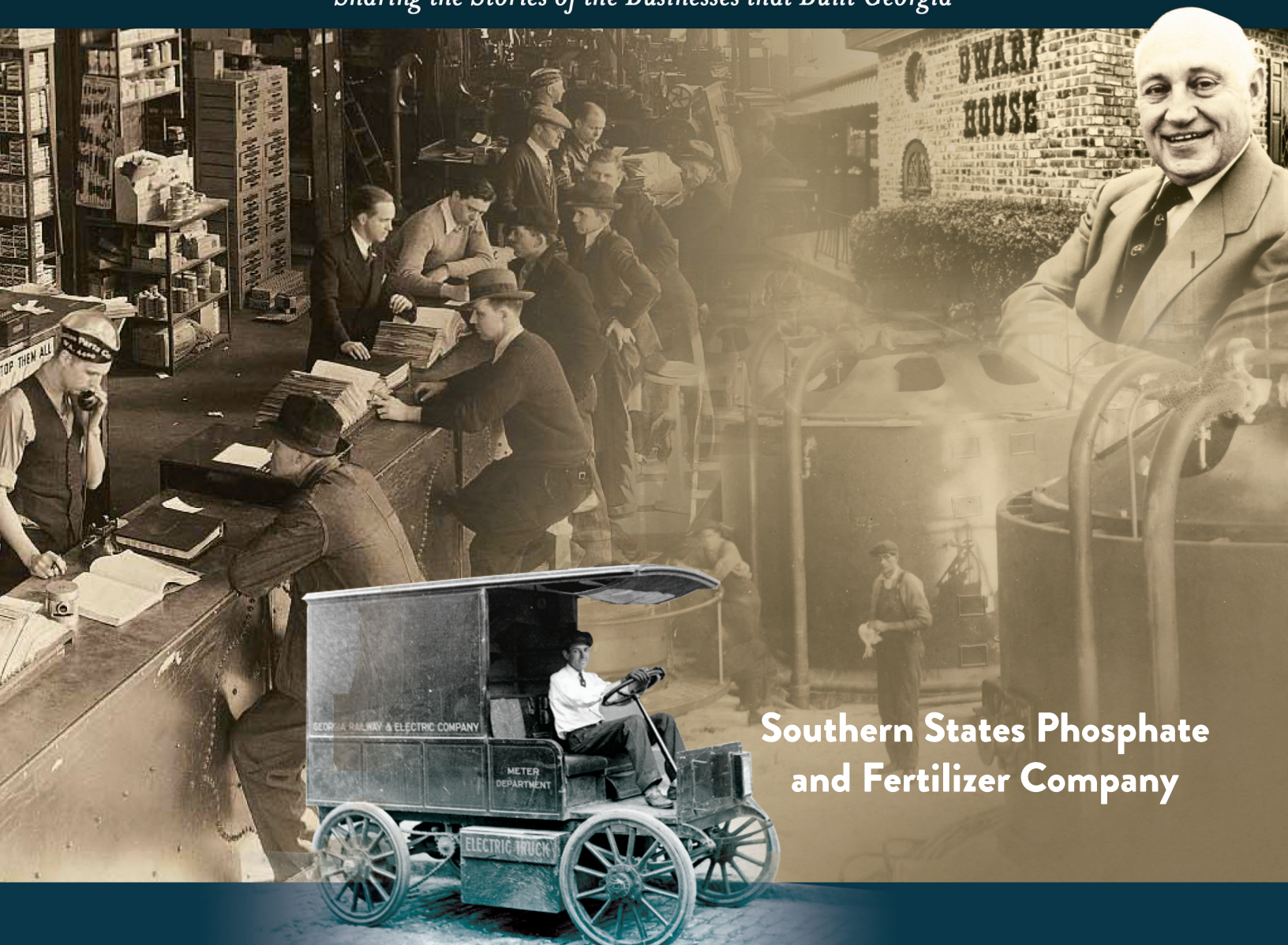
GEORGIA HISTORICAL SOCIETY

GEORGIA BUSINESS HISTORY INITIATIVE

Sharing the Stories of the Businesses that Built Georgia



Southern States Phosphate and Fertilizer Company


FERTY
SOUTHERN STATES
top dresser
Enkay
all purpose
VIMMO
crop boosters

Southern States Phosphate and Fertilizer Company

A PROFILE IN GEORGIA'S BUSINESS HISTORY

For over a century, the Southern States Phosphate and Fertilizer Company provided the **chemical fertilizers** that helped make Georgia one of the top agricultural states in the nation. Today, Georgia is one of the top five largest producers of blueberries, corn, cotton, eggs, onions, peanuts, pecans, poultry, and watermelon. **Agribusiness** is Georgia's number one industry and contributes over $74 billion dollars to the state's economy each year.

