



FIGURE 1

William Henry Fox Talbot/Nicolaas Henneman (attr.): *[The Reading Establishment]*, salted paper prints, 1846. This panoramic view, made from two joined calotypes of Talbot's Reading Establishment, showed a square clockwork timer in use. Within this sunlit portrait and printing session, we twice see the instrument atop a camera. At the right, the hand of Talbot's associate Nicolaas Henneman was on the timer, perhaps actuating it or awaiting its signal that the exposure time was up. A raised index finger can be seen in both views, with Talbot himself holding the lens cap in the left image.

The Metropolitan Museum of Art, New York, Gilman Collection, Gift of the Howard Gilman Foundation, 2005.100.171.



FIGURE 2

Detail of Nicolaas Henneman with camera and timer.

Horology in Photography: Timekeeping and Timekeepers in Photographs

By Bob Frishman

Horology, the science of timekeeping, has been closely associated with photography throughout the entire history of picture-taking. The history of this durable marriage first was presented to the Daguerreian Society in my online Zoom presentation on April 10, 2021, and a video recording of the lecture is available on the Society's website.

This subject is just one important facet of the much broader "Horology in Art" project that has been a major focus of mine for more than a decade. As a full-time restorer, collector, and scholar of antique clocks and watches, I long ago began to notice when these instruments appeared in fine art. From the beginning years of mechanical timekeeping in the 13th century, timepieces were depicted in paintings by major artists, and sundials and water clocks appeared in images centuries before. I explored such artworks in my thirty-six published articles¹ in the magazine of the National Association of Watch and Clock Collectors (NAWCC) and in the 2017 "Horology in Art" symposium², the first ever held on this unique theme, that I organized at the Museum of Fine Arts, Boston.

My article "Folk-Art Horology: Clocks and Watches in American Folk Paintings,"³ further developed yet another facet. Included in this study were 19th-century painted portrait miniatures, often watercolor on ivory, which were the precursor, and then done in by, small images captured by daguerreotypes and subsequent photographic media.

As with all planned and posed portraits and vignettes created by artists, the objects and backgrounds in those paintings were never there by accident. Props and settings were carefully selected and placed. Artworks could be "read," even by the illiterate, for the symbolic and metaphoric meanings of what could be seen, and clocks and watches spoke loudly about mortality, diligence, discipline, and the affluence and sophistication of their possess-

ors. Timepieces in paintings were almost never about showing the time, but almost always about reminding viewers of time's passage and how little of it we all have.

The same can be true in portrait photography, but not so much in more documentary photographs showing clocks on furniture, room walls, building facades, and in steeples and towers. But even in those, much more than the exact time of the photograph can be gleaned, assuming that the clocks actually were running when the plate was exposed, not always a given. For sure, the figural mantel clock in many Mathew Brady portraits (Figures 8, 9, and 10) was not running or in running condition, nor would every one of those photos be taken at exactly 11:50 a.m. or p.m.

But first a digression is warranted. Unlike artworks created over periods of days, weeks or even months, photographic processes were (and are) quite time-sensitive. Governed by physics and chemistry, exposure and development times were critical and required clocks and watches, or specialized clockwork timers, at hand. Granted, photographers at work in the first decades of the technology could verbally count out the seconds and minutes, but this would be quite tedious and error-prone for typically long exposures. With pocket watches at the ready — and we see them in images of early photographers — these artists could verbally entertain their rigidly motionless sitters to pass the necessary time and not spoil the shot with exposures too long or too short.

Louis Daguerre (1787–1851) and his cohorts could not simply guess when to remove and then refit the lens cap. Exposure times ranged from five to thirty minutes; shorter on warm sunny days and substantially longer on chilly cloudy ones. Even when better lenses and coatings reduced exposure times to sixty seconds and under, estimating or verbalizing the seconds often was not optimal. William Henry Fox Talbot's (1800–1877) first exposures were around three



FIGURE 3

Unknown photographer: *Portrait of a young African American woman*, sixth-plate daguerreotype, ca. 1850–1852. The large pocket watch, secured on a long ribbon, was displayed at her waist and likely demonstrated sophistication and financial security.

