



Chester Historical Society's *NEWS & VIEWS* November 2022

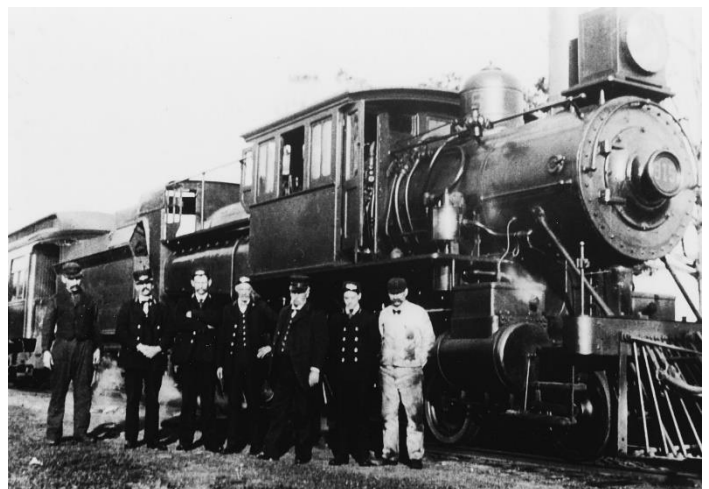
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Hello, Chester Historical Society Members and Friends. I hope you have enjoyed the glorious (and laborious) fall foliage. Always a remarkable spectacle that's a gift to Chester. The November 2022 edition of News & Views welcomes three new authors, Matthew Evans, Zinnia Cheetham, and Ted Pallis. Their articles include raspberry jalapeno jam, a Lenape Chief, puffery, and a lucky strike. OK, all aboard! This newsletter is leaving the station.

The Forgotten Legacy of the Chester Railroad by Matthew Evans

Trains are often seen as the driving force that built and connected the United States, but many Americans today are unaware of the true scale of the railroads' influence. During the American railroad industry's heyday, from the 1860s to approximately 1900, the decision to route a railroad through a town would often result in the surrounding area undergoing a spike in industry and population, directly affecting the future of a settlement. The most common railroads during the Gilded Age (ca 1870-1900) were shortline railroads, which only traveled short distances and typically branched off of larger railroad lines.

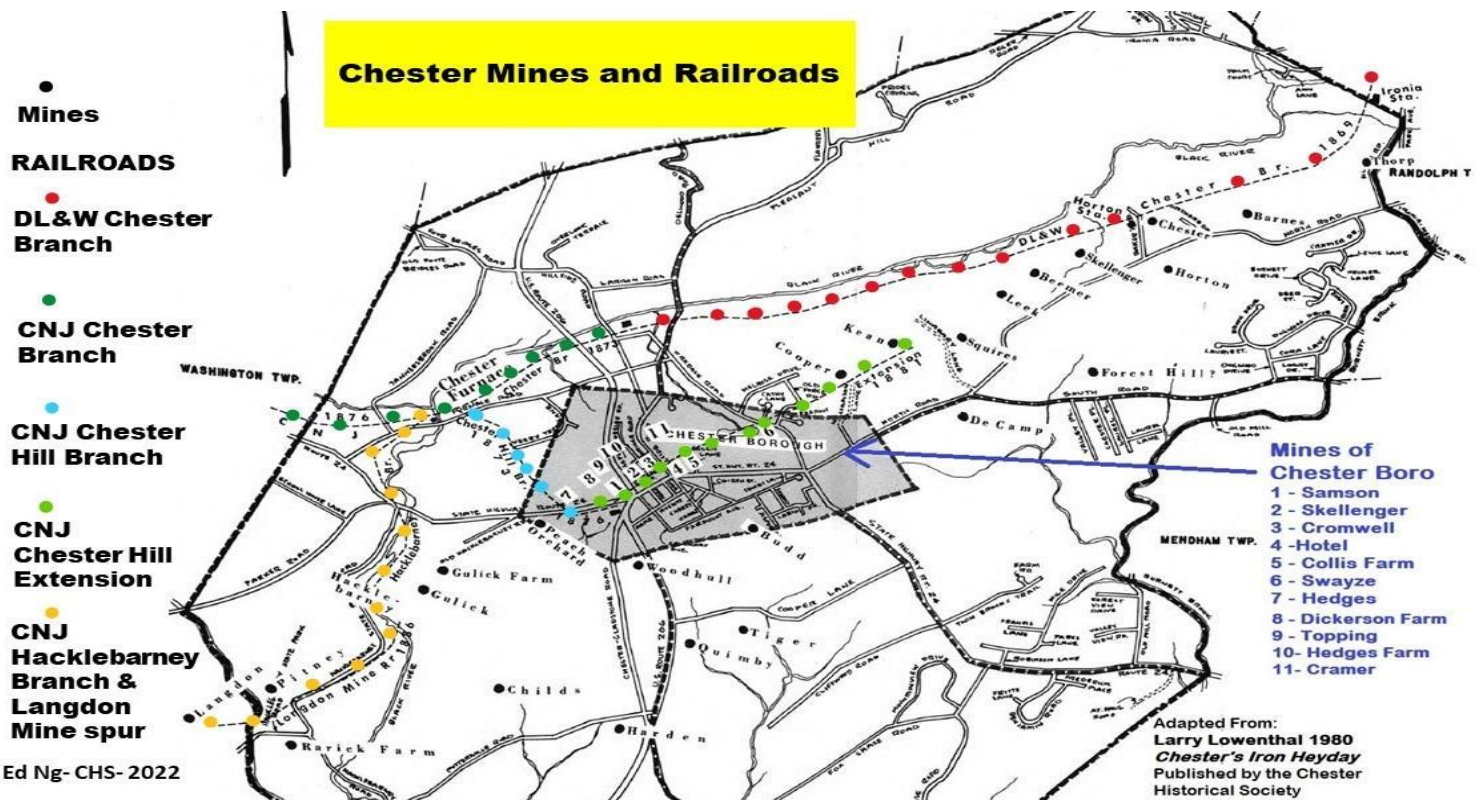


On Jan 2, 1869 the first train left the Chester Depot, conducted by Marshall Sayre (3rd from the right). Image from Chester Township

However, most of the Chester shortline iron mine railroads only stayed functional for a short number of decades or even years. There are many potential reasons why the run of these railroads ended, but the most common was the

volatility of mining and its economics. Chester's railroads are two such examples of the aforementioned shortline railroads, one of which branched off of the High Bridge Branch of the Central Railroad of New Jersey. Although the location of the Chester Railroad had an insignificant but still notable impact on the locations of buildings within the town, Chester's population increased substantially as an indirect result of the railroad's construction.