The Increasing Demand for Fertilizers

As **sharecropping** expanded across the South in the wake of the Civil War, so did the reliance on **cash crops** such as cotton and tobacco. These crops required large amounts of nitrogen, phosphorus, and potassium to grow. Continued planting of these crops exhausted the soil which resulted over time in weaker plants and smaller harvests. To combat this, farmers used increasing amounts of fertilizers to encourage plant growth and maximize yields.

"Sharecropper with wife and child in their tobacco field," 1939. Photo by Dorthea Lange. The New York Public Library Digital Collections.

Prior to the availability of chemical fertilizers in the late 19th century, animal excrement provided an important source of nitrogen, phosphorus, and potassium to fertilize soil. Beginning in the 1830s, when the supply of local fertilizers such as **manure** ran short, farmers turned to newly discovered **guano** from Peru. Peruvian guano was exceptionally high in nutrients and became wildly popular with southern farmers. Prior to the Civil War importation of guano reached its peak in 1856. The increased demand and the limited supply made the price of guano soar.

Advertising card for Orchilla Guano, ca. 1870-1900.

For much of the nineteenth century, Baltimore was the largest and most southern port of entry for Peruvian guano into the United States. Transporting guano from Baltimore to locations across the South further increased the cost. Antebellum-era cash-poor farmers were forced to buy guano on credit, thrusting them deeper into debt. Southern farmers were further hurt when northern companies halted sales of guano during the Civil War. By the time sales resumed in the late 1860s, the supply of Peruvian guano was running low and was all but exhausted by 1870.

The Discovery of Chemical Fertilizers

Needing an alternative to guano, farmers began experimenting with a new fertilizer in the 1850s. **Superphosphate fertilizer** was first patented in 1849 and commercial production began the following year. The process to produce this fertilizer, made originally from **sulfuric acid** and bone, was later altered to use **phosphate rock**, making superphosphate fertilizer less expensive and more readily available. Farmers soon realized that it had other advantages over guano.

Superphosphate fertilizer was also **water-soluble** and could be produced in a dry powder that made it easier to transport and apply in the fields. It was also an effective fertilizer for cotton, tobacco, and grains that yielded great results, especially in Georgia's clay soil. In fact, it was so successful for cotton that production in Georgia more than doubled between 1870 and 1880.

Phosphoric Rock

University of Georgia, 1850

Chemical Fertilizer Revolutionizes Agricultural Practices

With the introduction of **chemical fertilizers** came a more scientific approach to farming. Georgia became a pioneer in agricultural education and regulation. In 1859, Georgia established one of the nation's first Colleges of Agriculture at the University of Georgia.

It was also one of the first states to establish agricultural experiment stations to collect data and county extension services to provide localized instruction on best practices. The state's first **agricultural experiment station** was established in Spalding County in 1888, and in 1907 Samuel Cown was appointed as the county extension agent for Carroll County. Cown was the state's first **county extension agent** and only the second appointed in the nation, well in advance of the passage of the Smith-Lever Act of 1914 that established a national Cooperative Extension Service that extended outreach programs through

Samuel Cown, County Extension Agent, Carroll County, 1907

land-grant universities to educate rural Americans about advances in agricultural practices and technologies.

Georgia also led the nation in regulating the new chemical fertilizer industry by passing the nation's first fertilizer inspection law in 1868. In 1874, it also became the first state in the nation to establish a Department of Agriculture, charged with promoting crop diversity; regulating the fertilizer industry; and creating and maintaining a handbook of agricultural statistics including a statewide agricultural census, geological surveys and soil surveys. This information combined with access to high quality fertilizers led to greater crop **diversification** and growth of the agricultural industry in Georgia during the first half of the twentieth century.

The Growth of the Chemical Fertilizer Industry

Making **superphosphate fertilizer** required large supplies of phosphate rock, which until the mid-1880s had to be imported from the North. However, in 1867, a large deposit was discovered in coastal South Carolina near Charleston. With such a large local supply, Charleston and Savannah quickly became major fertilizer production areas.

From 1868 to 1899, this area furnished 90 percent of the world's supply of phosphate rock and provided materials for phosphoric acids needed to make fertilizer. By the end of the nineteenth century, Georgia led the nation in the consumption of chemical fertilizers. By 1887, there were 139 fertilizer companies doing business in Georgia, and nineteen fertilizer factories in the state.