Greg French Collection



FIGURE 4

Unknown photographer: *Clockmaker and his wife, sixth-plate daguerreotype.* Collectors may recognize on the table some parts of a Connecticut wood-movement shelf clock. The winding hole at 11 o'clock indicated that the movement also featured an optional alarm function.

Courtesy of Cowan's Auctions

minutes, and his use of a clockwork timer is proven in photos of him at work (Figures 1 and 2). Prints from his negatives, generated in bright sun, could take a half hour or longer.

Developing and processing the images was equally disciplined. Operators sometimes could visibly assess their progress as images appeared and strengthened, but timing often was key to ensure the best possible images and their durability from proper fixing and cleaning.

Prior to the mid 19th century, it was not common for pocket watches to feature second hands on their dials. Such precision normally was not needed and that extra complication would have increased a watch's cost. However, even in the late 1700s it was possible to own a watch with seconds indications, and by 1850 these were easily obtained if desired. In England's National Trust Fox Talbot Museum is a gold top-quality Breguet pocket watch⁴, with a subsidiary seconds dial, that belonged to Charles Henry Talbot, Henry's son and perhaps to his father as well. On much larger standing clocks, astronomical regu-



FIGURE 5

Unknown photographer: *A pair of French gilt-metal and marble figural mantel clocks from the mid-19th century, sixth-plate daguerreotype.* The purpose of the photograph is unclear but it could have been as a record for the owner, a sales tool for a seller, or to educate viewers unable to examine the clocks in person.

Author's Collection

lator clocks, and portable marine chronometers, the display of advancing seconds was standard.

Some early watches not only showed seconds but had stopwatch or "hacking" functions to start and stop the seconds hand. Horse-racing enthusiasts were good customers for those. Such a watch⁵, with Lord Nelson provenance, was made circa 1780 by famed English watchmaker Thomas Mudge (1715–1794). A small pin on the side of the case could stop and start the watch's ticking, perhaps allowing the naval hero to better coordinate his fleet's maneuvers and broadsides.

Clockwork also was crucial to the invention of various styles of camera shutters, once those replaced the lens cap method. Obviously, caps could not be zipped on and off at fractions of seconds when exposure times became that brief, so mechanical shutters with adjustable durations were devised as specialized forms of timepieces.

Another clockwork device, hugely helpful for long sunlit exposures of photographic enlargements, was the heliostat (Figure 11). Slowly turning a mir-



FIGURE 6

Unknown photographer: *Anna Maria Judson Greenleaf and Ellen Greenleaf Paca*, hand-colored sixth-plate daguerreotype, 1851. The sisters, daughters of John Greenleaf, wore the same attire and hairstyle, but different jewelry. Anna, on the left, has a thick book on her lap and a watch at her waist.

The Boston Athenaeum, UTB-6 Str.a.(no.1)

ror at the same angular velocity of the sun over many minutes, these spring-driven instruments kept the sun's rays constantly and properly aimed at the printing stand.

Returning to the issue of why clocks and watches have appeared in photographs, their traditional representation as symbols and metaphors sometimes still applied. Watch chains and fobs on both men and women customers, and views of a partial or complete watch attached to them, testified to the affluence of the sitter. Thicker chains, and bigger watches, signaled more gold and more wealth. Watches held to the sitter's ear could be for fun, but could also be the age-old reminder that time was quickly passing. Watches held in plain sight by posing Civil War soldiers showed the folks back home that he owned a watch, often a Waltham, but also could be a grim



FIGURE 7

Unknown Canadian photographer: *Possible portrait of Bryon Derbyshire*, quarter-plate cased ambrotype, ca. 1863. Associated papers provided by the owner suggest that this was a portrait of Byron Derbyshire (1838–1921), an Ontario peddler of clocks in Lennox, Frontenac County, sitting on a wagon with unknown friends (not Abraham Lincoln). Mr. Derbyshire was born in Plum Hollow on the north side of Athens or “Farmersville,” a Quaker and Baptist community. He eventually settled in Mill Creek, Odessa.

