



# Lincoln Lore

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## PHOTOGRAPHING LINCOLN

### (Part III)

by Sarah McNair Vosmeier

Ambrotypes were easier to make than daguerreotypes because photographers no longer had to galvanize their plates or go through the tedious buffing process. Still, making ambrotypes was not much safer than making daguerreotypes. Ambrotypists who made their own collodion had to have the explosive gun cotton on hand, and collodion itself was inflammable. Also, photographers could be blinded if they got

silver nitrate in their eyes, and they used the poisonous potassium cyanide to remove chemical stains from their hands. As one photography manual explained, "by a singular coincidence of circumstances, very many of the chemicals are combustible, and are indeed of a very explosive nature, while those which are not inflammable are poisonous."<sup>9</sup> Shepherd could prepare his plates ahead, but Robert's



*From the Lincoln Museum*

FIGURE 1. Robert Todd Lincoln, 1858. Ambrotype, about 2 3/4 by 3 1/4 inches. Ambrotypes were sometimes called "daguerreotypes without reflections"; this one is mounted in the kind of case used for daguerreotypes and is the size of a sixth-plate daguerreotype. Although ambrotypes could be used to make paper prints, the Lincolns obviously intended this one to be a unique image. It is part of the "Lincoln Family Album," and until the 1980s, it never left Lincoln family hands.

photographer had only about twenty minutes to complete the whole process from plain glass plate to finished ambrotype. If the plate started to dry before he made the exposure, the extra silver nitrate interfered with the silver halides and marred the picture. Even if an ambrotypist made the exposure in time but waited too long to develop the plate, the dried collodion would keep the developer from working.<sup>10</sup>

Thus, Robert's photographer probably started preparing the plate as soon as Robert arrived for his sitting. Robert looks a little more relaxed in his portrait than his father had in 1846, and he probably did not have to sit still as long as his father had. He is not posed as carefully as his father was: in fact, his tie is in disarray. Perhaps Robert's photographer was not as meticulous as Shepherd, or perhaps Mary Lincoln was not there to fuss over Robert's appearance. (Maybe Robert went to the photographer alone; at this time he was often sent to the store alone to make purchases or payments for his parents.)<sup>11</sup>

As with daguerreotypes, when light hit the photosensitive silver halides in an ambrotype, the silver halides were transformed into metallic silver, but the change would not be visible until the picture was developed. Whereas Shepherd had used mercury fumes to make the silver crystals visible, Robert's photographer used one of a number of different chemical solutions. Because they were in liquid form, he could watch the picture as it developed. Just as the image was properly developed, he took the plate out and rinsed it. Next he fixed it (removed the remaining silver halides so that the plate would no longer be light sensitive), using the same chemical (hyposulphite of soda) Shepherd had used. Finally he rinsed it again and dried it.

The resulting plate, like a daguerreotype plate, had visible silver crystals in the areas that had been exposed to light, and it had fewer crystals on parts of Robert's figure that did not reflect light. The distinction between Robert's ambrotype and his father's daguerreotype was that the dark areas of the ambrotype were clear glass rather than polished metal. Thus, if Robert's photographer had shown him the unmounted plate, it would have looked something like a modern negative. To make a positive image, ambrotypists put something dark behind the glass so that the clear parts of the plate looked black. The silver crystals (in the areas that had been exposed to light) masked the backing and appeared white or grey. If the photographer put the collodion side up, the picture was a mirror image, like a daguerreotype, but if he put the collodion side down, the image was correct, as modern photographs are. This feature was especially helpful for photographers who wanted to photograph city scenes because they could easily make the street signs readable. (Daguerreotypists had to carry mirrors to the scene.) Apparently, however, people in the 1850s did not care if their portraits were mirror images: many ambrotypes are mounted with the collodion side of the plate up.<sup>12</sup>

Judging from extant ambrotypes, neither the early photographers nor their customers cared particularly about the distinction between ambrotypes and daguerreotypes which seems most significant to us now: ambrotypes could be used as negatives to make unlimited paper copies. Some photographers mounted ambrotypes on top of black velvet, but many painted the backs with black lacquer, ruining them for use as negatives. For example, when Nathan Burgess published *The Ambrotype Manual* in 1856, his directions assume that the photographer would blacken the backs of his plates. In fact, when Burgess addressed the problem of making ambrotypes fit into lockets (they were difficult to cut to shape), he suggested making paper copies. However, he made the copies by dissolving the collodion and image off of the glass and onto a piece of black paper, not by making a paper print using the ambrotype as a negative.<sup>13</sup>