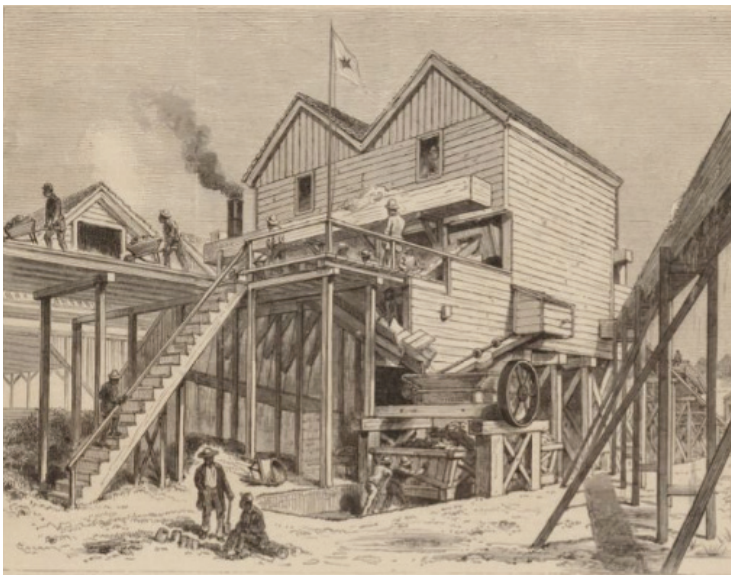
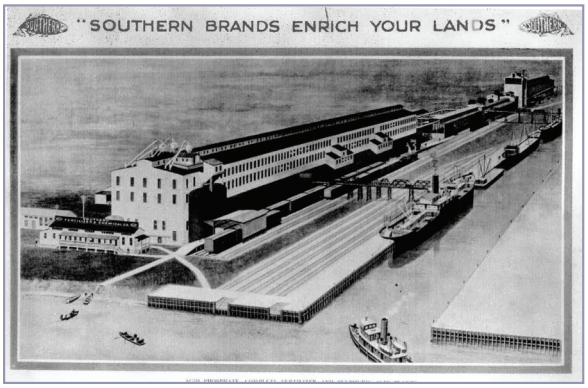


Illustration of the phosphate industry in Charleston, SC, from Frank Leslie's Illustrated Newspaper, *June 30, 1877*

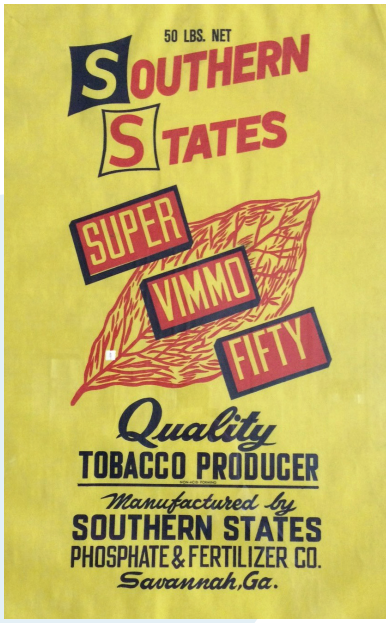


Advertisement for Southern Fertilizer

Southern States Phosphate and Fertilizer Company

In 1897, the Southern States Phosphate and Fertilizer Company was established in Augusta. In 1901, it merged with the Augusta Guano Company and eleven other investors. Southern States Phosphate and Fertilizer Company gained a 3,693-acre phosphate rock mine in South Carolina that contributed to the company's early success. After incorporating later that same year, the company relocated in 1902 to Savannah, where it was one of fourteen fertilizer companies.

By 1924, Savannah was home to the nation's largest fertilizer factory and was the second-largest producer of fertilizer in the world. Together the fertilizer factory and the fourteen fertilizer companies employed over 1,500 people and earned over $9,750,000 by creating more than 350,000 tons of fertilizer and 100,000 tons of **phosphoric acid** on an annual basis. To give you an idea of how much this is, if you loaded all of this onto a train at one time, it would be over 80 miles long. This means that the engine of the train could reach Vidalia or Brunswick before the last railcar left Savannah!



In 1934, investors including A.D. Strobhar purchased Southern States Phosphate and Fertilizer Company and moved its corporate headquarters from Augusta to Savannah in 1936. In 1940, Franklin Reed Dulany joined the company as President. By 1949, only eleven of Savannah's original fourteen fertilizer companies were left in existence, and by 1985 only Southern States Phosphate and Fertilizer Company remained. Run by the Dulany family since 1940, the company continued to produce sulfuric acid as well as superphosphate and ammoniated fertilizers until it ceased fertilizer production and changed its name to Dulany Industries in March of 2000.

Southern States Phosphate Company, 1943.

