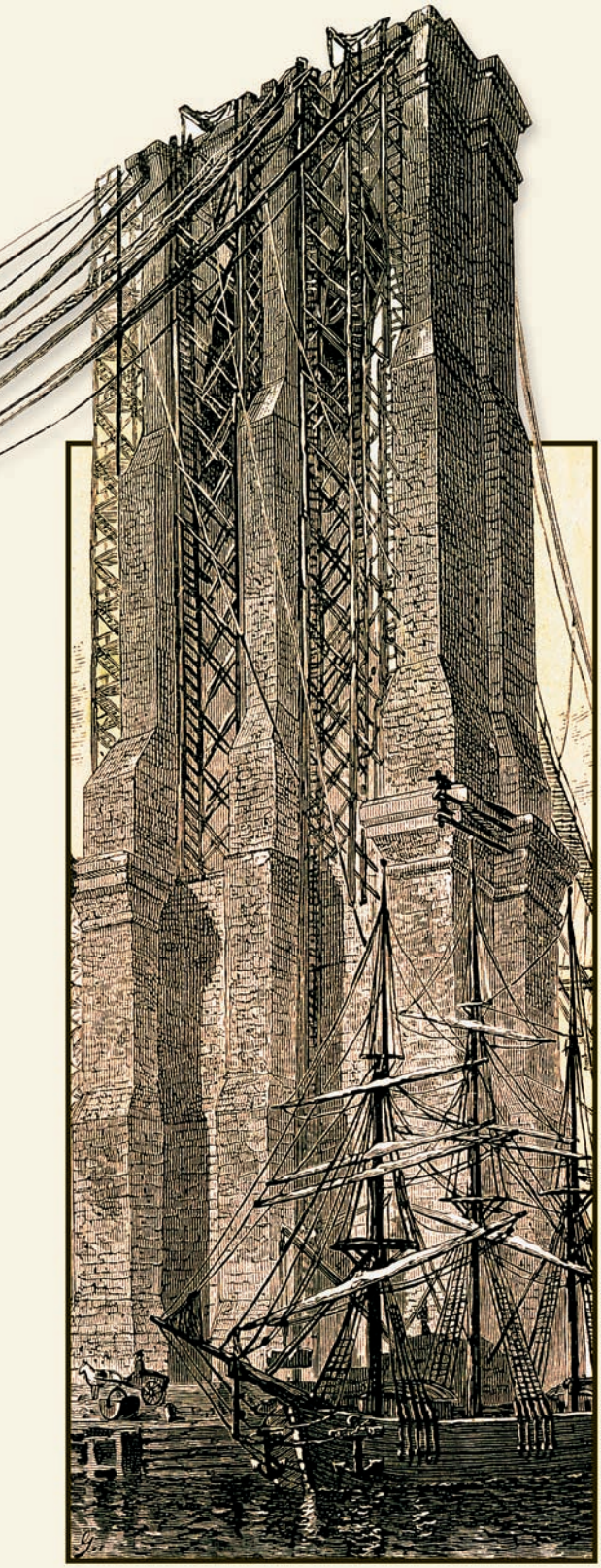






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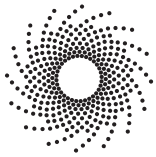
YOUNG SCHOLARS

PS 307

STORIES OF THE BROOKLYN BRIDGE



A PROJECT OF



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STORIES OF THE BROOKLYN BRIDGE

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Original publication date: June 14, 2019
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Stories of the Brooklyn Bridge
2019 Young Scholars of PS 307
ISBN-13: 978-0-9960727-7-9

We, the 2019 Young Scholars of PS 307, The Daniel Hale School, wish to thank the following people:

City Council Member Stephen Levin

PS 307
Stephanie Carroll, *Principal*
Daniel Mulhall, *Assistant Principal*
Servina Narine, *Cooperating Teacher*

Brooklyn Historical Society
Chloe Grey Smith, *PS 307 Young Scholars Program Educator*

The Roebling Museum
Arthur Shettle II, *Board Member*
Varissa McMickens Blair, *Executive Director*

Brooklyn Public LIbrary, Brooklyn Connections Division
Kaitlin Holt, *Brooklyn Connections Program Manager*
Sarah Quick, *Brooklyn Connections Educator*
Julia Pelaez, *Reference Archivist*

Manhattan Early College for Advertising High School
2018 Summer Research Interns
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Park Slope Collegiate
2018 Fall Research Interns
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Jenan Bajraktarevic
Ethan Moskowitz

On Cover, Far Left

Looking Toward Tower from Brooklyn Anchorage/Sall-Port, Fort Columbus.

Eugene L. Armbruster, *Looking Toward Tower from Brooklyn Anchorage/Sally-Port, Fort Columbus*, circa 1885, Eugene L. Armbruster photographs and scrapbooks,V1974.022.8.109-111; Brooklyn Historical Society.

Front and Back Endpapers

Brooklyn Bridge, birds eye view, New York City, 1905.

Birds eye view of Brooklyn Bridge and New York City, 1905; V2013.003; Brooklyn Historical Society.

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Foreword

Writing this book has been an incredible team effort between the 2019 Young Scholars of PS 307; their teacher, Ms. Narine; the staff at the Brooklyn Historical Society, and myself. Like any great piece of teamwork, this book couldn't have come together without everyone giving it their best effort, and I am incredibly grateful for their dedication and creativity. Not only did the Young Scholars write this whole book, they also chose its title.

One of the most exciting things we learned during this process was just how many different subjects you can explore through studying a topic as monumental as the Brooklyn Bridge. Not only did we delve into history through primary and secondary source research, interviews, and museum and archive investigations, we also learned about engineering and physics, city government, social studies, graphic design, and New York's vibrant natural environment. (We even met an unexpected opossum in front of Empire Stores, who almost outshone the bridge itself!) Since PS 307 is a STEM-focused school, we performed experiments to learn about the physics of suspension bridges and built a model of the Brooklyn Bridge complete with a tiny American flag atop one tower.

The experience of planning and executing this project has taught me so much about how to be an educator and historian. I feel tremendously grateful to my scholars for embarking on this journey with me and sticking with it through all those dusky, drizzly winter afternoons. If there's anything I hope they take away from this project, it's that they can learn about absolutely any topic they set their minds to, whether they choose to pursue it later in life or not. I think we all felt a certain connection to Emily and Washington Roebling and their spirit of determination as we built our book from the caissons up. I think we've all gained a new appreciation for our bridge, a practical structure that we take for granted, which is, in reality, a wonder of engineering and an enduring symbol of New York City at its best. To paraphrase what Montgomery Schuyler wrote upon the bridge's opening in 1883, I'm glad that "the work which will convey some knowledge of us to the remote posterity"[1] is not a wall, but a bridge.