Burgess was not alone in refusing to take advantage of photographic reproduction. The technology for making paper prints had been available in the United States since 1847, when William Talbot was granted an American patent for his process; but no one seemed to be interested. In 1849 William

Langenheim bought the American rights to Talbot's process, and he circulated a thousand copies of an advertising brochure detailing the value of paper prints. He pointed out that pictures made this way

could be seen in any direction, and at a considerable distance. After obtaining the first (negative) impression, *any required number of (positive) copies can be procured, all equally perfect, at any time thereafter, without another sitting, and, at a very trifling expense...they cannot be rubbed out, and can...be enclosed in a letter and sent by mail.*

In spite of this sales pitch, Langenheim could not convince American photographers to buy a license to use the procedure, and he lost money on his deal.<sup>14</sup>

All this suggests that ambrotypes, like daguerreotypes, were treated as individual works of art, similar to the painted miniatures they were replacing. When the Lincolns arranged to have Robert's picture taken in 1858 they planned to have one unique image of him, not to reproduce copies for all their relatives. The big change would come in 1860 when photographers began to exploit the possibilities of multiple copies and mass production.

If, in the 1840s and 50s, neither photographers nor their customers were much impressed with the idea of multiple copies, what made them so enthusiastic about it in the 1860s? No doubt a variety of factors were involved, but an important one was the growing demand for portraits. Before photography was available, only the wealthy could afford to commission painters to make miniatures. By the 1840s daguerreotypes gave moderately wealthy people (like the Lincolns) a chance to own portraits of themselves, but they were still beyond the means of most Americans. As enterprising photographers like Shepherd invited the public into their galleries, even people who could not afford photographs learned to appreciate them. Most likely, these people of modest means wanted the same thing the Lincolns wanted: individual images similar to painted miniatures. However, their desire for inexpensive daguerreotypes led to a transformation of the entire photographic industry.

By the 1850s, entrepreneurs in New York were figuring out ways to reduce the cost of daguerreotypes and thereby capitalize on the growing demand. One way they saved money was on studio space. Photographers like Brady tried to make their galleries appealing to the middle and upper classes by investing in expensive furniture and fashionable decor. In comparison to these elegant galleries, the studios where less expensive daguerreotypes were sold were sparsely furnished and utilitarian. Another way the entrepreneurs saved money was by reducing the size of the expensive silver-coated plates. Some sold daguerreotypes not much more than an inch square. The most significant way the entrepreneurs saved money was by doing high-volume business. They wasted time neither on artistic poses nor careful developing. Their carelessness earned them the title "blue bosom operators" (differentiating them from the more artistic photographers like Brady) because their slipshod developing made the white areas look bluish.

To sell as many photographs as possible the entrepreneurs applied the principle of division of labor to photography. John Werge, a photographer from England, described the system one studio used in his book, *The Evolution of Photography*. Note that the operations Shepherd performed himself in Springfield were divided among at least seven different workers in the New York studio Werge visited.

At the desk I paid [one dollar], and received four tickets, which entitled me to as many sittings when my turn came. I was shown into a waiting room crowded with people. The customers were seated on forms placed around the room, sidling their way to the entrance of the operating room, and answering the cry of "The next" in much the same manner that people do at our public baths. I being "the next," at last went into the operating room, where I found the operator stationed at the camera, which he never left all day long, except occasionally to adjust a

stupid sitter. He told the next to "sit down" and "look thar," focused, and putting his hand into a hole in the wall which communicated with the "coating room," he found a dark slide ready filled with a sensitized plate, and putting it into the camera, "exposed," and saying "that will dew," took the dark slide out of the camera, and shoved it through another hole in the wall communicating with the mercury or developing room. This was repeated as many times as I wanted sittings, which he knew by the number of tickets I had given to a boy in the room, whose duty it was to look out for "the next" and collect tickets. The operator had nothing to do with the preparation of the plates, developing, fixing or finishing of the picture. He was responsible only for the "pose" and "time," the "developer" checking and correcting the latter occasionally by crying out "Short" or "Long" as the case might be. Having had my number of "sittings," I was requested to leave the operating room by another door which opened into a passage that led me to the "delivery desk," where, in a few minutes, I got all my four portraits fitted up in "matt, glass, and preserver,"—the pictures having been passed from the developing room to the "gilding" room, thence to the "fitting room" and the "delivery desk," where I received them. Thus they were finished and carried away without the camera operator ever having seen them. Three of the four portraits were as fine Daguerreotypes as could be produced anywhere.<sup>14</sup>