Dulany Industries

Dulany Industries is now a diversified industrial-based company with locations in Savannah, Augusta, Wilmington, North Carolina, and Norfolk, Virginia. It is the parent company for Southern States Chemical, SeaGate Terminals, and SeaPoint Industrial Terminal Complex.

Southern States Chemical

Southern States Chemical produces sulfuric acid, which is a “universal building block chemical” known as the “chemical that makes other chemicals.” In addition to its role in creating superphosphate fertilizer, the acid is used in some way during the production of almost all manufactured goods. It is essential in processes such as water treatment, paper production, pharmaceuticals, batteries, textiles, metals, and fuels. With production and terminal locations in Georgia, North Carolina, and Virginia, Southern States Chemical provides the Southeast with over 750,000 tons of sulfuric acid per year.

SeaGate Terminals

SeaGate Terminals provides warehouse and logistics services for the storage and transport of bulk and containerized goods at terminals in Georgia and Virginia. The terminals are able to receive bulk materials 24 hours a day and provide **deep-water** access, heavy rail, and highway access to provide seamless transportation of goods. Over the past two decades, the company has expanded its warehouse capacity at its Georgia locations and added a 44-acre deep-water terminal in Virginia.

SeaGate, Chesapeake, VA

SeaPoint Industrial Terminal

SeaPoint Industrial Terminal Complex is a 755-acre multi-use industrial complex in Savannah with the goal of attracting **synergistic** companies to one location to reduce the energy and environmental impact of transporting goods across short distances. “A company that locates on our site can benefit from synergies created by river access, co-located industries, shared services, and green energy, thereby creating a truly sustainable industrial terminal complex.”

SeaPoint Honey Bees

Dulany Industries Vice President of Operations Philip Rowland said its new solar farm, built on a former landfill on East President Street, is the culmination of seven years' work by the company, as well as by partners including the city of Savannah, Hannah Solar and Greenfield Environmental Trust. [STEVE BISSON/SAVANNAHNOW.COM]

Ex-landfill now solar farm

Project's capacity will be enough to power about 240 homes

By Mary Landers
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of a old city landfill on East President Street, poised to produce energy.

The new solar farm sits atop the Deptford Landfill, disused for more than 50 years, at the entrance to Dulany Industries' new

Georgia Power personnel were readying the solar panels' connections to the grid Thursday.

With landfill debris underground and heavy scrub growing over it, the

soil to fill about four Olympic-sized swimming pools, said Philip Rowland, the vice president of operations for Dulany Industries. Solar farms are rare in urban areas.

Savannah Morning News, February 15, 2019

“**Environmentalism** and **sustainability** are at the core of SeaPoint.” Partially built on the site of a previous landfill, the entrance to the facility includes a pollinator garden of native wildflowers and over 80,000 honeybees, as well as a five-acre solar farm. The solar farm contains over 4,000 solar panels and produces enough energy to power 240 homes for an entire year or 700 homes during peak production.

The complex also includes one mile of deep-water access in the Port of Savannah, the nation's third-busiest, and a recycled steam-power generator that produces 2.5 million watts of power which makes the complex "**electricity neutral**." The company even has the ability to sell the steam **byproducts** to other companies, eliminating the need for them to burn natural gas to produce their own steam.

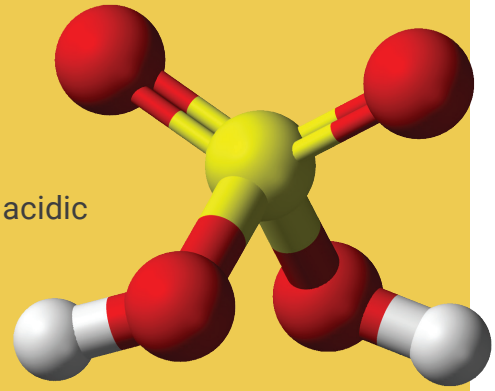
SeaPoint Steam Turbine and Generator

S.T.E.M. Spotlight on Sulfuric Acid

Have you ever ridden in a car? Flown on an airplane? Written on a piece of paper? Washed a load of clothes? If the answer to any of these questions is yes, you have sulfuric acid to thank. Sulfuric acid is essential to making many things we use in our daily life.

Sulfuric acid is a "universal chemical" and is known as "the chemical that makes other chemicals." It plays an essential role in many industries and is used to make common everyday products that make our lives better and easier, such as detergents, fertilizers, gasoline, jet fuel, kerosene, leather, paper, and textiles, as well as medicines for both animals and humans.

