

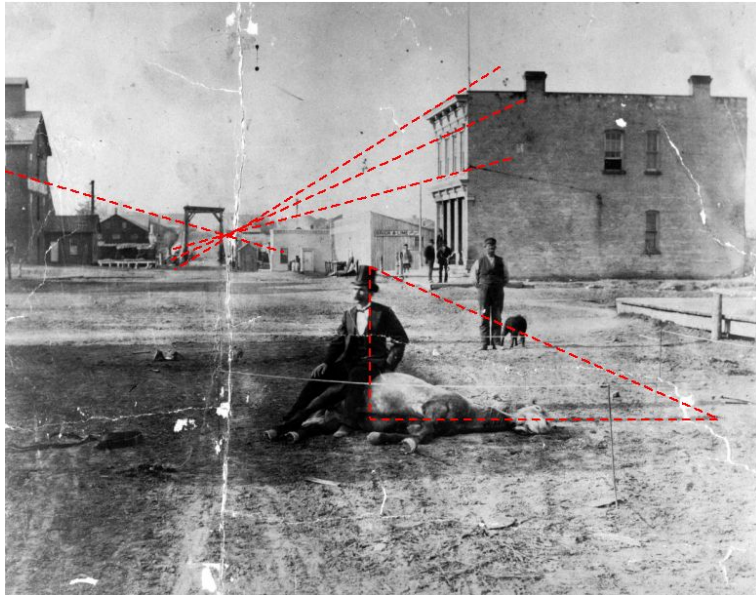
A Dead Horse of a Different Color

by Colleen Fitzpatrick and Andrew Yeiser

It doesn't take a rocket scientist---or maybe it does.

The excitement over the Dead Horse picture in recent weeks produced much speculation on who the man in the top hat and tails was and why he was photographed sitting on a dead horse in the middle of S. 8th St. in Sheboygan, WI. But it took a couple of rocket scientists, Colleen Fitzpatrick and Andrew Yeiser, to nail down when and how the photograph was taken. Colleen and Andy are optical scientists, and experts at analyzing old photographs. Colleen is the author of *Forensic Genealogy* and the coauthor with Andy of *DNA & Genealogy*. With the help of historical map expert Sharon Sergeant of Ancestral Manor, along with a bit of Sheboygan history provided by the Sheboygan County Historical Research Center, they found that the photograph was taken on September 24, 1871 at 4:30 pm.

How did they do it? Elementary, my dear Watson.



Putting things into perspective.

All speculation aside, the direction and height of the shadows were the most important clues to the “when” of the photograph. All the shadows in the picture—those of Mr. Top-Hat-and-Tails, his dead horse, the buildings, and the man with his dog—stretch directly across the street. Since S. 8th St. (then Griffith St.) runs north-south, the shadows point almost exactly east-west. There are only two days in the year when this occurs, the Spring Equinox (March 19-20) and the Fall Equinox (September 22-23). On these two occasions, the night and day are of equal length everywhere on earth, as the sun rises due east

and sets due west. On other dates, the sun rises either north or south of east and sets either north or south of west, as the days become longer or shorter and the seasons change. Considering a top hat and tails are not the appropriate attire for Sheboygan in March when the average temperature is about 32°F, the date the picture must have been September 22-23.

What about the time of day? Mr. Dapper is not only holding down his dead horse, he is also acting as a sundial. By measuring the length of his shadow on the street, Colleen and Andy were able to calculate the angle of the sun in the sky. This told them the photo was taken at 4:30 p.m. (Since time zones were not used until 1918, there is no need to correct for standard time.)

What is the earliest date the picture could have been taken? This is where being an optical scientist comes in handy. Andy observed that the photograph was snapped using a wide angle lens. How did he know this? For one thing, the width of the street was 80 ft. To take in half of the street using a normal lens, the camera would have been about 80 ft from the horse. But this is clearly not where the camera was. A wide angle lens explains the discrepancy.



The Pantoscop

The first wide angle lens, known as the Pantoscop, was produced in 1865 in Rathenow, Germany by Emil Busch. Although it was first used in 1867 to document buildings and cityscapes by Albrecht Maydenbauer, even in the 1880s it was not in common use.