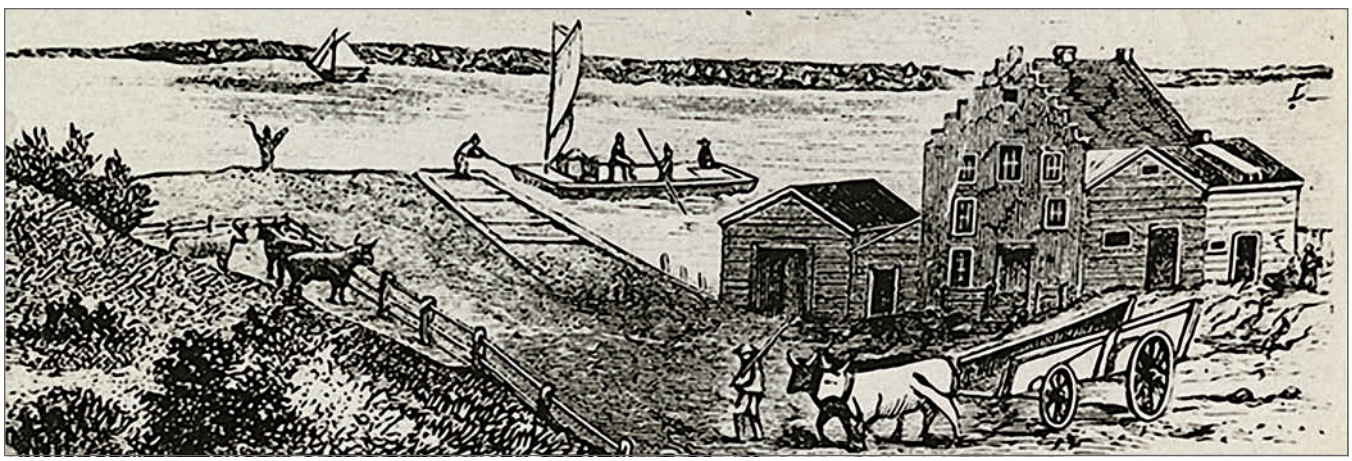
My heartfelt thanks to the Young Scholars and their families, as well as our Young Scholars Coordinator, Akane Okoshi; our Interim Director, Shirley Brown Alleyne; our classroom partner, Servena Alleyne Narine; and our guests Arthur Shettle and Varissa McMickens Blair. This book couldn't have happened without you!

Chloe G. Smith
PS 307 Young Scholars
Program Educator, 2019

[1] David McCullough, *The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge* (New York: Simon and Schuster 2001).

1

Life Before the Bridge



Brooklyn was once a forest. The first people to live in what we now call New York City are called the Lenni Lenape, and they called this place Lenapehoking. The Lenni Lenape lived in houses called wigwams, made of bark and reeds. They often lived close to the water, and they made sturdy canoes from the wood of the tulip tree that they would use to travel around Lenapehoking and across the East River. Only one or two people could go in a canoe at a time, but they could make larger canoes to hold a whole Lenni Lenape family.

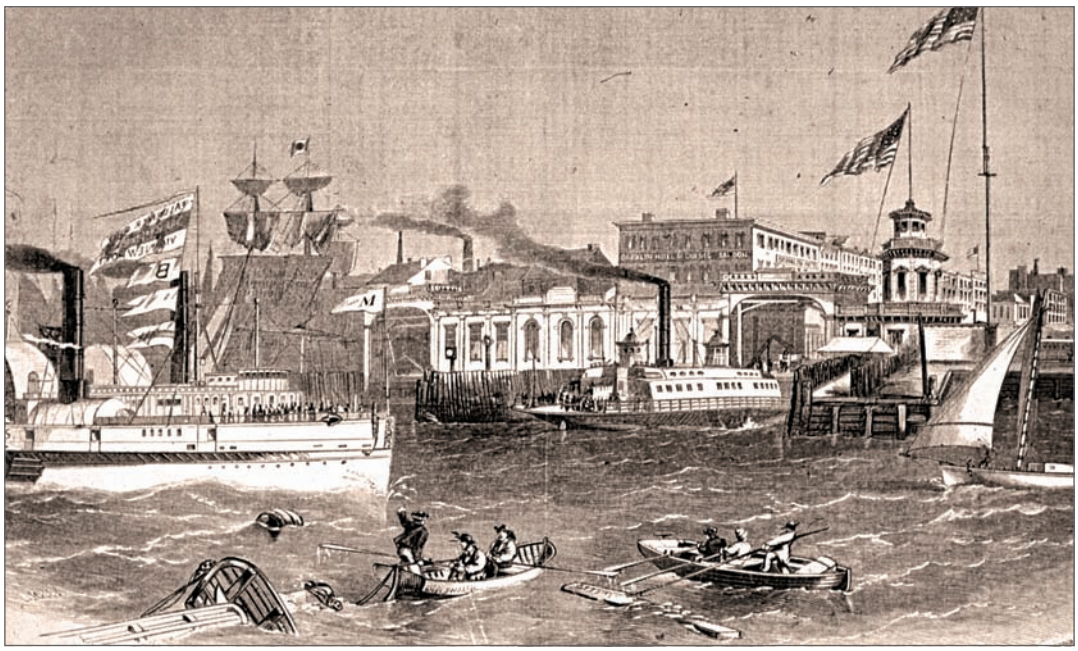
This picture from 1750 shows the traditional European-style buildings and farms by the East River in Brooklyn.
[Brooklyn Heights], circa 1750, gelatin silver print, V1973.5.3724; Brooklyn Historical Society.

WHERE ARE THE LENNI LENAPE?

We learned that when the Europeans came to this area, they said it belonged to them and tried to get the Lenni Lenape to leave, even though they were already living here. Today there are still Lenape people in their homelands of New York, New Jersey, and Delaware, as well as in Oklahoma, Kansas, and Wisconsin where they were forced to move.[2] The Lenni Lenape people have their own language: "Manahataan" is where we get the name Manhattan from, and "Anushiik" means thank you![3]

Lenapehoking includes all of New York City and most of New Jersey and Connecticut. The Lenni Lenape call what we call Brooklyn "Sewanhackey."