Morris County's unique geology led to it containing considerable iron ore deposits, which were heavily exploited in the latter half of the nineteenth century, and accordingly, "[a] rich vein of iron ore was discovered by Perry Skellenger in his backyard and other discoveries soon followed just behind the houses and shops on the north side of Main St. in the middle of Chester in 1867" (Ng, *W. J. Taylor and the Chester Furnace*, 7). Additional mines soon materialized, especially in Chester's Hacklebarney and Milltown areas. The new areas proved to be particularly iron-rich. However, as several prominent Chesterites soon discerned, "...without adequate transportation [the town's] ore, no matter how rich, could not compete with mining districts that had direct rail or canal facilities. This state of affairs was undoubtedly evident to everyone, but it was primarily Daniel Budd who determined to do something about it" (Lowenthal, *Heyday*, 2). Budd was a well-known local figure and was quite familiar with the functions of railroad governance following his terms in the New Jersey State Legislature, and as a result of his railroad knowledge, the Chester Railroad soon received its charter in April 1867. After 2 years of construction, the first train ran on January 2, 1869. The train, Conductor Marshall Sayre, and his crew are shown in the image at the beginning of the article.



The 1867 railroad charter allowed for tracks to be laid by "the 'Chester Railroad Co.' -- an 'organization district in name, but an 'adjunct' of the Morris & Essex Railroad' (later the Delaware, Lackawanna & Western Railroad aka DL&W) from Dover to Chester with six stations in between" (Greenidge, *Scrapbook*, 83). Tracks were constructed southwest of Randolph's Ironia region, followed by a section parallel to the Black River (red dotted route

on the map above). This route provided access to the mines north of Main Street that would soon follow Skellenger's iron strike and was later renamed the Chester Branch of the Delaware, Lackawanna & Western Railroad (DL&W). In addition to the DL&W, the Central Railroad of New Jersey (CNJ) was later present in Chester (green dotted route on the map). The CNJ Chester Hill Branch intersected what is now West Main Street (Old Route 24) and continued northeast through what later became Chester Borough. Additionally, the CNJ's Hacklebarney Branch (orange dotted route on the map) continued into the Hacklebarney region in southwest Chester and ran adjacent to modern-day State Park Road, serving several prominent mines in the town. More mines opened as a result of the transportation provided by railroad connections, which also sustained an increase in the town's population.

From Chester's incorporation as a township in 1799 until Skellenger's lucky strike in 1867, the town had a low population and an overwhelmingly agricultural economy, functioning as a stopover point on what was historically the Newark-Easton Turnpike. By 1860 the town's population had reached about 1,560. After Chester's mining industry began to soar, the town's population increased quickly due to the newfound ease and accessibility of transportation via its railroads. Chester's population in 1870 was 1,743 and had reached 2,337 by 1880. "[...T]he extensive and valuable iron deposits of magnetic ore were developed to such an extent that Chester had become 'one of the most important mining districts in New Jersey'" (Greenidge, *Scrapbook*, 98). "This was truly Chester's 'heyday'" (Greenidge, *Scrapbook*, 98). Although Chester was thriving, the town's prosperity was soon to become relatively short-lived as steel began to replace iron as a major construction material. This was not an immediate cause for concern, as iron still had many uses, but the

final blow to Chester's mining industry came when more accessible iron was discovered in Minnesota and Pennsylvania around 1890. Accordingly, the Chester Furnace, a structure built in 1878 to smelt Chester's recently mined iron ore, closed in 1891 and was dismantled and moved to High Bridge in 1892, truly signaling the end of Chester's iron era.



The only known picture of William J. Taylor's Chester Furnace. A locomotive used to move cars around the site is shown. The 60' tall blast furnace stack is center. A spur of the CNJ Chester Branch serviced the site.

After the furnace was dismantled, the town's population slowly declined over the following decades. The last Chester iron mine closed in 1899.

Despite the closure of Chester's most prominent mines and the closure of the Chester Furnace, the Chester Railroad did not immediately end its operations, with the DL&W ceasing its service in Chester around 1934. The final run of the CNJ took place in 1960 when tracks from Long Valley were leased for a brief recreational train ride open to the public. By



the mid-1960s, the CNJ tracks were torn up, turning the railroad tracks into a footnote of Chester's history. Since then, the population has rebounded and grown steadily, and Chester's population (Township and Borough) at the time of writing in 2022 is approximately 9,400.

Chester's short railroad experience aligned with that of a typical shortline iron mine railroad town, with a brief spike in industrialization followed by a return to its previous economy. "It has been well said that 'Chester stood still after the mines closed (Greenidge,

Scrapbook, 107)," as the closure of the town's major mines occurred almost simultaneously, denoting the end of an era. Nevertheless, "[Chester's] two railroads were still running [for the next few decades] and [the town] could never quite return to its former rural simplicity... (Greenidge, *Scrapbook*, 107)." The true significance of Chester's iron mines, and by extension, its railroads, culminated nearly 130 years ago, but as the town's population increased, they undeniably changed the town in inherently intangible ways.