Courtesy of Neil D. MacDonald, Toronto

reminder that his time could be, and often was, cut short.

A related question also is sometimes raised: might those shiny round metal objects have been lockets, not watches? I believe that in most cases, probably not. Typically, lockets were smaller and thinner than the watches seen in these photos, and they rarely were worn at waist level or in a pocket. Locketts dangled from jewelry pins or shorter chains and ribbons. Being larger and heavier than lockets, watches hanging on shorter chains could easily swing out if the wearer leaned forward, crashing the watch into something else and damaging both. A vivid childhood memory of mine is the first time my brother's fiancée came to dinner at our home. As she leaned in to pass a plate, her large necklace pendant arced directly against the edge of the glass-top dining table, creating a crack that slowly spread, as we all watched, across the entire width of the thick glass sheet.



FIGURE 8

Mathew Brady: *Portrait of Maggie Mitchell*, printed from glass plate collodion negative, ca 1860–1870. Stage actress Margaret “Maggie” Mitchell (1832–1918) was just one of many celebrities visiting Brady’s studio who shared the space with a fancy figural clock, one of his familiar props. The clock was the “Reaper” model; its gold-painted cast-metal case was produced by Nicholas Muller in New York City and then marketed by Connecticut clock manufacturers that supplied the movements.

National Portrait Gallery, Smithsonian Institution, Frederick Hill Meserve Collection, NPG.81.M240

Clocks boldly sharing the photo field with sitters were, as in oil paintings, nearly always part of the narrative. There would be little reason otherwise to have a clock sitting or standing there, distracting from the subject’s face and figure, and again it certainly was not there to indicate the time of day of the exposure. In the case of Mathew Brady’s studio clock, I viewed nearly 7,000 Brady portraits and found approximately seventy with the clock. My article⁶ about this was published in the *National Association of Watch and Clock Collectors, Inc. (NAWCC) Magazine*. Eminent sitters with the clock included George Custer, Rob-



FIGURE 9

Mathew Brady: *Portrait of Sister Cecelia*, albumen print. This Daughters of Charity nun was one of more than 600 sisters providing volunteer nursing care for wounded soldiers in hospitals during the Civil War. Perhaps to demonstrate her commitment to efficiency and timeliness, she held a watch in her left hand, secured by a long chain.

National Archives & Records Administration 1198.0001 (165-B-766)

ert E. Lee, and Clara Barton; all of whom must have agreed that the ornate clock somehow enhanced their portraits that were intended for popular, not just private family, viewing.

Occupational portrait photographs portraying clockmakers, watchmakers, and timepiece sellers all had an obvious reason to display the tools and products of their trade. We are fortunate to have early daguerreotypes and ambrotypes of these craftsmen and merchants who provide us with a glimpse of their tools and timepieces. Horologists welcome these looks back at our predecessors, as do collectors who see antique objects now cherished that then were



FIGURE 10

A framed portion of the author's collection of Mathew Brady CDV's that include the "Reaper" figural clock.

Author photo

Horology in Photography



FIGURE 11

Unknown photographer: *Heliostat, Spencer & Son, Dublin, ca. 1875.* A bright beam of sunlight, exposing photographic print paper, remained stationary as clockwork slowly rotated the mirror to track the sun's progression in the sky.

Author's Collection

new. We seek and enjoy even older depictions as well, such as 1600s Dutch “vanitas” paintings with finely detailed views of watches made in those years.

Stereographs and cabinet cards also offer rewarding looks at the craftsmen at work as well as interior and exterior views of their shops loaded with clocks and watches now seen instead at auctions, antiques shows, and museum exhibits. These images sometimes provide the only documentary material available for who these men were, what they sold and repaired, and where they worked. My “Clocks in 3D” article⁷ expanded on this theme.