[2] Colleen Connolly, "The True Native New Yorkers Can Never Truly Reclaim Their Homeland," Smithsonian Magazine, October 05, 2018, https://www.smithsonianmag.com/history/true-native-new-yorkers-can-never-truly-reclaim-their-homeland-180970472/.
[3] Beatrice Glow, "Mannahatta VR," YouTube video, January 25, 2017, https://www.youtube.com/watch?v=tvmbdYO5IZM&t=3s.



In the 1700s and 1800s, as more Europeans and Americans came to New York to live, they built more buildings so their people could have housing. The people in Brooklyn had to deliver materials to Manhattan and go there to work, and the only way to get across the East River was by ferry. As more people lived in Brooklyn, they needed to build ferries that could hold more people. Three different types of boats used to cross the river were sailboats, ferries, and rowboats. Steam ferries were invented in the 1800s so that people could get across faster.

This picture from 1853 (around the time that "Crossing Brooklyn Ferry" was written) shows the steam ferries, tall ships, and rowboats crowding the East River.
View of the Fulton Ferry Building, Brooklyn, Long Island, 1853, color slide, V1982.5.73; Brooklyn Historical Society.

EXPERIENCING THE FERRY

Walt Whitman was a poet from Brooklyn who loved to take the ferry across the river. In his poem "Crossing Brooklyn Ferry" he describes the many different boats and people on the East River. "Just as you stand and lean on the rail, yet hurry with the swift current, I stood yet was hurried. Just as you look on the numberless masts of ships and the thick-stemm'd pipes of steamboats, I look'd." We don't have many ships or steamboats on the river anymore, but we still take the ferry to get back and forth from Staten Island. It's fun, but sometimes it's so windy you can barely breathe!



In the 1850s there were several winters where the East River froze and people skated or walked across it. This print calls the ice the "original East River Bridge."
Original East River Bridge, Winter 1852, 1852, Brooklyn Eagle Postcard Collection, V1973.4.85; Brooklyn Historical Society.

Crossing the river could be dangerous, especially in winter when it got so cold that the East River could freeze. If the water was frozen you might skate across the river and risk falling into the water and freezing, or the boats would get stuck in the ice, and you couldn't get across. The ice stopped the ships from getting to or leaving the dock. John Roebling, the creator of the Brooklyn Bridge, and his son Washington were once riding the ferry between Manhattan and Brooklyn. Their ferry got stuck in ice for a whole day. While they were trapped they thought of an idea to build the Brooklyn Bridge.

Brooklyn used to be a factory town. In the 1880s there were a lot of storehouses, industry and busy factories around the foot of the bridge—it was a place that made and stored things that people in New York City needed. One of those storehouses was Empire Stores, which is close by to our school. One of the factories was the Peaks Mason Mints candy factory, close by in Brooklyn Heights. Some of the goods in the storehouses, such as Empire Stores were coffee, sugar, tobacco, grain, and cotton. The factories/businesses wanted to distribute their goods throughout Manhattan (and Brooklyn) without using boats.

2

Designing the Bridge

Engineers solve problems, and building a bridge over the East River was a big problem. Everyone agreed there should be a bridge, but it had to be very strong and tall enough so that large ships could pass underneath it. They had to make the bridge a suspension bridge because suspension bridges can be built extra-tall. At the time, people did not trust suspension bridges because they thought they were not stable in strong storms or if there was too much weight on them. Before he built the Brooklyn Bridge, John Roebling built a suspension bridge in Niagara Falls that was secure. It took him at least five years to get permission to build the Brooklyn Bridge.

There were a lot of factors in planning where they had to make the bridge because there were so many buildings on both sides of the river. They had to know where the ends of the bridge would be in advance, which is why you can see it on atlases before they finished building it. They had to move storehouses and homes to be in different places, even though people didn't want their buildings



This Fire Atlas from 1886 shows the bridge ramp and anchorage surrounded by a dense mix of storehouses, docks, factories, and housing.
Plate 1: Pier area from the Navy Yard to Clark Street, E. Robinson Co., 1886, Atlas ((25)1886); Brooklyn Historical Society.

A HIDDEN HISTORY

One of the special places that was destroyed was Colored School No.1, which was the first independent school for African Americans in Brooklyn and was founded by an African American man named Peter Croger in 1815. Luckily, Colored School No.1 moved locations and survives to the present day as PS 67 in Fort Greene.

to be destroyed. This was unfair because a lot of poor people lived and worked in the neighborhood where the bridge would go, and many of them lived very close together. They had to move some buildings, though, because otherwise where could they put the Brooklyn Bridge?

There was also a lot of politics in building the bridge. William Marcy Tweed, aka "Boss Tweed," was a trustee of the Bridge Company. He sneakily took some money from it, and had six other jobs that he would use to take money from the city government's public projects. In 1873, someone finally caught him stealing. Boss Tweed went to jail. After that, it was even harder for people to believe that the Brooklyn Bridge would be a success, because Boss Tweed's bad deeds made them lose their trust in the Bridge Company.

The Brooklyn Bridge was originally named the East River Suspension Bridge. Suspension bridges are the strongest because they use tension, which is when equal forces pull against each other in opposite directions, creating stiffness and balance. Suspension bridges can be taller than other bridges, which need a lot of supports in order to span a wide distance. The East River had to have a suspension bridge because so many ships sailed into Brooklyn and Manhattan to deliver goods to the stores and factories, so the bridge had to be tall enough for the ships to pass underneath.



This photograph from 1878 shows some of the engineers, mechanics and workers who planned the bridge with the President of the Bridge Company, that budgeted the money for the project. You can see the strong suspension cables and the thin catwalks for the workers to stand on in the picture.
Brooklyn Anchorage, October 1878, 1878, clippings [Construction of Brooklyn Bridge], V1973.6.88; Brooklyn Historical Society.

WHO WAS "BOSS" TWEED?