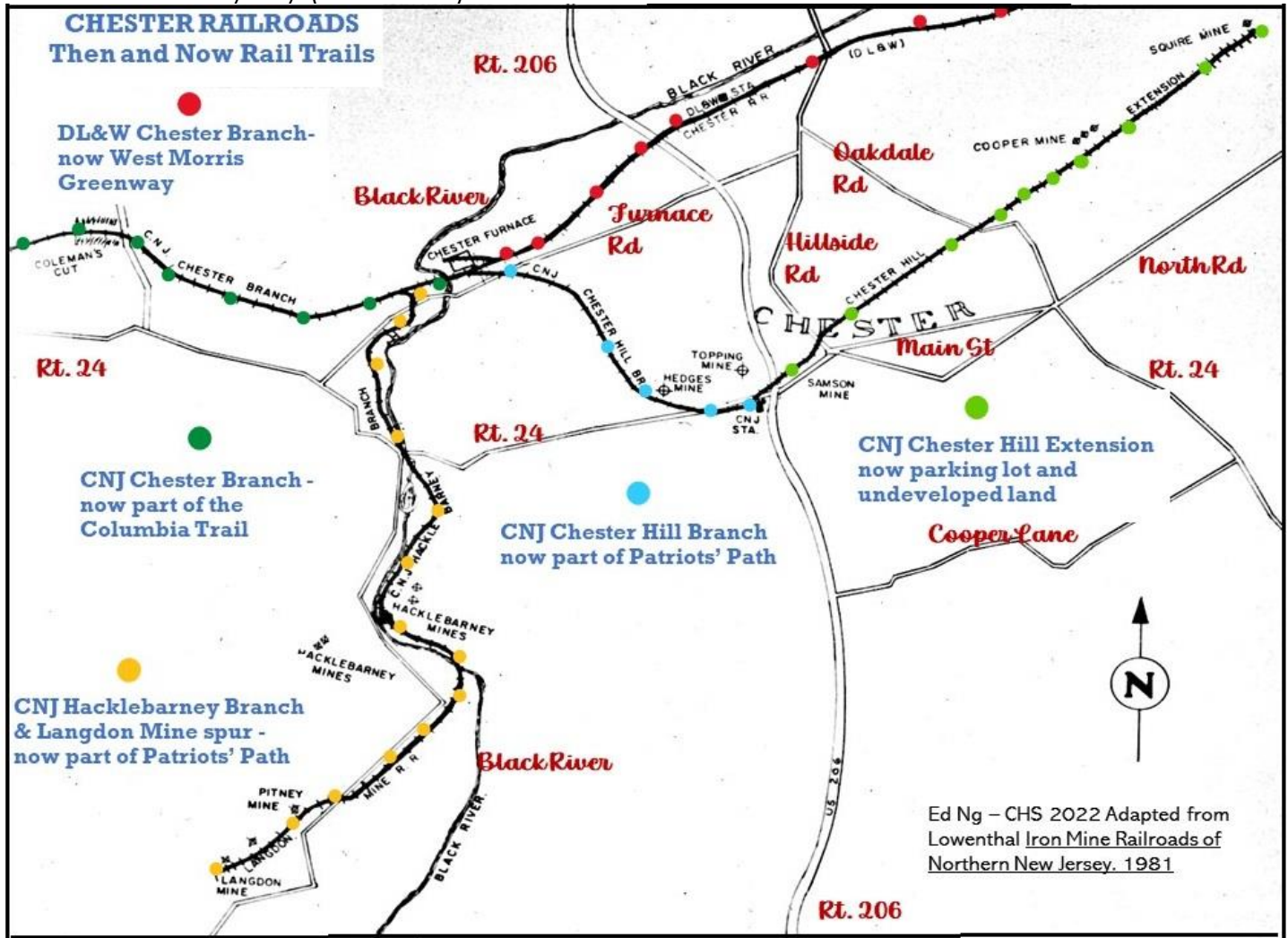
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About the Author: Matt Evans is a lifelong resident of Morris County. He has lived in Chester since 2008 and has enjoyed years of hiking its trails and walking around Main Street. Currently a 16-year-old junior at West Morris Mendham High School, he originally wrote this paper last year as an assignment in Ms. Cadden's English class with help from Ed Ng of the Chester Historical Society.

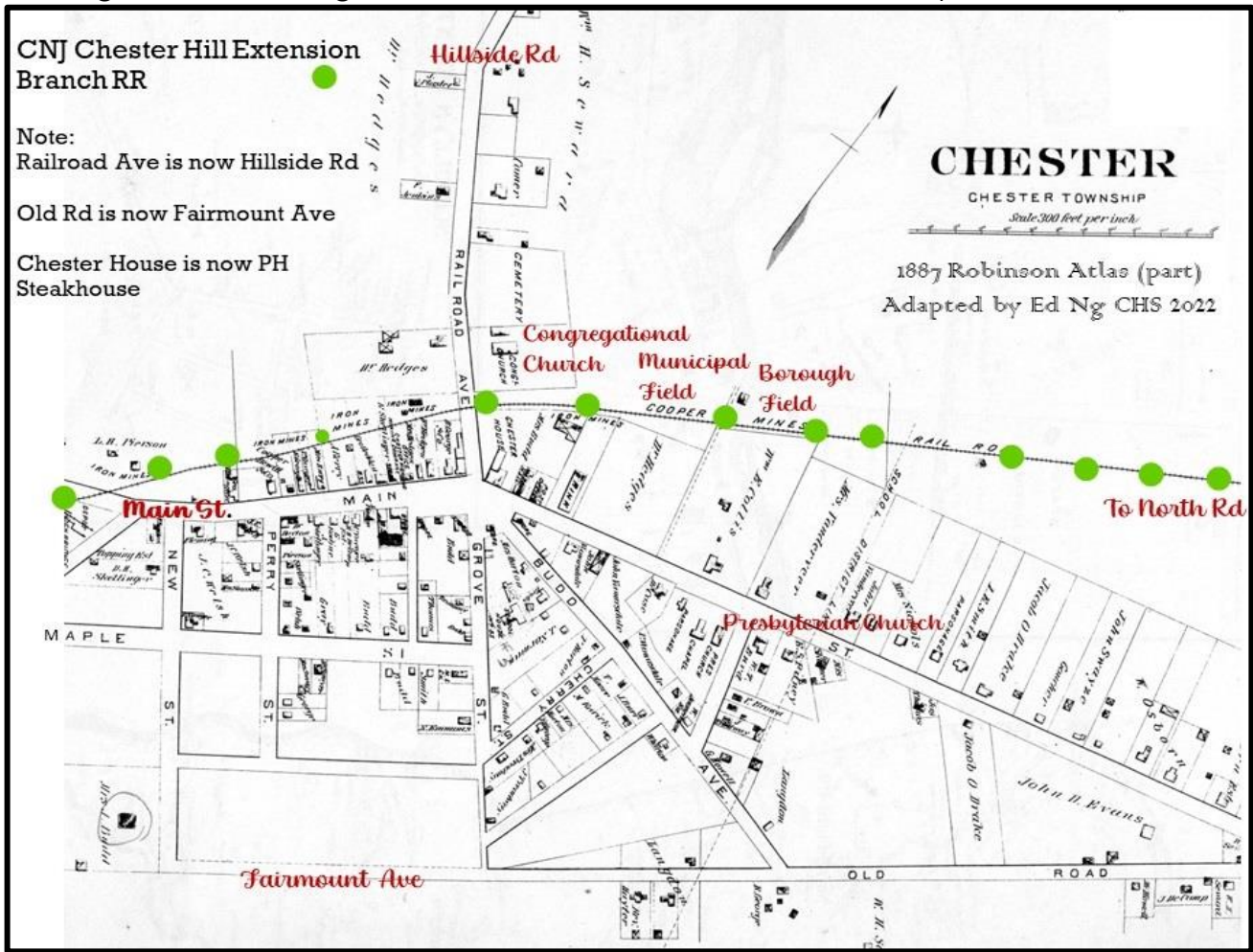
Chester's Railroad Legacy Reborn as Rail Trails by Edward Ng