The more artistic photographers hotly denied that these assembly-line daguerreotypes could equal ones that had been carefully composed and developed by true artists. In the end, though, the artists who charged up to fifteen dollars could not compete with the blue-bosom operators who charge only twenty-five cents. As the editor of a photographic magazine noted,

In view of the hosts of 25 cent galleries springing up in all quarters, our most respectable artists begin to look to the crystalotype [an early method of making paper prints] to redeem their artistic skill from the odium cast upon the daguerrean art by its prostitution to such paltry

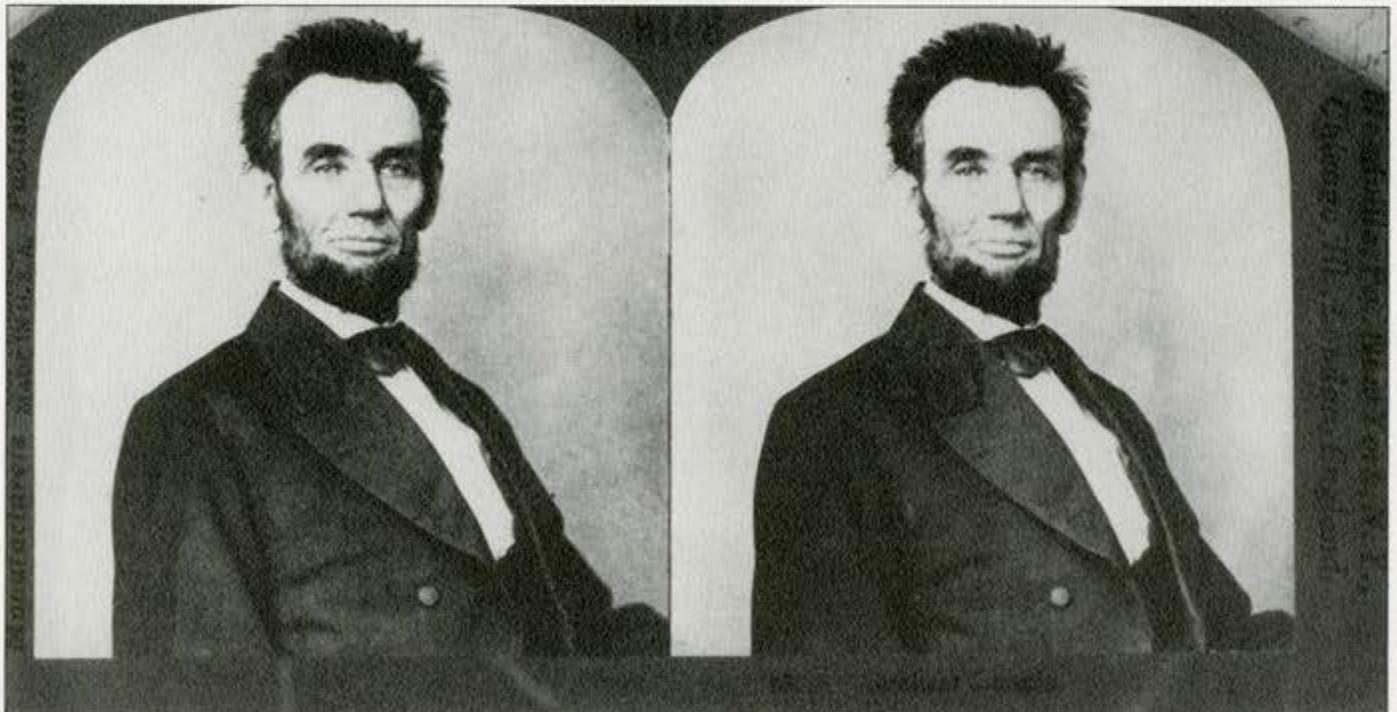
results.<sup>16</sup>

By 1854 several prominent New York photographers, including Mathew Brady, had switched from daguerreotypes to paper prints. Paper prints were more profitable because artists could capitalize on their talents by selling the same image many times. The better quality the original, presumably, the more money they would make selling prints.