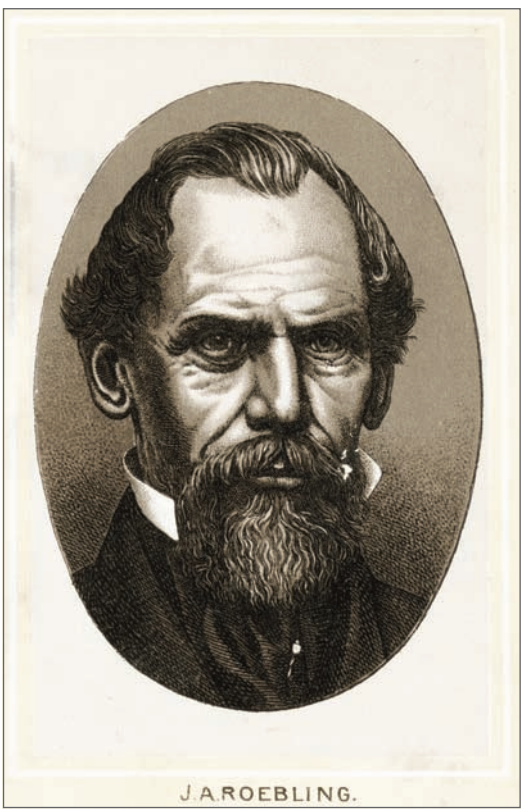
William Marcy Tweed was very famous in his day for making special deals with the city government to benefit himself and his friends. It's estimated that he stole between $45 million and $200 million from the New York and Brooklyn city governments in total. He became a trustee of the bridge so that he could control the budget of the project and drag out the amount of time it took to build, so that he could give contracts for its construction to his friends. Luckily his plan was uncovered soon after construction began, but he gave bribes to politicians in Brooklyn and New York to convince them to support the bridge project—so it's partly because of his crimes that we have the bridge today.

3

The Roebling Family

John Roebling was born June 12th, 1806, in Mühlhausen, Germany. John went to a university in Germany where he studied engineering; he was very smart and he worked with a famous philosopher called Hegel. He came to America in 1831 with his brother, because he couldn't find a good job at home. They moved to Pennsylvania to start their own farm. John Roebling didn't like the slavery that was going on in the South, so he didn't want to live or work in the South because he refused to be a part of the system of slavery. But John soon realized he didn't want to be a farmer—he wanted to be an engineer, because you get to make new stuff (and you can make more money off of engineering than farming).

John built several other bridges before the Brooklyn Bridge, including a railroad bridge that connected the United States to Canada. John Roebling and his wife Johanna had 7 children and Washington, his oldest boy, was the bridge builder after him. Ferdinand was the second son, Charles third and seven years younger than Washington, and then Edmund. The sisters were Laura, Josephine, and Elvira. John Roebling and his family were famous for having a factory in Trenton, New Jersey where they made these steel wires. He did not invent steel wire cables, but he knew a lot about how they worked so he made them better. They became a very rich family. John built a town for the people who worked in his factory with a school and a church, and



This portrait of John Roebling was published in 1883, when the bridge was completed, but was probably made shortly before he died in 1869.
Portrait of J.A.Roebling, 1883, lithograph, V1986.005.1.2-4; Brooklyn Historical Society.

he also made a bar for his workers because he said they needed to have a cool drink. Later, the wire company was involved in building other bridges, like the Manhattan Bridge. John Roebling died before construction even started because he cared more about the work than his foot. What happened with his foot is he was standing on a piling at the ferry dock talking to his son Washington (he called him 'Wash') about where the bridge would go. As they were talking, he was not paying attention to the stuff going by, and the ferry crushed his foot between the ferry boat and the dock. Washington carried him home to a doctor but John didn't want to listen to the doctor's ideas. John was a believer in hydropathy, which means that he believed that water treatments could cure injuries and diseases better than anything else. He refused to take the medicine that the doctor gave him and instead he said his foot needed cold water on it.[4] When he put the water on it that gave him an infection that spread all over his body and he died in about a month. When John died, Washington was in the room and he told his son to take care of the bridge. Soon Washington Roebling became the chief engineer, when he was only 32 years old.

[4] David McCullough, *The Great Bridge*.

A VERY SPECIAL INTERVIEW

We interviewed one of John Roebling's descendants, Arthur Shettle. One of the questions we asked him is how many Roebling family members he has and the answer is about 200. He is from Philadelphia, lives in New York, and his dad's name is William. We were surprised to find out he is a great-great grandson of Charles Roebling (Washington's younger brother). He has written articles and he works with the Roebling Museum. It was exciting because he knew a lot about their family. He told us that John Roebling didn't like slavery and during the Civil War he wrote about it, saying "shame on you!"

4

Constructing the Bridge

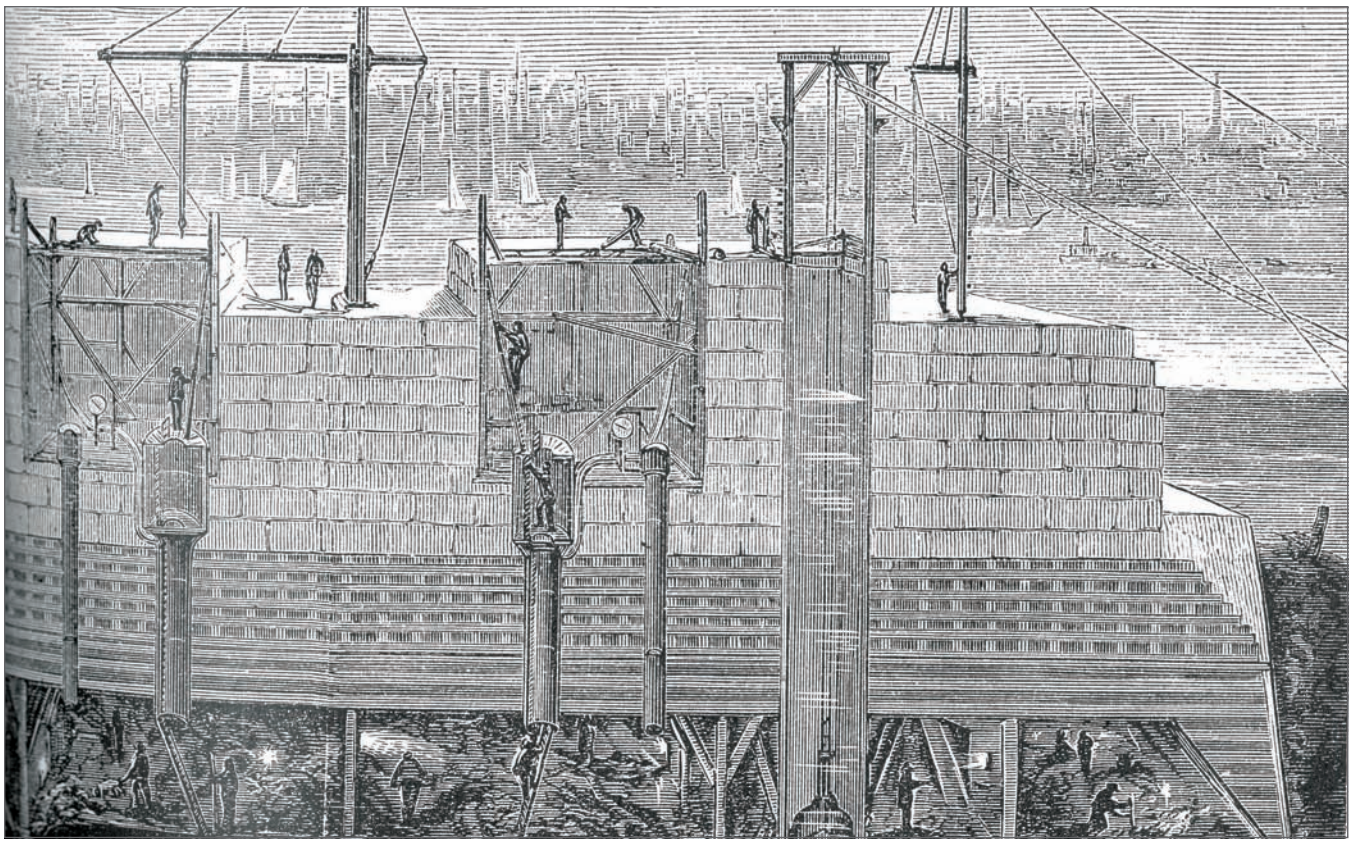
It took more than 600 workers and about 14 years to finish the bridge. The construction site was unsafe and it was located in a busy urban place: the waterfronts of Manhattan and Brooklyn! It was foggy and dusty, and there was probably a lot of noise because of the drilling. At that time, there wasn't a lot of protection for workers like the safety equipment and rules we have now. Only men worked on constructing the bridge—women were not usually allowed to do physical jobs like construction work at that time. Between 20 and 30 men died building the Brooklyn Bridge. Cable workmen fell from towers, and several masons were crushed by heavy stones. Excavators and day laborers worked the most dangerous jobs and earned the lowest wages, which were only $2 a day. In 1872 the laborers went on strike for higher wages. The management threatened that they would be fired, and the strike quickly ended.