In the October 2022 edition of the *Old House Journal*, editor Patricia Poore wrote, "Don't destroy the good work of the past." She was referring to houses, but that advice applies to buildings and railroads. As Matt Evans has written in *The Forgotten Legacy of Chester Railroad*, the freight, passenger, and iron ore cars have come and gone. But the literal foundation of the railroads continues to benefit us, adaptively reused as "rail trails". The rails and ties are gone, but the energy that was used to survey and plan the route, clear the forest, dig out rocks, level the bed, build bridges, install culverts, and make the gravel trail, remains to our benefit. Let's look at the five Chester railroad branches that existed in Chester's Iron Heyday (1876-1899).



The DL&W Chester Branch (red dots ●) is now part of the West Morris Greenway (WMG) which runs along the Black River from Pleasant Hill Rd to Randolph. The CNJ Chester Branch (dark green dots ●) is now part of the Columbia Trail which runs from Bartley to High Bridge. The CNJ Chester Hill Branch (light blue dots ●) is now part of Morris County's wide-ranging Patriots' Path between Main St. and the Chester Furnace Historic Site on the Black River. Images of the rail trails are shown at the bottom of the next page. The CNJ Hacklebarney Branch (yellow dots ●) is also part of Patriots' Path, between the Cooper Mill and Kay Center.

Not surprisingly the CNJ Chester Hill Extension did not become a rail trail. As you can see from the map below, that branch started at the depot (near what is now the corner of Rt. 206 and Main St.) and headed easterly, just north of Main St. Several iron mines can be seen north of the rail line and one just south. The railroad crossed what is now the PH Steakhouse (aka Chester House or Publick House) parking lot, went across what is now Municipal Field and Borough Field, heading towards North Rd. and the historic Cooper and Kean Iron Mines.



The Nobel and Pulitzer Prize-winning American author, William Faulkner cogently observed, “The past is never dead. It’s not even past”. “Adaptive reuse” not only keeps historical buildings and sites from being “dead” but allows us to harness and benefit from the energy that was previously expended to plan, engineer, and make them. Thank you Morris County Park Commission for adaptively reusing the railroads. Happy Rail Trails!



Chester Furnace Historical Site - Patriots' Path
Alex Louie (L) & Bruce Clark (R) making history video
CNJ Chester Branch
Chester Furnace Site



Kiosk at the West Morris Greenway Trailhead on Pleasant Hill Rd. Black River to the left - Trail to right. 11/18
DL&W Chester Branch – WMG
Trailhead on Pleasant Hill Rd



CNJ Chester Hill Branch is now part of Patriots' Path - shown in this section near the RT. 24 Trailhead and near Chubb Park
CNJ Chester Hill Branch
East of Chubb Park



Biking the Columbia Trail - CNJ Chester Branch
CNJ Chester Branch
Columbia Trail

A Revelatory Cooper House History by Zinnia Cheetham

Horton Drive, Swayze Lane, Seward Place, Cooper Lane...

These street names may be familiar to you if you live in Chester, New Jersey but if you read W. W. Munsell & Co's book *History of Morris County New Jersey*, you'll discover that Horton, Swayze, Seward, and Cooper are also the surnames of several of the founding families of Chester. While these prominent names have been immortalized in street names throughout town, much of Chester's history remains buried in archives, local oral history, and old musty books like W. W. Munsell's which dates to 1882. This is certainly the case for the history of the Cooper family. Earlier this year I visited the Morris County Park Commission (MCPC) archives to learn more about the Cooper family of the Cooper Mill than just the snippet of information



Abram Cooper House and Cooper Mill Visitor Center

on the sign on Route 24. However, I discovered that the MCPC did not have any history on the former family and home of Abram Cooper (the home is now the Cooper Mill visitor center). For such a widely known historical site in town, no one knows much about its origin. Since then, I've been reaching out to local historians, neighbors, and organizations- such as the Chester Historical Society and Chester Library- to uncover the history of one of the oldest documented families in the area and their history as it relates to the Cooper Mill.

When I began researching the Cooper family, the only publicly available information online about the Cooper family was about General Nathan Cooper. It was as though he was a planet and the rest of his family were simply minor characters caught in his orbit. Tellingly, General Cooper is the first significant figure recorded for Chester in "The History of Morris County, New Jersey". Even his wife's obituary quickly segued into a lengthy praise of the General, stating that "her death recalls to mind the remarkable personage who was her husband, and who in his life was considered one of the prominent citizens of Morris county. The Cooper family are descendants of the famous English surgeon, Sir Astley Cooper". Many of the materials I found also mentioned that name, Sir Astley Cooper. Another document provided by the MCPC stated that he had settled on Long Island in 1700.

To keep track of the family members, I started recording a genealogy of the family and since Sir Astley Cooper was the earliest known colonizer, he was the sensible place to start. Sir Astley was a well-known British surgeon for whom 'Cooper's ligaments' of the breast are named. He was born in 1768 in the United Kingdom, had a daughter Anna Maria, and died in 1841 in the United Kingdom.

THE IRON ERA.

Saturday, Feb. 6, 1886.

Entered at the Post Office at Dover, N. J.,
as second-class matter.