Sulfuric acid also has many industrial and manufacturing uses. It is used to clean metals, remove impurities from oil, and manufacture chemicals. Sulfuric acid is used in the making of lubricating oils, rubber, synthetic fibers, yellow pigments, and textiles. It is also used to remove impurities from wastewater and soften water by bringing the pH level of wastewater back to neutral. A pH level measures how acidic or basic the water is.



Southern States Chemicals is the largest certified manufacturer and supplier of sulfuric acid in the Southeast, producing over 750,000 tons annually.

S.T.E.M. Career Focus: Chemical Engineer

If you are interested in solving real-world problems or making products to improve our daily life, you might be interested in becoming a chemical engineer. Companies that manufacture or use sulfuric acid often employ chemical engineers who apply the laws of chemistry and physics to design, develop, and test equipment, processes, and products that involve chemicals.

A chemical engineer can work in a variety of industries including manufacturing, biotechnology, or healthcare. Chemical engineers often design and develop equipment or products including plastic, paper, detergent, and gasoline or processes to use and manufacture chemicals or biochemicals. They also use computer models and other processes to test the effectiveness and safety of the products for consumers, workers, and the environment.

If you want to become a chemical engineer, you will need a strong background in advanced mathematics and science. You may want to look for colleges that offer a bachelor's degree program for chemical engineering that includes courses in chemistry, engineering, mathematics, and physics. In addition to earning a bachelor's degree, chemical engineers must also pass several licensing exams before they begin work.

Vocabulary

Agribusiness - Agriculture conducted on commercial principles, especially using advanced technology.

Agricultural Experiment Station - a scientific research center that investigates difficulties and potential improvements to food production and agribusiness.

Byproducts - a secondary product created in the manufacture of something else.

Cash crops - a crop produced for its commercial value rather than for the use of the grower.

Chemical Fertilizer - any number of synthetic compound substances created specifically to increase crop yields.

Vocabulary, continued

County Extension Agent - an agent employed by the county government to work with the farmers to increase crop yield, prevent erosion, and eliminate blights or pests.

Deep water - able to accommodate oceangoing vessels.

Diversification - the process of enlarging or varying the range of products or fields of operations.

Electricity neutral - when the amount of electricity produced equals or exceeds the amount consumed.

Environmentalism - the concern about or action aimed at protecting the environment.

Guano - a fertilizer made up of a combination of fossilized bones of ancient birds and fish mixed with bird or bat excrement and formed over millions of years that was rich in both nitrogen and phosphorus.

Manure - animal dung used for fertilizing plants.

Phosphate Rock - a non-detrital sedimentary rock that contains high amounts of phosphate materials.

Phosphoric Acid - a crystalline acid obtained by treating phosphates with sulfuric acid, used in fertilizer and soap manufacturing and food processing.

Sharecropping - when a farmer, especially in the southern United States, is provided with credit for seed, tools, living quarters, and food and works the land, and who receives an agreed share of the crop minus charges.

Sulfuric Acid -a strong acid made by oxidizing solutions of sulfur dioxide and used in large quantities as an industrial or laboratory reagent. The concentrated form is an oily, dense, and corrosive liquid.

Superphosphate Fertilizer - a fertilizer made by treating phosphate rock with sulfuric or phosphoric acid.

Sustainability - the ability to maintain at a certain rate or level; the avoidance of the depletion of natural resources in order to maintain an ecological balance.

Synergistic - relating to the interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect greater than the sum of their separate effects.

Water soluble - to be able to be dissolved by water.

Georgia Standards of Excellence
8th Grade Georgia Studies

SS8H6 Analyze the impact of Reconstruction on Georgia.

SS8H7 Evaluate key political, social, and economic changes that occurred in Georgia during the New South Era.

S8P1. Obtain, evaluate, and communicate information about the structure and properties of matter.

Images

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Page 2: "Sharecropper with wife and child in their tobacco field," 1939.
Photo by Dorthea Lange. The New York Public Library Digital Collections.

Page 2: Advertising card for Orchilla Guano, ca. 1870-1900. Boston Public Library.

Page 3: Phosphoric Rock. Courtesy of the Minerals Education Coalition (mineralseducationcoalition.org)

Page 3: "University of Georgia." 1850. New Georgia Encyclopedia.

Page 4: Samuel Cown, County Extension Agent, Carroll County, 1907. Digital Library of Georgia.

Page 4: Illustration of the Charleston phosphate industry from *Frank Leslie's Illustrated Newspaper*, June 30, 1877. South Caroliniana Library, University of South Carolina.

Page 5: Southern States Phosphate Co., 1943. GHS 1360-PH-20-03-13, Cordray-Foltz Photography Studio photographs at the Georgia Historical Society.

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