The hardest part of building the bridge was the caissons. The caissons are big boxes that the towers sit on. They help the bridge to be stable. The workers had to dig down under the river so the caisson would reach the bedrock and sit on something solid. They made a strong base for the towers, so the bridge would not get wobbly. A pneumatic caisson is a bottomless, wooden box that is filled with compressed air.

In March 1870, the workers floated the Brooklyn caisson into the river, and then they sunk it to the river bottom. The workers entered to caisson, went underground, and dug up rocks and boulders from the riverbed. They sent the rocks they dug up back to the surface, and while they dug deeper. While the



In this image from 1875 you can see workers building the tower and the anchorage while people do business on the street nearby.
Construction of Bridge Tower, 1875, colored slide, V1984.1.87; Brooklyn Historical Society.



caissons were being built, other workers built the tower on top of the caisson with huge stones. Most of the bridge's stone was granite that came from an island in Maine.

The story of the caissons is sad but cool at the same time. Putting the caissons deep down was not okay, because there was so much air pressure in the caissons down under the water and sand. The workers got sick from being in the caisson because they were going up and down too fast and the pressure change made the air in their bodies expand too fast. This is called "the bends" or caisson disease. It can make you feel dizzy or nauseous, give you a headache, or even make you very sick, numb and paralyzed. Washington Roebling got so sick from caisson disease that he was paralyzed and he couldn't leave his house—but then his wife Emily Roebling took over! She would run back and forth between Washington and the bridge. She listened to Washington's whispers about the construction of the bridge. Then, she would go back to the bridge and tell the workers and engineers what to do. Even though Emily was not allowed to study to become an engineer because she was a woman, she learned alongside her husband, who called her "a woman of infinite tact and wisest council."[5] Along with the trusted workers and engineers, Emily helped to complete the bridge by coordinating between the workers and her husband.

This illustration shows the men digging down to the bedrock under the caisson at the same time as more men are adding the blocks of stone to the tower above. Workers reported that it was a scary experience to be down in the dark under the water.[6]
Brooklyn Bridge Caisson, circa 1870, colored slide, V1984.1.79; Brooklyn Historical Society.

[5] "United! Brooklyn and New York by the Great Bridge," *Brooklyn Daily Eagle*, May 24, 1884, https://bklyn.newspapers.com/image/50431493/.
[6] David McCullough, *The Great Bridge*, 452.



This newspaper illustration shows Washington watching the construction of the bridge from the window of his home at Columbia Heights.
Roebling Viewing his Bridge from Columbia Heights, 1883, colored slide, V1984.1.621; Brooklyn Historical Society.