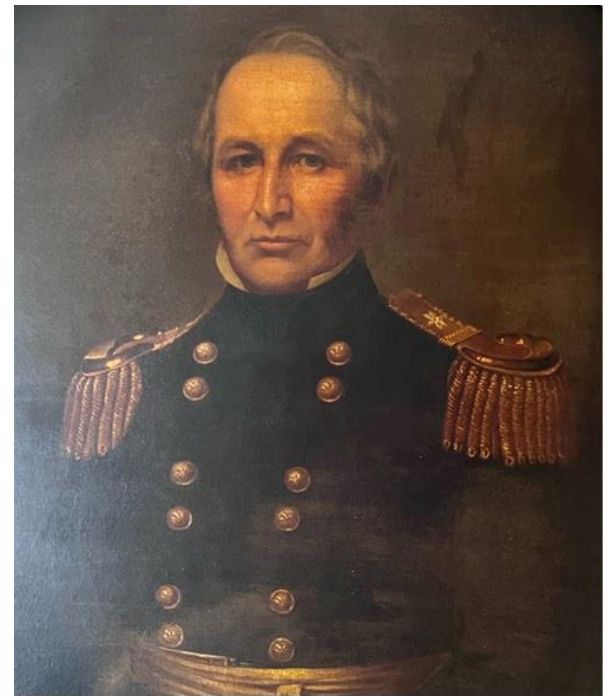
LOCAL NEWS.

OBITUARY.

Mrs. Mary H. Cooper, widow of the late Gen. Nathan A. Cooper, died of pneumonia at her home near Chester on Saturday last, after an illness of but twenty-six hours, aged 61 years. The maiden name of Mrs. Cooper was Mary Henrietta Leddel, youngest daughter of Dr. John W. Leddel, of Ralstontown. She was married to Gen. Cooper at the age of 18 years, in 1843. Her death recalls to mind the remarkable personage who was her husband, and who in his life was considered one of the most prominent citizens of Morris county. The Cooper family are descendants of the famous English surgeon, Sir Astley Cooper. A branch of the family settled on Long Island in 1700 and one of them, Nathan Cooper, came to the neighborhood of Chester and bought 1,600 acres of land, thus founding

Wait... just looking at these facts: It is impossible for Sir Astley to have been in the colonies in 1700 when he hadn't been born yet. And if he had, most families who traveled to the colonies would have also remained there as travel by boat was still risky and time intensive. To further complicate matters, his only child, a daughter Anna Maria, died in 1794 and his adopted nephew lived in Europe. While longtime residents of Chester may not have been able to verify General Cooper's relationship to Sir Astley Cooper at the time, present-day researchers can read through the life and work of Sir Astley Cooper online and find out that *he never traveled to America*. Despite what the history books say, Sir Astley Cooper is not a relative of General Nathan Cooper.

As I looked into this myth further, it appears to have originated with General Nathan Cooper himself! This link does not appear in the historical record of previous generations. The General lived from 1802 to 1879 and likely personally reported this history to the authors of the history book who published it in 1882. (Unfortunately, history books are only as accurate and honest as the people and sources involved are.) However, this gives us some insight into the large personality of the General. Despite becoming one of the largest landowners in Chester during his lifetime, he came from a family of farmers in Chester which was quickly forgotten by history. Even today, many facts about the older Coopers are misattributed to the General. As the General rose to



Portrait of General Nathan Cooper. Image Courtesy of his great-great-granddaughter Mrs. Baron's private collection.

prominence, he was known for enjoying showcasing his status; such as when he built a mansion to replace their family home built by his great-grandfather (the General's mansion is still standing just around the corner from Cooper Lane on Route 24) or by informing everyone he met that he had once "shook hands with the famous General Lafayette". Despite not having any experience in war, General Cooper highlighted his military title which he earned through his election as Brigadier General of the Cavalry Brigade of the State of New Jersey in 1854. Despite his great pride and



The oldest documented photo of the General Nathan Cooper Mansion. Photograph from the Chester Historical Society. Nathan's eldest son Abraham is most likely the person pictured as he was about 15 when the mansion was built in 1863 and his father was 61. His father is pictured in his uniform in other images.



NATHAN COOPER LIVES! Gen. Nathan Cooper, a boxer belonging to Mr. and Mrs. Robert Yarnell of Chester, is the namesake of the famous General. (Mundy) *Observer Tribune* Aug. 22, 1974

success, his great-granddaughter Mary Yarnell was unimpressed and left a letter to the MCPC stating that "his military rank was probably honorary. He did not serve in any war". She also named the family dog, "The General".

So, if the history books have it wrong, then who are the Coopers of the Cooper Mill?

The earliest history I could find was of John Thomas Cooper who was born in Scotland in 1513. His son, John Cooper, and his grandson, also John Cooper, raised their families in England. It was his great-grandson who was named, unsurprisingly, John Cooper, who emigrated to the colonies on the ship "Hopewell" with his wife and four children. In 1640, he became a founder of Southampton, New York with several other men when they signed a deed with the local native inhabitants for which "all the lands, woods, waters,

water courses, easements, profits [were given]... to have and to hold forever" in exchange for "sixteen coats and three score bushels of Indian corn". The family remained on Long Island and in 1654, John Cooper had a son, Justice James Cooper. It was James Cooper who had two sons, Nathan Cooper and James Cooper Jr., who brought this story to Chester.

Nathan Cooper I, born in 1696, moved his family to Roxiticus (near Chester) in 1713. According to *Chester: A Scrapbook of History* and *A History of Chester* by Frances Greenridge. Nathan Cooper purchased 1600 acres in the areas that are now known as Mendham, Chester, Washington, Mount Olive, and Roxbury. *History* says that he cleared some of the lands and built a small home for his family which later became the expansive Cooper estate. His daughter, Mary Cooper, married Captain Henry Wick, a Captain of Cavalry and owner of the Wick Farm which became Jockey Hollow. Nathan Cooper and Henry Wick were also business partners. In 1746 they purchased 1,114 acres but Nathan released his share shortly afterward to Henry.

His son, Nathan Cooper II, married Mehitable Seward and had six children. Their eldest, Nathan Cooper III built the present-day Cooper Mill to replace the former wooden mill but his only child, a daughter, died in childhood, leaving no heir. It was one of Nathan Cooper's other sons, Abraham Cooper, and his wife Anna Wills, who were the parents of General Nathan Cooper and carried on the family name. The General grew up and inherited his uncle Nathan's mill and property in Milltown (now Chester Township) when his uncle died in 1833. The General and his wife Mary Leddell had seven children who survived to adulthood and his eldest son was Abraham "Abram" Wills Cooper.