The first big success of the paper prints was as stereocards. Stereocards were made by mounting two photographic prints onto a card that fitted into a stereoscope (a viewer that allows each eye to see only one of the two prints). When a photographer planned to make a stereocard, he took two pictures to correspond to the different perspectives of human eyes; that is, one was taken two or three inches to the left of the other. The result, when viewed through a stereoscope, tricks the eye into seeing three-dimensionally.

By 1860 the reorientation of the photographic industry to paper prints was complete. In the summer of 1859, one or two photographers had begun offering photographs made in the European fashion: a print about 2 by 3½ mounted on a card about 2½ by 4 inches. The result was called a "carte de visite" because it was the same size and served the same purpose as a visiting card. By the end of 1860 the paper "carte de visite" had become enormously popular and was available throughout the country, making daguerreotypes and ambrotypes obsolete.<sup>17</sup>

Even the blue-bosom operators abandoned the daguerreotypes eventually. After 1857, they found they could fill the same demand more cheaply with tintypes. Tintypes were made by the same process as ambrotypes, but the collodion was poured on enameled iron, rather than glass. ("Ferrotypes" is the most accurate term for these photographs, but they are generally known as tintypes.) Like the ambrotypes and daguerreotypes, tintypes are individual images and cannot be reproduced except by being rephotographed, and they were often mounted in the earlier style cases. They were especially suited for lockets because they were sturdy and easy to cut to shape. These qualities and their inexpensiveness made them ideal for political campaign buttons.



*From the Lincoln Museum*

**FIGURE 2.** Stereocard about 7" by 3½". Original taken by Lewis E. Walker and published by E. & H.T. Anthony & Co. in 1865. Although these two images appear to be identical, they were taken from different perspectives and form a three-dimensional image when viewed through the stereoscope.

Because tintypes were not reproducible, they served a different market than cartes de visite. People who posed for cartes de visite were more likely to go to one of the elegant galleries. After they posed they would have to come back in a day or so, depending on the weather, to pick up the completed prints. (Printing could not be done on cloudy days.) When the clients returned, they might even have the opportunity to examine proofs before the final purchase, and they might ask the photographer to retouch the negative. Having invested all this time and trouble, the photographer would expect his clients to purchase prints in quantity, and cartes de visite were usually priced by the dozen. In comparison, people who could not afford (or did not want) multiple copies and customer service bought tintypes.

Someone wanting a tintype could walk into a studio and walk out with a photograph in hand. The different market for tintypes is reflected in their pricing: they were not only cheaper, they were priced individually. When cartes de visite were selling for two or three dollars a dozen, tintypes were two cents each.<sup>18</sup> Given this distinction between cartes and tintypes, it is not surprising that Lincoln seems never to have posed for a tintype. If he had wanted a picture of himself, he had the time and money to go to one of the more elegant studios like Brady's. Further, it would be foolish for a photographer to allow Lincoln to sit for a tintype if he could be convinced to accept a carte instead.

Once Lincoln sat for a carte, the photographer retained the negative and could make a profit selling prints, but if he sat for a tintype he might take the only copy with him. This aspect of cartes was another advantage over other types of photographs. Cartes gave people all over the country a chance to see what the people and places they read about actually looked like. Engravings and lithographs had been available for some time, but only photographs had the illusion of reality, and people went wild over them. A photographer might sell hundreds of copies of a popular new release within hours of opening his gallery in the morning.

Lincoln became nationally recognized at the same time that cartes de visite became nationally popular, and we can see that connection clearly in his February 1860 visit to New York City. While he was there he spoke at the Cooper Union, and he was photographed at Brady's studio; Brady's carte helped introduce Lincoln's face to Eastern Republicans at the same time the speech introduced his political ideas to them.

(To be continued)



From the Lincoln Museum

FIGURE 3. 1860 campaign button made from a ferrottype (tintype) copy of the Cooper Union photograph.