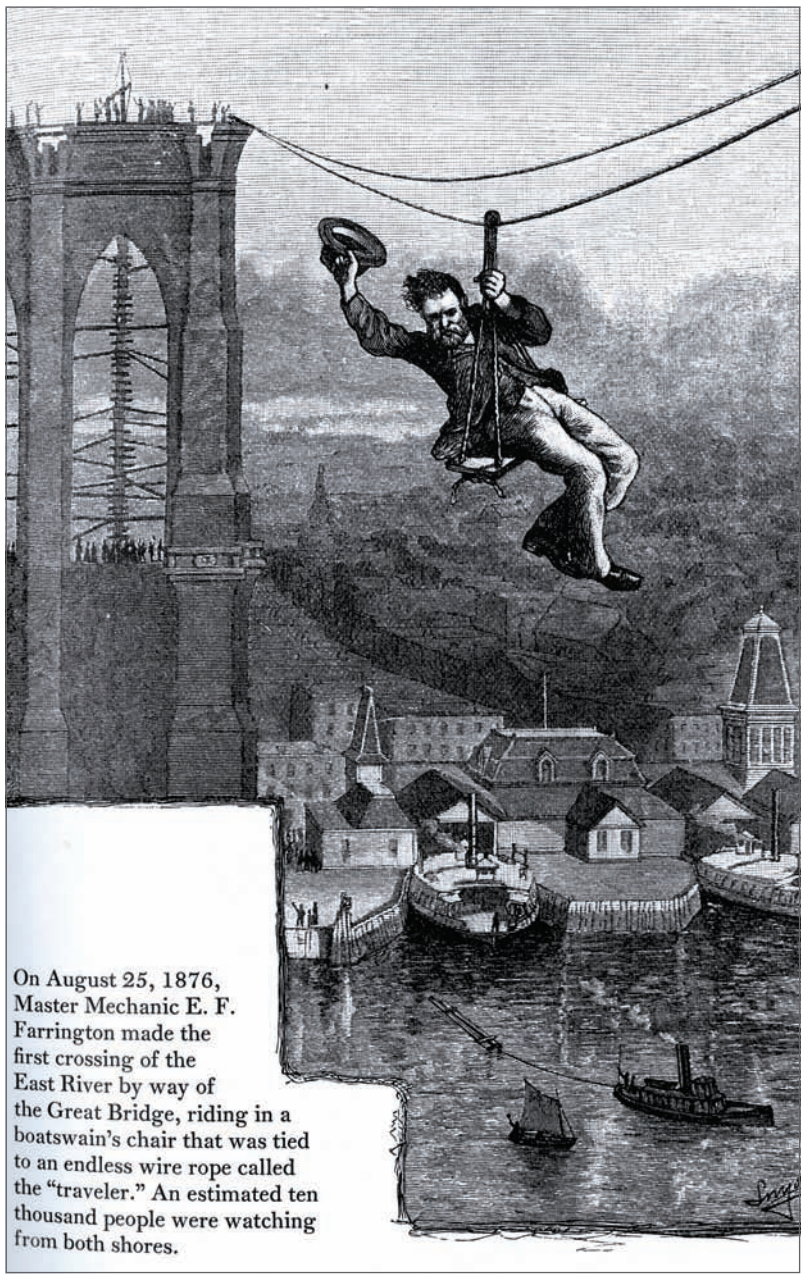
The Manhattan caisson was completed in February of 1875. The towers were both completed in 1876, and then it was time to add the cables on top. There are four big cables that go from Brooklyn to Manhattan. They were made from 1876 to 1878. The workers had to lay the cables across the tops of the towers and then test them, and then they had to wrap the cables with wire.[7] E.F. Farrington was a master mechanic. On August 25th, 1876 he sat on a board attached to the very first wire and waved his hat, and then he rode it like a zipline all the way to the other side of the river. The spectators were screaming!

The Brooklyn Bridge was the first suspension bridge to be built using strong steel cables.[8] People tried to build suspension bridges in other places but many of those bridges fell down because they were not stiff enough.[9] The cables were so strong because they made them from a bundle of 19 parallel strands of wire that they wrapped more wire around and they used a very strong metal (steel) for the wires. There were 278 wires, each ⅛ inch thick per strand, and the finished cables had 6,289 individual wires in them.[10] The cables were attached to anchor plates on both shores that each weighed 23 tons.

Although there were other companies that made steel cables, John Roebling was the only guy that had the ability to make the best cable. The Bridge Company chose other people to make the cable first because they thought it would be unfair to let the Roebling family make money off the bridge they were in charge of. But, they discovered that the people who made the cable at first weren't using good quality material, which was making the bridge weaker. So, they decided that the J.A. Roebling Sons Company could make the cable.

[7] *Brooklyn Bridge*, Directed by Ken Burns, (United States: Florentine Films, 2002), https://www.pbs.org/kenburns/brooklyn-bridge/video/.
[8] Ibid.
[9] The Editors of Encyclopaedia Britannica, "Brooklyn Bridge," January 11, 2019, https://www.britannica.com/topic/Brooklyn-Bridge.
[10] David McCullough, *The Great Bridge*.

The most exciting part of the bridge story is that it was handmade, and the men had to be very strong. We learned that it took a lot of muscles to build the Brooklyn Bridge. We wondered why people would want to work constructing the bridge, even though they knew it was dangerous and they could even die. Some men may have done it because they knew it would make life easier for others after them, or because they thought they would get a reward or a ribbon and become government engineers. We do know that many of the workers on the bridge were immigrants, and they were willing to do dangerous work because it would pay them better than other work that they could find.



This illustration shows Mr. Farrington swinging from the thin traveler wire. *The Brooklyn Daily Eagle* reported: "At a given signal the drums were started, and the adventurous voyager began his trip from anchorage to anchorage, starting from the Brooklyn shore. He was whirled over the tops of the houses and the river with amazing rapidity... Word had gone abroad that something of that nature would be attempted that day, and thousands of spectators gathered in the two cities to watch the event."

Michele E.F. Farrington on Traveler Wire During Construction, 1876, black and white slide, V1984.1.85; Brooklyn Historical Society.

THE AMAZING EMILY WARREN ROEBLING

After the bridge was finished, they made a plaque on the tower to explain who built the bridge, but Emily Warren Roebling was not included on it because they didn't care as much about a woman's accomplishments in those days. Emily got her own plaque in 1951, which says: "Back of every great work we can find the self-sacrificing devotion of a woman." Emily herself wrote to her son John Roebling II in 1898, "I am still feeling well enough to stoutly maintain against all critics (including my only son) that I have more brains, common sense, and know-how generally than any two engineers civil or uncivil that I have ever met."[11] She even went on to get a law degree from New York University when she was 56 years old!

[11] Women at the Center, "Emily Warren Roebling: Building the Brooklyn Bridge and Beyond," New-York Historical Society, October 02, 2018, http://womenatthecenter.nyhistory.org/emily-warren-roebling-beyond-the-bridge/.



A portrait of Emily Warren Roebling.
Charles-Émile-Auguste Carolus-Duran, *Portrait of Emily Warren Roebling*, 1896, oil on canvas, 1994.69.1; Brooklyn Museum.

5

Crossing the Completed Bridge

The most exciting part of our story is the completion of the bridge. It was done on May 24th, 1883. At the opening ceremony, Emily Roebling was the first person to cross the bridge, and she carried a rooster with her as a symbol of victory. The President of the United States, Chester A. Arthur, came to the ceremony and, there were fireworks and a band. Washington Roebling was too sick from caisson disease to come to the ceremony and didn't go to the bridge very much for the rest of his life, even though he lived close to it.