Abram worked on his father's farm until his father's death in 1879, at which time he inherited his father's holdings in



Abram and his wife Mary Turner Cooper standing outside their home, now the Cooper Mill Visitor Center. The stones in the bottom left of the image are the edge of their raised garden behind their home. Image courtesy of CHS.



Mary "Dennie" Cooper pictured in front of the old Route 24 bridge near the Cooper Mill. Image from the Chester Historical Society Archives

Milltown. In 1881, he married Mary Jane Turner of Hope, New Jersey. They hired laborers to build an ornate country home on the property with a marble fireplace, servant's quarters, plaster moldings throughout the home, and gingerbread trim on the porches. In 1887, the couple had their cherished only child, a daughter Mary "Dennie" Dennison Cooper, who was married on the property in 1913. Abram and Mary continued to live in their home at the Cooper Mill until they died in 1933 and 1926, respectively. Dennie never lived permanently in the home- or elsewhere in Chester- again after her marriage, but she spent summers in the home with her children and grandchildren who worked the property, which was then known as "Cooper Farms".

The story of Chester's Coopers at the Cooper Mill ended when Abram's grandchildren, Robert and Mary Yarnell, who owned and operated Cooper Farms, sold the home in 1990 when they retired to Florida and in 2001 the home opened to the public as a visitor center. The families descended from the Cooper family at the Cooper Mill all moved away from the region although the

great-grandchildren of Abram Cooper still have fond memories of summers spent in the family home and swimming in the Black River with the Nixon family and still visit the area occasionally.

As I researched, several people told me they had met some of the Coopers when they visited town. To my surprise, they weren't descendants of General Nathan Cooper who had lived at the Cooper Mill.

Remember earlier in this article when I mentioned Justice James Cooper had two sons? It turns out his other son's

descendants settled in Ohio and there, David

and Miriam Cooper created, and later sold, a successful jelly business named "Cooper's Mill". It turns out both brothers' descendants had

created their own Cooper Mill businesses and that's the honest truth! ☀

(Editor's Note: The Ohio Cooper's Raspberry Jalapeno Jam is popular.)



A local long-time food supplier, The Cooper Farms Fruit & Vegetable Stand, is located on Rt. 206 at the outskirts of Chester. The pick-your-own-outlet, owned by Robert Yarnell, is managed by Harold Appar shown above with the basic beginnings of several Thanksgiving pumpkin pies.

About the author: Zinnia Cheetham is a horticulturalist and data analyst. She works for the Morris County Park Commission as the botanic records curator specialist. A portion of the Abram Cooper House that isn't the visitors center is used for MCPC employee housing where she lived for several months. When not researching history, Zinnia and her dog, Twyla, are avid hikers.

The Microfossils of Mt. Paul, Chester, New Jersey by Ted Pallis

The northeastern area of Mount Paul located in Chester Township is part of the Mt. Paul Preserve and Mt. Paul Memorial Park County Park. Located off Route 24, these preserved lands consist of 298 acres of undeveloped and wooded land. According to the Morris County Park Commission, in the mid-1700s, a Native American Lenape Indian Chief whose English name was Paul, purportedly lived in the area known as Roxiticus, now Mount Paul. He assisted the settlers in their relations with the Peapacton Indians and other tribes. Traveling the Indian path from Roxiticus to what is now New Brunswick, Chief Paul uprooted a lone hemlock sapling and carried it back home. He planted the young hemlock tree on a hill overlooking his village and tended it until his death. Legend states that Chief Paul was buried beneath the tree so that he could look out over his beloved home for eternity. As years passed and the Lenape moved west, the seedlings from the hemlock spread along the forest floor surrounding his grave with gentle firs. Going back to the 1800s, the land was owned by a local family, the Thompson family, and they called it Mount Paul Farm. Portions of the park were donated by the Winston family, formerly part of their 950-acre estate.

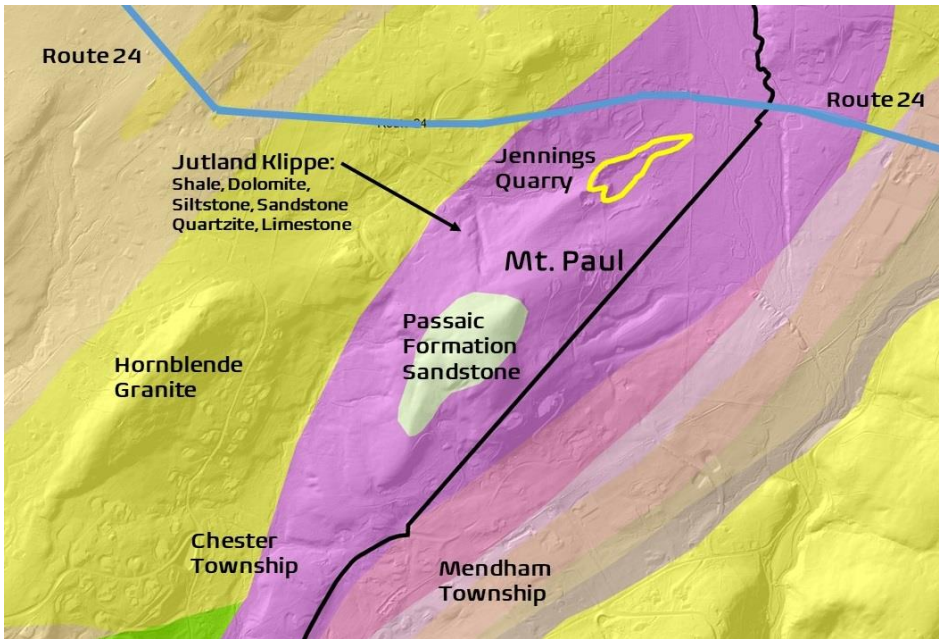
The red and gray shale and slate cliffs and old Jennings Quarry tell another story that goes back much farther in history than the Native Americans. It's the story of unique geology and prehistoric life in Chester. This history is preserved as microfossils. To the untrained eye, these microfossils are tiny and easy to overlook. However, the microfossils found here tell a story of some of the oldest life on Earth. The world of complex animals began about 540 million years ago with the Cambrian explosion. The microfossils found in the area of the old Jennings Quarry at Mt. Paul date back to the Ordovician period which lasted 45



Professor John Puffer, explaining the geologic history of Jennings Quarry in an Aug. 2012 Chester Trails Hike.

million years, beginning 488 million years ago and ending 444 million years ago. During this period, the area north of the tropics was almost entirely ocean, and most of the world's land was collected into the southern supercontinent Gondwana. Three organisms that lived here, conodonts, graptolites, and brachiopods, have been preserved as microfossils. The rocks at the base of Mt. Paul contain conodont, graptolite, and brachiopod fossil fragments (Volkert, et. al, 1990). Conodonts are locally abundant on bedding surfaces of siltstone and fine-grained sandstone in the Jutland Klippe sequence.