Sometimes these stereographs provide the only known images of historical significant clocks. I had, for example, purchased a stereograph of an old large iron-frame tower clock movement and then later discovered that it was a unique photograph of the movement made by eminent Philadelphia clockmaker Isaiah Lukens (1779–1846) in 1828 for the tower of Independence Hall. After this machine was replaced for the 1876 Centennial, it served more years in nearby Germantown, then was abandoned until rediscovered, restored, and returned to the Independence Historical Park for display.⁸



FIGURE 12

Unknown photographer: *Storefront of Wm. Bond & Sons, 97 Water Street, Boston, 1876–1884, stereograph.* The Bond family clockmakers were leading horologists who built and serviced high-precision instruments for astronomy and navigation as well as supplied high-quality clocks and watches to city residents.

Author's Collection



FIGURE 13

A.J. Webster, photographer, Bucksport, Maine: *Shop interior*, stereograph. Several popular models of Connecticut shelf and wall clocks were for sale at this store. Could we get a better look into the countertop cases and wall display, we would have many familiar pocket watches to appreciate as well. The miniature (toy?) buggies lining the top shelf were another interesting attraction.

Author's Collection

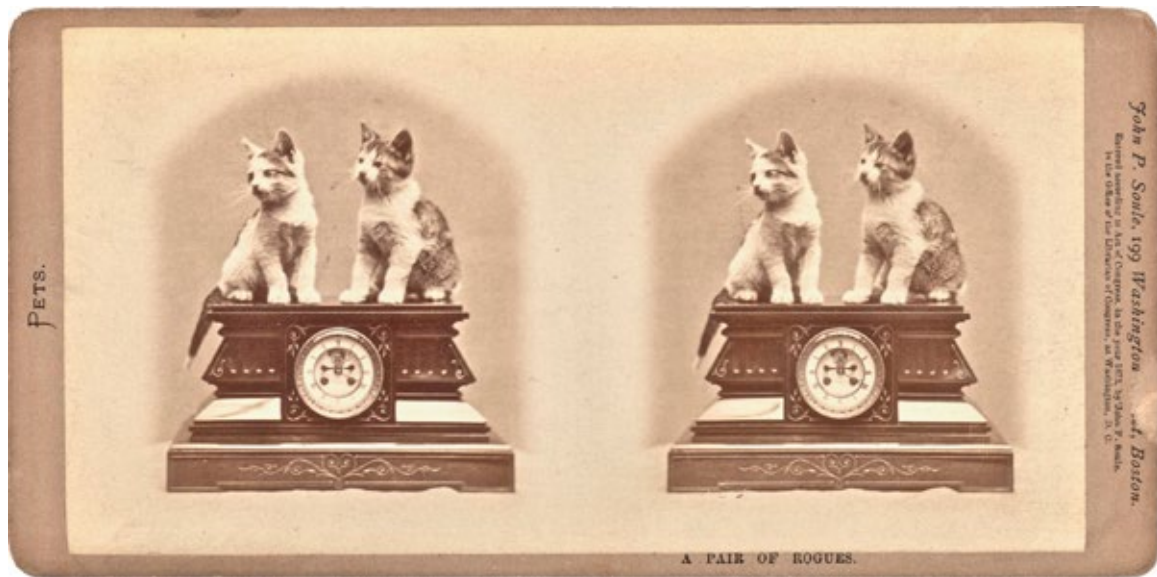


FIGURE 14

John P. Soule, 199 Washington Street, Boston: “*A Pair of Rogues*” atop a French marble mantel clock, stereograph, 1873. Whatever is drawing the kittens’ attention was to the side of the camera, but full frontal was a fine example of a costly mantel clock of the period. Clock people will note the decorative stone case and the movement’s visible escapement on its two-level fired white enamel dial.