## FOOTNOTES

9. N.B. Burgess, *The Photograph Manual*, 8th ed. (New York: D. Appleton & Co., 1863), p. 183.

10. Throughout I have used the pronoun "he" for photographers because most were men and because we know of no woman who photographed Lincoln. This should not suggest that women did not become photographers in the nineteenth century, however. Many did. See W.C. Darrah, "Nineteenth Century Women Photographers," *The Photographic Collector*, vol 1, no. 2, pp. 6-10.

11. See Pratt, p. 149, for example.

12. Some ambrotypes were made on dark glass so that they needed no backing. This type could not be reversed to show street signs or portraits accurately. For a basic description of the chemistry of wet plate photography see Reese V. Jenkins, *Images and Enterprise: Technology and the American Photographic Industry 1839 to 1925* (Baltimore: Johns Hopkins University Press, 1975), pp. 38-39.

13. Burgess, p. 164.

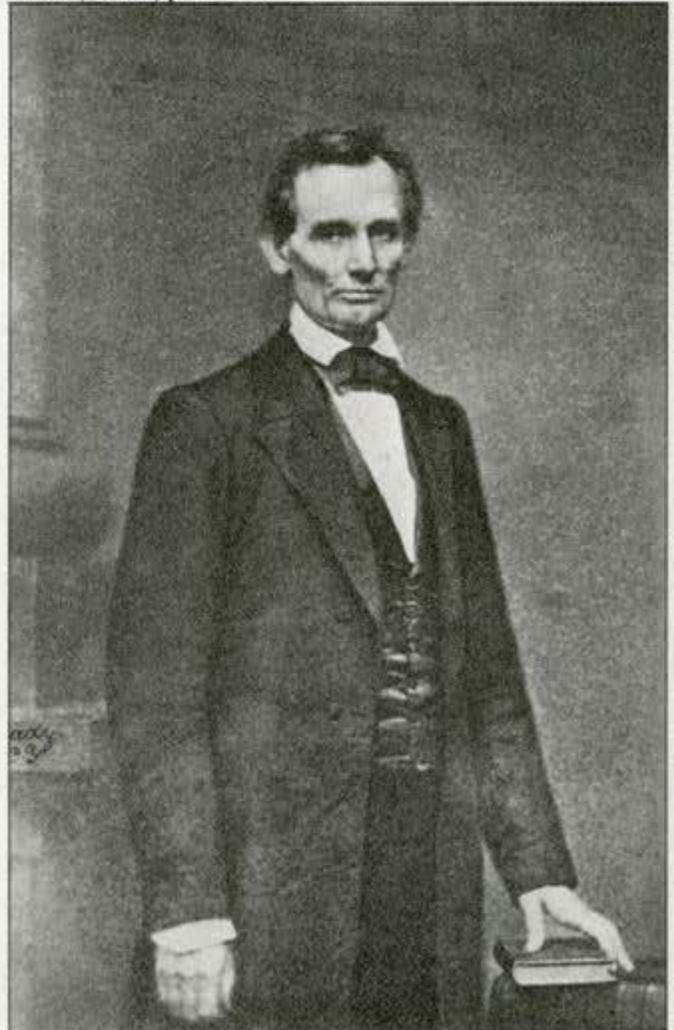
14. Newhall, p. 52-53.

15. Quoted in Newhall, pp. 64-65.

16. The firm of (Albert Sands) Southworth and (Josiah Johnson) Hawes—perhaps the finest American daguerreotypists—charged \$15 at about this time (Matthew R. Isenberg, "Southworth and Hawes: The Artists," in Wood, p. 75. Quote from Henry Hunt Snelling, in *The Photographic Art Journal*, VII (1854), quoted by Newhall, p. 66.

17. William C. Darrah, *Cartes de Visite in Nineteenth Century Photography* (Gettysburg, Pa.: W.C. Darrah, 1981), pp. 5-6.

18. Tintype prices from Oliver Wendell Holmes, "Doings of the Sunbeam," *Atlantic Monthly*, July 1863, p. 3. Carte de visite prices, Darrah, *Cartes*, p. 19.



From the Lincoln Museum

FIGURE 4. Carte de visite of the Cooper Union photograph. Original taken by Mathew Brady, February 27, 1860. This image is the basis for about one-third of the extant 1860 campaign portraits of Lincoln.