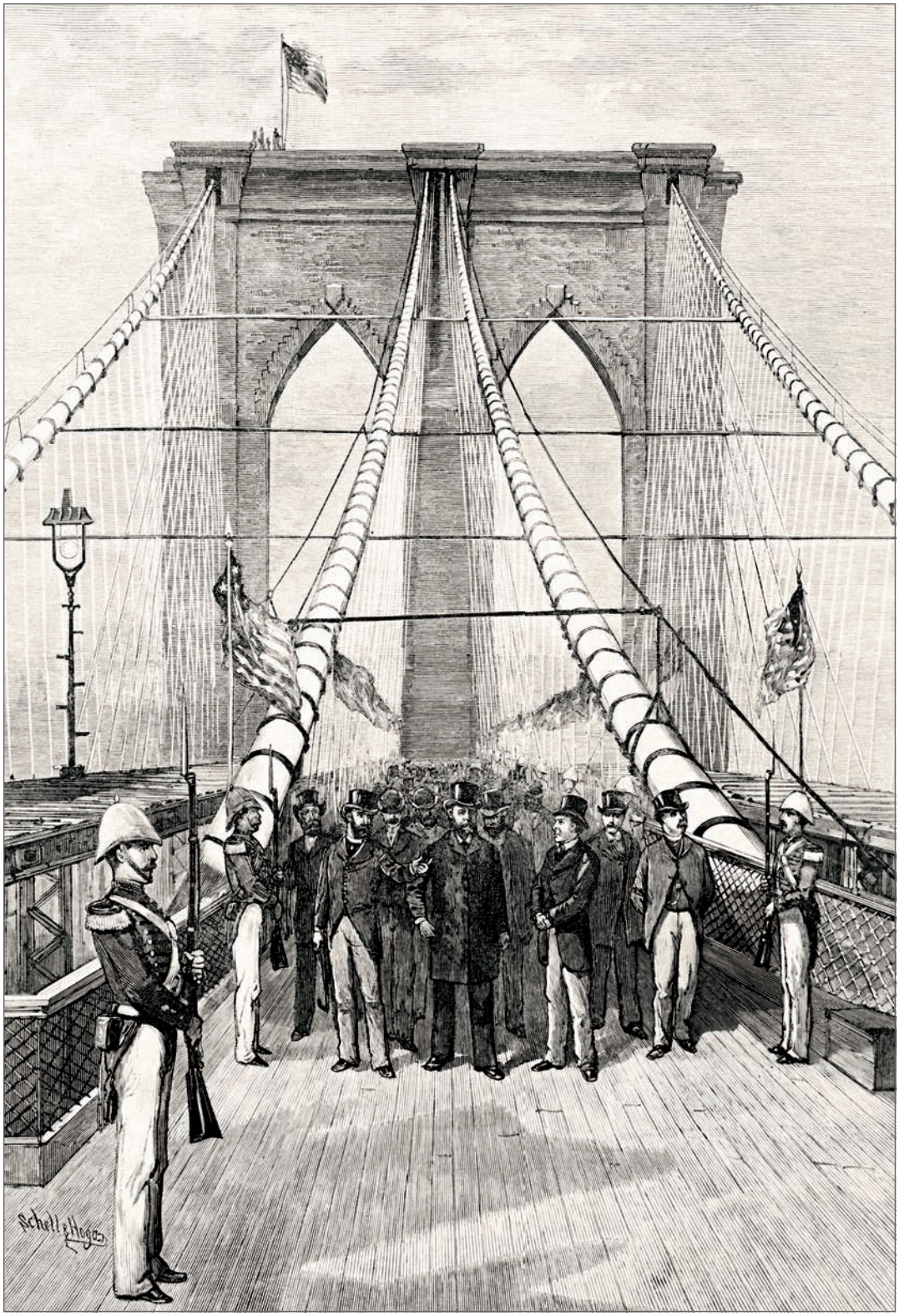
When the bridge was built there were no tall buildings or skyscrapers, no cars, and no electricity, but the bridge is more than 100 feet over the East River, so you could get a 360-degree view. People wanted to walk on the bridge not only to get back and forth, but also because they could see a beautiful view and enjoy being high in the air.

At 9:30 p.m. on May 17, 1884, 21 elephants, 7 camels, and 10 dromedaries crossed the Brooklyn Bridge. The elephants were to show people that the bridge is strong, because people (especially people who wanted the bridge to fail because they had competing interests, like the ferry companies) were saying that the bridge was not sturdy. This event was organized by P.T. Barnum, who was famous for his circus with its especially giant elephant Jumbo. P.T.Barnum believed that the elephant parade would make people stop spreading rumors about the bridge—he liked the bridge almost as much as he liked putting on a show. Imagine being with all those animals... that is a lot of animals on one bridge!

TWENTY-ONE ELEPHANTS

On May 18th, 1884, the *New York Times* described the elephants crossing the bridge: "England's pet, old Jumbo, his Royal Sacredness, the white elephant, and the mighty name of Barnum added a new lustre to the bridge last night. To people who looked up from the river at the big arch of electric lights it seemed as if Noah's ark was emptying itself over on Long Island... "Hooray!" shouted a small boy, "there's Jumbo!" [12]

12 "The Elephants Cross the Bridge," *New York Times*, May 18, 1884.



An illustration from Harper's Weekly in June of 1883 shows President Chester A. Arthur crossing the bridge. Everyone was celebrating!
Schell and Hogan, *The Great bridge—President Arthur and his party crossing the suspended highway*, 1883, wood engraving, LC-USZ62-108304; Library of Congress Prints and Photographs Division.

6

Why is the Bridge Important to Us?

The bridge is an important landmark and it is one of the most loved bridges ever. The bridge helps us to travel easier. People became less likely to get stuck in different places—for example, imagine if we still used only boats to cross the river. We would have to use a lot of boats because there are so many people in New York City, and they would crash into each other and cause a lot of injuries. Now a lot of cars and people use the bridge and a lot of the traffic goes to Brooklyn because many people live on this side of the bridge. Before the bridge, there were many more people in Manhattan than in Brooklyn and not as many people lived here. After the bridge was built, instead of taking a boat you could take a horse and carriage or walk across. Also, there was a trolley that went over the bridge but it got too busy and so the trolley was removed on January 26, 1908. The bridge is important for people in Brooklyn so we can go to Manhattan, and we can live here where it's not as expensive and there is more space.

Even though the Brooklyn Bridge is 136 years old, it was strong enough to survive Hurricane Sandy, which destroyed many other buildings and homes. It was strong because the towers' foundations are deep, deep down. John and Washington Roebling designed a bridge that has been a symbol of our city for more than a hundred years, and we hope it will last for at least a hundred more!



This photograph was taken by Bernard Gotfreyd in 1983, at the centennial celebration of the bridge's opening.
Bernard Gotfreyd, *Fireworks Over the Brooklyn Bridge*, 1983, Bernard Gotfreyd Color Slides and Photographs, V1987.3.29; Brooklyn Historical Society.