Author's Collection



FIGURE 15

Unknown photographer: *Portrait of Adelina Patti (1843–1919) sold by Charles D. Fredrick & Co., 587 Broadway, New York, carte de visite.* In this mass-produced image, the world-famous Italian opera star was paired with a tall-case clock adorned by an unusually ornate crest. She was dressed for the principal role in Donizetti’s *Lucia di Lammermoor*. A Connecticut clock company named a popular model of mantel clock, the “Patti,” after her.

Author’s Collection

Humorous stereo card scenes also featured clocks. Most collectors, for example, are perhaps too familiar with the many “bliss” series that depicted an amorous young couple scandalized late at night by nightgown-wearing parents pointing at the parlor’s clock. With a variety of clocks as witnesses, other



FIGURE 16

Giant clock hands were mounted on the exterior of the Seth Thomas factory, probably its tower clock department, in Thomaston, Connecticut, from a photography album of gelatin silver prints, 1890–1910.

The Connecticut Historical Society, 1993.89.2.1-111

scenes portrayed illicit flirtations, cute pets (Figure 14), toddlers, schoolrooms, bedrooms, and domestic squabbles. The clocks mostly are models and styles familiar to collectors and thus instructive to see in period surroundings.

And while beyond the scope of the *Annual*, 20th-century photographers placed clocks prominently in scenes as well. Many Wallace Nutting hand-colored photographs of home interiors, fabricated as views of Colonial America, included floor-standing long-case clocks, banjo clocks on the walls, and pillar-and-scroll shelf clocks on the mantels. Within my own digital image collection, now numbering nearly 500, are interiors and street scenes by well-known photographers such as Lewis Hine, Jacques Henri Lartigue, Eugene Atget, Man Ray, Berenice Abbott, Margaret Bourke-White, Walker Evans, and Henri Cartier-Bresson. Even today’s photographers — amateur, ar-

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tistic, and commercial — continue to use timepieces to enhance the stories their pictures are telling us.

Readers are encouraged to seek more examples of “Horology in Photography” and, if willing, to share them with me.

ENDNOTES

1. Links to PDF’s of all these articles are on the “Art” page of the author’s website <http://bell-time.com/art.html>.
2. The “Horology in Art” symposium website may be viewed at <http://horologyinart.com>.
3. *NAWCC Watch & Clock Bulletin*, September/October 2020, 344–352. May be viewed via http://users.neo.registeredsite.com/9/7/2/22056279/assets/Folk_Art_Horology.pdf.
4. Fox Talbot Museum, Wiltshire. Object Number NT996476.
5. Royal Museums Greenwich, Object ID JEW0243.
6. *NAWCC Bulletin*, October 2002, pp. 605-608. May be viewed via http://users.neo.registeredsite.com/9/7/2/22056279/assets/Mathew_Brady_s_Clockl.pdf.
7. *NAWCC Bulletin*, April 2002, pp.140-144. May be viewed at http://users.neo.registeredsite.com/9/7/2/22056279/assets/Clocks_in_3D.pdf.
8. *NAWCC Bulletin*, December 2008, pp. 651-653. May be viewed at http://users.neo.registeredsite.com/9/7/2/22056279/assets/Lukens_Independence_Park.pdf.

ABOUT THE AUTHOR

During the past forty years, Bob Frishman has established a reputation as one of America’s leading practitioners and scholars of horology. He has repaired and restored more than 7,000 antique clocks and watches, published more than 100 articles and reviews on the history, technology, and cultural importance of mechanical timekeeping, and has lectured on the subject to more than 100 audiences. As Chairman of the Time Symposium Committee of the National Association of Watch & Clock Collectors (NAWCC), he created and organized groundbreaking horological conferences at the Winterthur Museum, the Museum of Fine Arts Boston, the Henry Ford Museum, and the Museum of the American Revolution. Bob is an NAWCC Fellow and a Freeman of The Worshipful Company of Clockmakers, a London guild founded in 1631. More information is at www.bell-time.com.