

Ideas, talent, brains powered city'

General Electric, Alco played big roles during the war years

BY BILL BUELL
Gazette Reporter

Electricity arrived in Schenectady on Feb. 2, 1886, just a few short months before Thomas Edison. Both were big hits.

Streetlights powered by electricity, not gas or oil, greatly reduced the risk of fire and helped enhance a relatively new leisure activity enjoyed by some 19th-century citizens: urban nightlife. As for the man generally credited with inventing the light bulb, Edison and his company, the Edison General Electric Company, instantly meant the creation of 1,000 more jobs in Schenectady.

The long-term effect would be even more far-reaching. Riding on the shoulders of the General Electric Company and the American Locomotive Company, Schenectady became "the city that lights and hauls the world," and remained at the forefront of scientific and industrial progress throughout the 20th century.

Why did Schenectady, a relatively small city in upstate New York, become such a bastion of scientific advancement during the 19th and 20th centuries? According to Timothy Starr, a local author who has written a number of books on the Capital Region's technological impact on the world, the reason is simple: location, location, location.

"It is striking how important the Mohawk and Hudson rivers were in the technological advancement of northeastern New York," said Starr, who lives in Rock City Falls. "Albany and Schenectady were among the earliest settlements because they were close to major waterways, which were the only effective means of long-range travel in an age before roads existed in the wilderness."

ERIE LINK

With the Mohawk Valley the only major break in the Appalachian Mountain chain, the Erie Canal and Schenectady's location



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In 1931, H.M. Mott-Smith, a General Electric artist, painted this image of Charles Steinmetz and Thomas Edison looking over some machine parts. The painting was based on the 1922 photograph taken during Edison's final visit to Schenectady.

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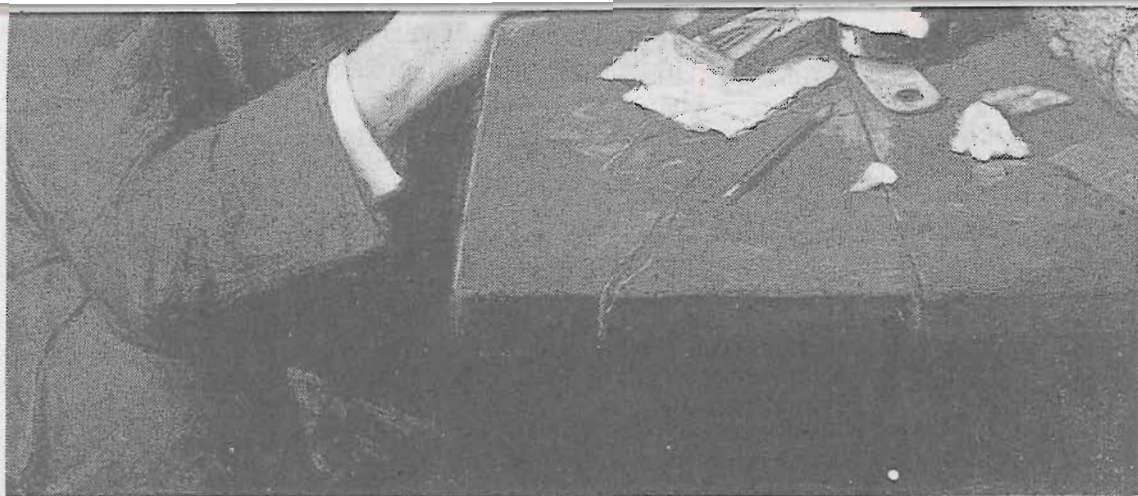
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With the Mohawk Valley the only major break in the Appalachian Mountain chain, the Erie Canal and Schenectady became the "gateway to the west." With those ingredients in place, the world's best minds also started to relocate to upstate New York.

"When Edison formed General Electric, Schenectady was chosen as the new headquarters due to its strong distribution system via canal and railroad," said Starr, whose book, "Great Inventors of the New York's Capital Region," was published last year by History Press of Charleston, S.C. "This event had a dramatic impact on area history as General Electric went on to employ tens of thousands of skilled people, many of whom were scientists who participated in the birth and refinement of electrical technology."

Charles Steinmetz, a German-American mathematician and electrical engineer, was the first of the so-called "Wizards of Schenectady" who made the



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city and GE their home. Irving Langmuir, a Brooklyn native, won a Pulitzer Prize for chemistry while at GE in 1932, while other notables included Swedish American Ernst Alexanderson, a TV and radio pioneer, and Norwegian-American Ivar Giaever, who won the Nobel Prize for physics in 1973. William D. Coolidge of Massachusetts and C. Guy Suits of Wisconsin were some of the others who played a huge part in GE's 20th century success, but Edison and the men who created his legacy weren't the first to foster Schenectady's technological prowess.

TECH BIRTHPLACE

"Walter McQueen made the steam locomotives that really got the railroad industry going in Schenectady in the middle of the 19th century," said Schenectady County/City Historian Don Rittner, "and George Westinghouse brought his farm implement business here from Central Bridge [in Schoharie County] and invented and improved the threshing machine. He was kind

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DON RITTNER

Schenectady County/City Historian

of eclipsed by his son, but it was Westinghouse and McQueen, and men with vision like George Featherstonhaugh, that made Schenectady and this whole area the first silicon valley. It really was the birthplace of American technology."

It was Westinghouse Jr. who invented the air brake and greatly enhanced rail travel right after the Civil War. In 1869 he moved to Pittsburgh and created the world-wide company that still bears his name. Featherstonhaugh, meanwhile, was largely responsible for the formation of the Mohawk and Hudson Railway Company in 1826. He later became the first official U.S. government geologist.

In 1898, a woman was born in

Schenectady who would soon work alongside some of GE's greatest scientists and take her place among their ranks. Katharine Burr Blodgett moved to New York City at a young age, but returned to Schenectady in 1926 after earning her Ph.D. in physics from the University of Cambridge.

"She was the first female scientist hired by GE," Rittner said of Burr Blodgett. "It's amazing the list of people that worked at GE, and Burr Blodgett, who invented invisible glass, was actually born here. She was an amazing woman."

GE and Alco also played big roles in the military arms race during World War II.

"The bazooka was invented at GE, and Alco built the tanks that sent [German General Erwin] Rommel packing during World War II," said Rittner. "All these inventors and their inventions had national implications. This area was a technological wonderland."

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Katharine Burr Blodgett, a Schenectady female hired by GE to work in its research credited with the invention of "invisible" glass.



GE scientist Irving Langmuir is handed the Nobel Prize in Chemistry by King Gustav of Sweden.