Geology of the Mt. Paul Area. Today the area around Mt. Paul is geologically known as the Peapack and Jutland Klippe. The Jutland Klippe is a paleozoic rock. The Paleozoic Era lasted from 539 to 252 million years ago and is subdivided into six geologic periods: the Cambrian,



Ordovician, Silurian, Devonian, Carboniferous, and Permian. The Jutland Klippe is an isolated block of rocks separated from underlying rocks by a fault (Prof. John Puffer). Composed of red, gray, and green shale that is slightly metamorphosed into slate. The rock was deposited as shallow marine mud in an Ordovician ocean about 480 to 490 million years ago. The rock is interbedded with dolomite, siltstone, and conglomerate. The Jennings Quarry and its microfossils are located on the northeast slope of Mt. Paul.

Discovery and Understanding of Conodonts. Conodonts are a group of extinct microfossils known from the Late Cambrian. They are extinct phosphatic microfossils that “look like teeth” and are extensively used for dating rocks roughly 505-205 million years old. Conodont teeth are generally 0.1mm to 2mm long though there have been larger ones found. (Natural History Museum, London, England).

Conodonts were a group of agnathan (jawless) vertebrates resembling eels. For many years, they were known only by their tooth-like oral elements found in isolation and now called conodont elements. Knowledge about their soft tissues remains limited, though they existed in the world's oceans for over 300 million years, from the Cambrian (approximately 500 million years ago) to the beginning of the Jurassic (about 200 million years ago). They are the only known hard parts of an extinct group of animals believed to be distantly related to the living hagfish. Conodont elements are widely used as index fossils, fossils used to define and identify geological periods.

Amazingly, conodont teeth are the earliest teeth found in the fossil record, and they are found in Chester! The evolution of their mineralized tissues has been puzzling scientists for more than a century. The conodont teeth constituting a feeding apparatus are radically different from the jaws of modern animals. The three forms of teeth, i.e., coniform cones, ramiform bars, and pectiniform platforms probably performed different functions.

For many years, conodonts were known only from enigmatic tooth-like microfossils (200 micrometers to 5 millimeters in length), which occur commonly, but not always in isolation, and were not associated with any other fossils. Until the early 1980s, conodont teeth had not been found in association with fossils of the host organism. This is because the conodont animal was soft-



bodied, thus everything but the teeth were unsuited for preservation under normal circumstances.

Conodonts remained a mystery for many years. Their microfossils were once thought to belong to annelid worms, arthropods, mollusks, chaetognaths (marine worms), fish (as teeth), and even plants. It wasn't until the 1980s that soft-tissue fossils were found, completely by accident. Scientists looking for shrimp fossils in an uncatalogued Scottish museum collection discovered several small eel-shaped creatures containing clusters of tooth-like elements in their heads, which finally solved the mystery.

Conodonts experienced a sharp decline during the late Ordovician and Silurian. Their extinction came around the Triassic-Jurassic boundary. Roughly 445 million years ago, around 85 percent of all marine species disappeared in a geologic event known as the Late Ordovician mass extinction. Widespread volcanic eruptions unleashed enough carbon dioxide to heat the planet and trigger two pulses of extinction separated by 1 million years (Hall, 2020).

Since they existed for so long and were found in almost every type of marine habitat all over the world, different conodonts probably inhabited a variety of ecological niches. However, despite their obvious success, they eventually started declining and were finally finished off entirely during the Triassic-Jurassic mass extinction event.

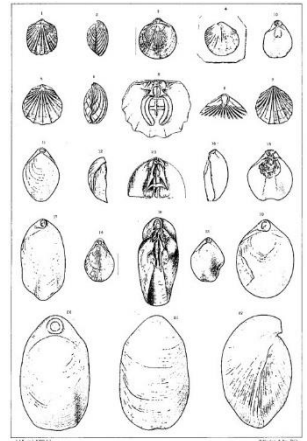
Graptolites. Another microfossil found at the base of Mt. Paul is the graptolites. Graptolites were small, colonial, ocean-dwelling animals that lived during the paleozoic era (Cambrian to Coniferous Periods) 510 to 320 million years ago. As filter feeders, graptolites are fed by straining plankton and other small organisms out of the water. The name graptolite comes from the Greek, "graptos", meaning "written" and "lithos" meaning "rock" since many graptolite fossils resemble hieroglyphs as shown in an artist's rendering to the right.

Just as conodonts, because the different species of graptolites lived for short intervals of time, they are considered to be "index fossils," meaning that they are very useful in determining the ages of the rocks in which they are found. Many species of graptolites went extinct by the close of the period in the late Lower Ordovician. Graptolites are one of the more common fossils of the Silurian Period. The Silurian Period is divided into four parts, with the beginning of each part based on the appearance of a certain species of graptolite.



Left a photo of a Graptolite fossil from the Jennings Quarry site, **Nemagraptus gracilis (Hall)**. A portion of one of the **minor** branch filaments can be seen that characterizes the genus. Photo credit, Rodrigo Pellegrini, New Jersey State Museum.

Brachiopods. Brachiopod fragments have also been found at the Jennings Quarry on Mt. Paul. Brachiopods are a phylum of trochozoan animals that have hard "valves" (shells) on the upper and lower surfaces, unlike the left and right arrangement in bivalve mollusks. Brachiopods have a very long history of life on Earth; at least 550 million years. They first appear as fossils in rocks from the earliest Cambrian age and their descendants survive, albeit relatively rarely, in today's oceans and seas. They were particularly abundant during Palaeozoic times (248–545 million years ago) and are often the most common fossils in rocks of that age. Brachiopod valves are hinged at the rear end, while the front can be opened for feeding or closed for protection.