MOVING DAY!

Many newspapers in the years after the bridge opened noticed how many people were moving to Brooklyn, and the Brooklynites were usually excited about all of the new residents and businesses in their city. In May of 1884, a year after the bridge opened, the *Brooklyn Daily Eagle* wrote: "Since last May day the Brooklyn Bridge has opened our "Earthly Paradise" to the crowded New Yorkers... This great exodus of to-day is one of the reasons why houses and flats have sprung up in such phenomenal abundance in Brooklyn. They have been built to meet an ever-increasing demand... no city in the Union is advancing materially and increasing in population with greater speed and certainty than Brooklyn." [13]

[13] "May-Day and Moving," *Brooklyn Daily Eagle*, May 1, 1884, https://bklyn.newspapers.com/image/50343474/?terms=brooklyn bridge.



Stats & Superlatives About the Brooklyn Bridge*,**

- It is the first ever steel wire suspension bridge.
- It was the longest ever suspension bridge when it was built.
- Explosives were used inside a caisson for the first time during its construction.
- It is 5,989 feet or 1.6 kilometers long.
- It is 85 feet wide.
- Each cable weighs 1,732,086 pounds.
- About 1,000 people cross the bridge every day.
- The length of the center span is 1,595 feet and 6 inches.
- The height of each tower is 276 feet, and the roadway is 100 feet above the water line.

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* Elizabeth Mann and Alan Witschonke, *The Brooklyn Bridge*, (New York: Mikaya Press, 2006).
** The Editors of Encyclopaedia Britannica, "Brooklyn Bridge," Encyclopædia Britannica, January 11, 2019, https://www.britannica.com/topic/Brooklyn-Bridge.

About the Authors

2019 Young Scholars of PS 307



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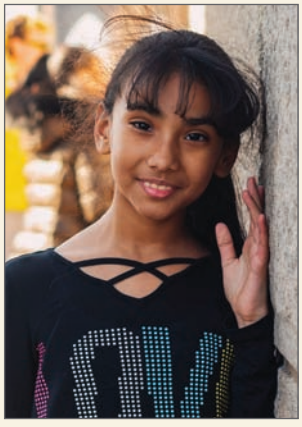
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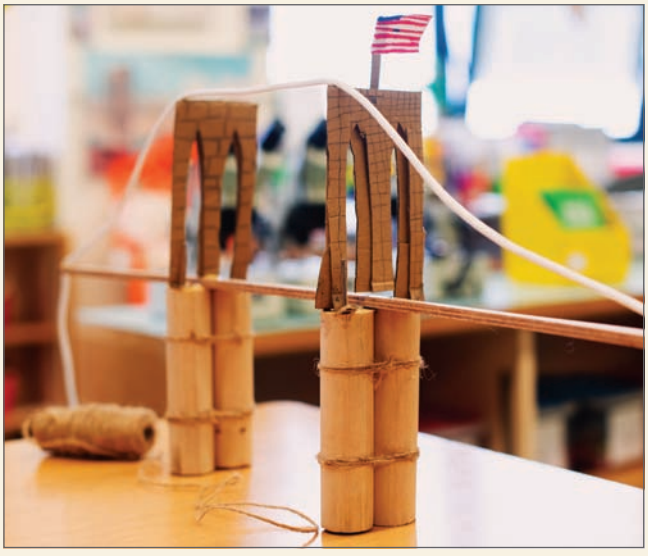
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Photos courtesy of Anna Rathkopf and Idris Solomon.

Glossary

anchorage a place where something is fastened firmly.

bedrock the hard, solid area of rock in the ground that supports the earth above it.

caisson a watertight chamber used in construction work under water or as a foundation.

catwalk a narrow walkway (as along a bridge).

centennial a 100th anniversary or its celebration.

chronological of, relating to, or arranged in or according to the order of time.

descendant a person related to someone from an earlier generation.

dromedary a type of camel (a large animal that lives in the desert) with one hump (raised area) on its back.

engineering the study of using scientific principles to design and build machines, structures, and other things, including bridges, roads, vehicles, and buildings.

excavator one who excavates (excavate = to dig out and remove).

excerpt a passage (as from a book or musical composition) selected, performed, or copied.

hydropathy a method of treating disease by copious and frequent use of water both externally and internally.

landmark a structure (such as a building) of unusual historical and usually aesthetic interest, especially one that is officially designated and set aside for preservation.

Lenape an umbrella term for the Native Americans living in Brooklyn and parts of New York and New York City in the 1600s.

Lenni Lenape the native peoples who lived in what is now Brooklyn.

mason a skilled worker who builds by laying units of substantial material (such as stone or brick).

mechanic someone who repairs or works with machines, esp. as a job.

original a work composed firsthand; that from which a copy, reproduction, or translation is made.

paralyzed rendered incapable of movement or action; affected with paralysis (complete or partial loss of function, especially when involving the motion or sensation in a part of the body).

philosopher a person who seeks wisdom or enlightenment, such as a scholar or thinker; or, a student of philosophy.

pneumatic operated by air pressure, or containing air.

primary source a primary source provides direct or firsthand evidence about an event, object, person, or work of art.

secondary source secondary sources describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources.

span the spread or extent between abutments or supports (as of a bridge); also, a portion thus supported.

strike a work stoppage by a body of workers to enforce compliance with demands made on an employer, or a temporary stoppage of activities in protest against an act or condition.

suspension bridge a bridge that has its roadway suspended from two or more cables usually passing over towers and securely anchored at the ends.

tension the act or action of stretching or the condition or degree of being stretched to stiffness.

trustee a natural or legal person to whom property is legally committed to be administered for the benefit of a beneficiary (such as a person or a charitable organization).

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Stories of the Brooklyn Bridge is the result of a six-month "Young Scholars" partnership between Brooklyn Historical Society and PS 307. The 2019 Young Scholars program is designed to introduce a core group of students to the dynamic process of historical research about their neighborhood, and to share these students' interpretive work beyond the walls of their classroom. Young Scholars programs truly express Brooklyn Historical Society's mission to connect the past and present and make the vibrant history of Brooklyn tangible, relevant, and meaningful for today's diverse communities and for generations to come and are a hallmark of its Education Department.

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Young Scholars is supported, in part, by public funds from the New York City Department of Cultural Affairs in partnership with the City Council. Special thanks to City Council Member Stephen Levin.

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