The earliest date the picture could have been taken was therefore 1865, although it was probably produced after 1867, and likely later. The first mention Colleen could find of a wide angle lens in U.S. newspapers was a news item in the April 26, 1880 edition of the Chester, PA *Times* describing the use of a wide angle lens in a legal dispute over the building of a new tavern. Although the defendant tried to use photographs to impress the judge with the grand appearance of his new establishment, his strategy backfired. He hired a photographer to photograph both the tavern and the plaintiff's much smaller house across the street. But the photographer used a wide angle lens, probably because he could not get far enough away to capture the larger tavern with a normal lens. Unfortunately, a wide angle lens severely distorts perspective, making objects in the foreground much bigger and objects farther back much smaller than they are. The photographer made the mistake of photographing the tavern on the diagonal from the corner. The perspective distortions made it look comical and grotesque. On the other hand, he photographed the smaller plaintiff's house from directly across the street, so that the same distortions made the house look much larger and grandiose. The reporter pointed out the potential value of photographic evidence for legal proceedings even though the plaintiff won the case.

One other interesting observation that Colleen made is that the vanishing point is not located at the center of the picture, but rather to the immediate right of the gantry. This was probably the center of the field of view of the plate camera used to take the picture. The photograph was undoubtedly made as a contact print, so that it must be the same size as the original glass negative. The unexposed plate was therefore positioned off-center in the camera, taking advantage of the large image created by the wide angle lens to better compose the picture. It's a coincidence that the long vertical white line to the right of the gantry runs through the vanishing point. At first, it was thought that this line represented a fold down the center of a larger photograph that had been subsequently cropped. But according to the Sheboygan Research Center, this line along with the other smaller white lines meandering through the image, is really where the original negative was broken. Apparently the picture was contact printed from the reassembled pieces of the shattered negative.

Now what about the latest date for the photograph? Important clues were provided by Sharon Sergeant through her research into Sheboygan's history. By studying the gantry over the

entrance to the S. 8th St. bridge, she identified it as a truss swinging bridge, with the gantry used as an anchor for the trusses.



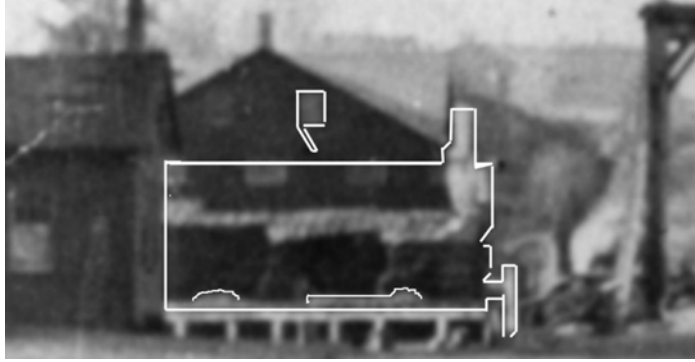
According to *One Hundred Years of Sheboygan, 1846-1946*, by J. E. Leberman, the bridge was constructed in 1846 and rebuilt in 1869, 1881, and 1893. Sharon found a sketch of the bridge from 1888 in *Sheboygan centennial celebration, 1853-1953: official souvenir program and historic booklet, August 9th thru 15th, 1953* that clearly shows a bridge of a different design without a gantry. The gantry must have been removed before 1888 during one of the earlier renovations, giving a latest date for the photo of 1881.

The estimate of the latest date can be improved upon through information provided by old maps and census records. According to Sharon, the 1884 Sanborn Fire Insurance Map shows that the southwest corner of the intersection of Griffith (now S. 8th) and Indiana Sts. was occupied by a saloon. This is confirmed by the 1880 census records. But the shadow that is falling on the man is not being cast by the building on the corner, but rather by the building next to it, second from the corner. The corner is empty. This dates the picture to before the 1880 census.

Of additional interest are the two very long shadows extending from the base of the shadow of this second building. One of these shadows can be seen behind the man with the dog, with the other located just upstreet from the horse's head. Both shadows extend nearly across the width of S. 8th St. Compared with the height of the other buildings in the picture, the posts that cast these shadows were 1½ stories high. This corresponds to the height of the building at this location shown on the 1884 Sanborn map. These posts could have been part of its frame as the building was being constructed in the 1870s.