Brachiopoda Examples
Geological Survey of New Jersey

The deposition of sediment intermingled with life forms of the past on the shallow seafloor over many hundreds of millions of years near Mt. Paul has left us microfossils that survive to this day to tell us what once lived in ancient Chester. ☀

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About the Author: Ted Pallis is a member of CHS and resides in Chester. He is a Geographic Information System Specialist for the New Jersey Dept. of Environmental Protection. He is an expert and has published reports on "Garden State Mastodons", and co-authored a report "The Springs of New Jersey".

The President's Year-End Recap – by Edward Ng

I hope your autumn has been a good one. The start of autumn means several things. The green foliage becomes browns, reds, and yellows and transforms into a delightful mosaic of colors. So it is the end of the fiscal year for CHS and thus a presidential recap follows with a look ahead to 2023.

We plan to get back to normal activities over the next 12 months. We are starting to plan our "spring-fling" program in April or May. Several history walks are planned. One is around the vestiges of the Bell Labs Chester Outdoor Research facility (including "the pole farm"

and “the bunker”) in Highlands Ridge Park and Seward Hill Preserve. It will be also fun to walk the Chester Furnace Historic Site with Bruce Clark. A year from now as we approach autumn, we will hold our annual meeting and luncheon at a historic site. It will be a “historic” year! Thank you for your commitment to keeping Chester's history alive and meaningful.

The 2021/2022 fiscal year was a busy one. The mission of the Chester Historical Society can be summarized as “Preserve, Research, and Share Chester's history and Educate the public to bring Chester's history to life to enrich our lives”. We have continued to carry out our mission during Covid.

We made significant progress on the preservation of two buildings and the Chester Furnace Historic Site. Bruce Clark deserves great credit for establishing, improving, and maintaining the historic site. If you haven't hiked the trail, you are missing out. Thanks to Bruce and videographer Alex Louie (shown right) for making the video about the Chester Furnace Historic Site. The video is available on the CHS website and YouTube channel (<https://youtu.be/k25J-50htpY>).



CHS spearheaded the preservation and adaptive reuse efforts for the Seward Stone Barn at Glenlora and Chester's Rockefeller Center in the Borough's Municipal Field. A history of the Seward stone barn at Glenlora was written in 2020 and used as input into the planning process to develop the site for affordable housing. At the January 2022 Chester Township Planning Board meeting, preservation and adaptive reuse of the historic stone barn were included as a requirement for developers to have in their proposals.

Progress has been made to repair and restore the Rockefeller Center building. In 2022 CHS signed a 25-year lease for Rockefeller Center from the owners, Chester Borough. We applied for a Morris County Historic Preservation Trust grant for the repairs and restoration. We got the green light for that grant and are waiting for the final signoff from the County and the State Historic Preservation Office. Our application for a New Jersey Historic Trust Grant for restoration was accepted but requires additional approvals including the Governor's signature.



We are educating residents and visitors about Chester's history through the CHS YouTube Channel, our *News and Views* newsletters, the annual library display, being a locale in the Morris County Pathways of History Museum and Site Tours program, and participating in the Chester Library's Community Day.

The CHS YouTube Channel (<http://historicchesternj.com/youtubevideolinks.html>) has 10 videos and has had over 2100 video views. Our newsletter is published twice a year and past [Web: historicchesternj.com](http://historicchesternj.com) email: chester.historical.society@gmail.com phone: (908)866-6717 PO Box 376 Chester NJ 07930 15

issues are accessible at <http://historicchesternj.com/newsletters.html>. The newsletter covers a wide variety of topics on Chester's rich history. Last year's CHS Library display was on the history of Glenlora. The history and hoped-for-future of Rockefeller Center were on display at the Library in September 2022. More about Chester's history and CHS publications are available on our website at <http://historicchesternj.com/home.html>.

The CHS Annual Meeting was held via Zoom on Sep. 18. At the meeting, Edward Ng was re-elected as President (thank you) and Marla Jackson was elected as Recording Secretary. Alison Dahl, Ed Hanington, Elaine Hanington, Marla Jackson, and Meg Sullivan were elected as Trustees. Meryl Carmel is retiring from the board. We thank her for many years of service.

The Chester Historical Society is open and welcoming to new members and volunteers. We have many projects and can use your help in the archives, program planning, membership, and publicity. Let us know by calling, emailing, or writing to us. Contact information is given below.

If you would like to join, membership forms are available on our website at <http://historicchesternj.com/home/membership.html>. Current members can give one guest membership to a new member for free! The guest membership will be in effect through September 30, 2023. The guest membership would be non-voting, but the guest would be able to attend all meetings, including the annual meeting and luncheon, and receive digital copies of the newsletter. Use the contact information below to request a guest form. Enjoy the autumn! Have a safe, sane, and sanguine remaining 2022 and 2023, *Ed*

Thank you!!

Bruce Clark - For 14 years he has served as the Adopt-a-Trail Volunteer for the portion of Patriots' Path which courses through the Chester Furnace Historic Site. He is retiring from that position and MCPC and CHS are searching for a volunteer to adopt that trail. We owe a great deal of gratitude to Bruce for his strategic planning and hard work for the site to make it safer, more educational, and more enjoyable. **John Lavin Esq.**- Drafting and agreeing on a lease from Chester Borough for Rockefeller Center was not a simple task. John's counsel, sage advice, and guidance were critical in that endeavor. **Betsy Regber CPA** has voluntarily done the CHS Financial Statement for many years. We thank her for her time and expertise. **Trustees and Members**- Thank you for your support in bringing Chester's history to life to enrich our lives.

Acknowledgments and Contact Information

CHS Trustees and Officers: President – Edward Ng Vice President – John Pfaff
Treasurer – Anita Rhodes Corresponding Secretary – Lois Taylor
Recording Secretary- Marla Jackson Archives – Alison Dahl Programs – Vacant
Membership – Vacant Additional Trustees - Elaine Hanington, Ed Hanington, Meg Sullivan

CHS Newsletter Editor: - Edward Ng

Historical photos and maps are usually from the CHS archives and modern photos are by Ed Ng except as noted. Thanks to Ed Hanington for the Old House Journal article.

If you would like to join CHS or if you have stories or pictures to share, please talk to a Board member or contact us at (908) 844-6717 or chester.historical.society@gmail.com, or CHS Box 376 Chester NJ 07930. Membership information and a downloadable membership form are available at <http://historicchesternj.com/home/membership.html> .