried new techniques and rapidly discovered as they sought to capture the world around them. On the other side of the world, still another new and highly used method of photography was introduced in Paris in 1839 by a man named Louis-Jacques Mande Daguerre. The type of photograph he invented bears his name to this day: the daguerreotype. A daguerreotype is made on a light-sensitive plate that is heat-treated and exposed to mercury vapor. Once the plate is exposed to a sunlit subject and a discrete amount of mercury vapor, an image is created on top of the mirror-like surface. The daguerreotype process was the result of many years of scientific experimentation. Daguerre himself sent daguerreotypes from France in exchange for examples of Cornelius' photographs. After this relatively brief period, however, Cornelius returned to the family business, where he worked the rest of his life. The daguerreotypes that have survived into the modern era are often plagued with deterioration due to the corrosive nature of silver. Early attempts at cleaning daguerreotypes in the 19th and early 20th centuries involved using cyanide or thiourea (a sulfur-based chemical). While the results seemed effective initially, these early interventions are now known to have damaged to daguerreotypes, as they leave behind corrosive spots and fuzzy residues. When faced with treating a daguerreotype today, photograph conservators must ascertain if the photograph is gilded—taken after 1841 and coated with gold chloride. If so, there are several treatment options. For example, the University of Louisville recently brought several gilded daguerreotypes to CCAHA for treatment. The photographs had been cleaned with cyanide and showed signs of corrosion since they were gilded. CCAHA Photograph Conservator Rachel Wetzel was able to carefully wash the plates to remove the corrosion stains and cyanide residues and ensure the longevity of the daguerreotype. When conservators are brought unmodified daguerreotypes—those made prior to 1841—that have no protective coating—they have few options. Currently, there are no safe methods for reversing damage on ungilded daguerreotypes. Therefore, when the American Philosophical Society (APS) brought two ungilded daguerreotypes taken by Cornelius in 1839 and 1840 to CCAHA, Wetzel had limited options. Both of the daguerreotypes had been thiourea-cleaned in 1978, a treatment that had left white residue and corrosion stains on the plate, obscuring the images. Conservation is a collaborative field; conservators often consult one another on complex treatments. When considering options for the ungilded Cornelius daguerreotypes, Wetzel reached out to Adrienne Lundgren, Senior Photograph Conservator at the Library of Congress. Lundgren is experienced with daguerreotype treatment and also has access to the Library’s photographic documentation, which provided visual confirmation of the daguerreotypes’ current state. These reports allow conservators and curators to monitor any changes that may occur to the daguerreotypes over the next few years. Alongside Wetzel’s research into the treatment of these daguerreotypes, she deepened her interest in the life and work of Cornelius himself. “Cornelius worked in a pivotal moment in the history of photography,” she says. In the first few years of the process, he invented and during which Cornelius ran his portraiture studio, the daguerreotype process changed rapidly. “Since Cornelius was instrumental in many of these changes, you can gain a sense of the development of the daguerreotype through his body of work,” Wetzel says. Records of Cornelius’ work are few and far between—there are scant mentions of him in scholarship and literature on the history of photography. He left behind no notebooks of his working methods or clients. By piecing together the fragmentary information, however, Wetzel has been able to locate several undocumented Cornelius daguerreotypes. One such photograph belongs to a direct descendant of Robert Cornelius. Wetzel reached out to Bob Cornelius, the photographer’s great-great-grandson, who came to CCAHA with a family history: the second daguerreotype Cornelius ever made. Wetzel was able to examine the photograph, which provided valuable insight into the workings of Cornelius’ early portraiture. Conservation is often described as a mix—research and science and a mix of technique and craft. Along with a passion for the scientific aspects of their jobs, conservators love the history and stories behind the objects they treat. It is perhaps no surprise, then, that while Wetzel worked on the daguerreotypes, her interest in Cornelius’ life and work was piqued. Her research from this project has many possible resonances. Wetzel is contributing to the field of conservation science with her research on the treatment of unmodified daguerreotypes. Simultaneously, her work piecing together the history of Cornelius contributes to the history of photography and of Philadelphia more broadly. “Wetzel’s work is far from over, however. ‘We just started getting into it,’ she says. ‘I can’t wait to see what we find next.’” —AMY HEUER