A question that has plagued the dead horse investigation community has been answered. Library of Congress maps and Sheboygan historical publications document that the railroad was completed through Sheboygan in the early 1860s, and later Sanborn maps indicate the tracks ran across S. 8th St near the river. Sheboygan was an important depot for the Fond du Lac and Sheboygan railroad in the mid 1870s. An article in the *Oshkosh Daily Northwestern* on October 15, 1875 reported that the Williamson, McKenzie & Crawford Co. had unloaded fifteen thousand tons of coal and wood from vessels into railcars at Sheboygan for transport to Fond du Lac, where the cargo was shipped out by barge via the Wolf River and Lake Winnebago. Railroad tracks should appear crossing the road in front of the gantry assuming the picture was taken between 1867 and 1880. Yet no tracks are apparent in the photograph. Several theories have been advanced to explain their absence, from a natural disaster destroying the tracks, to a period when the tracks were removed for repair.

However, the reason why no one spotted evidence of a railroad crossing near the river is that no one looked hard enough. Believe it or not, there is a full-sized steam-belching locomotive in the picture. It's just well camouflaged. Before reading further, can you spot it?

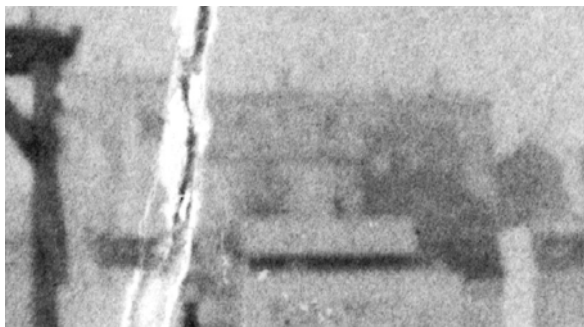


Camouflaged Locomotive

Have a look at the A-frame building facing the camera to the left of the gantry. It has three windows in a row, the left one of which is eclipsed by the shed in front of it. The right edge of the house's sloped roof appears cut off by a white chimney. There is a thick white line that zigzags below the windows from the shed to the chimney.

Actually, it's not a chimney. It's the smokestack of a locomotive. The zigzagging white line is the joint between the top and the bottom halves of the locomotive frame. Two thinner white lines just above the wooden platform are the drive shafts connecting the drive wheels. (You can see the tops of these two wheels above the platform if you look hard enough.) The white square located near the top right of the A-frame building is the semaphore on the other side of the track that was used to signal the train. There is steam from engine billowing in front of the locomotive. The shed in front of the tracks and the A-frame house behind the tracks are probably train depots. It's really not a surprise that the locomotive is hard to see, considering the distortion in perspective created by the wide angle lens.

Back to the shadows and the equinox....The part of Sheboygan shown in the picture is an industrial section south of the river. The two two-story buildings upstreet from the man on the horse housed saloons, yet the street is almost deserted. Colleen, Andy and Sharon believe this can be explained if the picture was taken on a Sunday. To be a little more accurate, the shadows are pointing slightly north of west, so that the picture was probably taken on the day after the Fall Equinox when the sun rose and set a hair south of due east and due west. The only two years between 1867 and 1880 when the equinox fell on a Saturday were 1871 and 1877.



St. Cyril Methodius Church

Across the bridge, there are a few buildings visible on the north side of town. According to the Sheboygan Research Center, the long rectangular building that can be seen in the distance to the right of the gantry is St. Cyril Methodius Church, still standing today. The picture shows the church, but without its steeple. Since the steeple is typically the last part of a church that is erected, the picture must have been produced before St. Cyril's was completed in 1873.

The picture was probably taken September 24, 1871 at 4:30 pm.

Who took the picture? Perhaps we will never know. The photographer must have been knowledgeable about the latest photographic equipment, and must have had the means to purchase a very expensive lens. He must also have had the know-how to use it. The historical finger

points to either Wolfgang Morganeier, a German photographer in the 1870s, or to his two apprentices, George and Edward Groh. But as they say in math textbooks, the proof is left as an exercise for the reader.

Hmmm.....maybe the horse was hit by the train?

For further information, contact Colleen Fitzpatrick (colleen@forensicgenealogy.info), Andrew Yeiser (andrewyeiser@sprintmail.com) or Sharon Sergeant (info@ancestralmanor.com). Colleen and Andy host weekly forensic genealogy photoquizzes on their website www.forensicgenealogy.info. Sharon has posted a detailed description of her Dead Horse research at www.ancestralmanor.com.