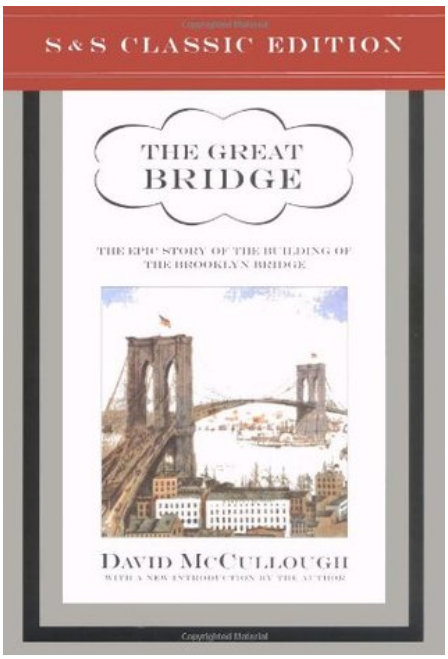

The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge

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Published on the fortieth anniversary of its initial publication, this edition of the classic book contains a new Preface by David McCullough, "one of our most gifted living writers" (*The Washington Post*).

Built to join the rapidly expanding cities of New York and Brooklyn, the Brooklyn Bridge was thought by many at the start to be an impossibility destined to fail if not from insurmountable technical problems then from political corruption. (It was the heyday of Boss Tweed in New York.)

But the Brooklyn Bridge was at once the greatest engineering triumph of the age, a surpassing work of art, a proud American icon, and a story like no other in our history. Courage, chicanery, unprecedented ingenuity and plain blundering, heroes, rascals, all the best and worst in human nature played a part. At the center of the drama were the stricken chief engineer, Washington Roebling and his remarkable wife, Emily Warren Roebling, neither of whom ever gave up in the face of one heartbreaking setback after another.

The Great Bridge is a sweeping narrative of a stupendous American achievement that rose up out of its era like a cathedral, a symbol of affirmation then and still in our time.

The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge Details

Date	:	Published June 1st 2001 by Simon & Schuster (first published January 1st 1972)
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Author	:	David McCullough
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Genre	:	History, Nonfiction, North American Hi..., American History, New York, Biography, Science, Engineering

From Reader Review The Great Bridge: The Epic Story of the Building of the Brooklyn Bridge for online ebook

Hadrian says

It is not easy to build bridges.

Let me bring up a local case, of a bridge between Detroit, Michigan and Windsor, Canada, has led to years of heartache, political opposition from stubborn 80-year old billionaires, controversial political deals with the devil, and years of time spent. And the thing hasn't even been built yet.

McCullough covers not only the political side of Bridge-building, but the technical side well. This is arguably his most famous book, and with good reason. He makes the dullest of technical details shine. The obscure historical characters of a century past are given a new luster. The great bridge is almost a natural formation in the city now, like the Hudson River, but now the reader is taken back to the triumphal opening, where president Chester Arthur shook the hand of the mayor of Brooklyn, and P. T. Barnum sent a parade of elephants across, a show of durability that is uniquely American.

Excellent stuff. McCullough is a phenomenal narrative historian and biographer, and it's good to revisit him again.

Chrissie says

If you haven't read a book by David McCullough you are missing a VERY good author. He writes non-fiction. He works in collaboration with a large staff. Some people may call that cheating, but I don't care b/c everything he writes is thoroughly investigated, interesting and expressed with flair. His books are never dry, never boring. He knows what to put in and what to leave out. Here he writes about the Brooklyn Bridge! How in the world can you write about a bridge and make it fascinating? He has succeeded. Again!

The book covers all the details related to the making of the Brooklyn Bridge, from conception to completion. It is also a biography of two amazing people, John Augustus Roebling (1806-1869), a German immigrant and engineer who conceived of and designed the bridge, and his son Washington Augustus Roebling (1837-1926) who was the chief engineer during the bridge's construction from 1869-1883. It is also about Emily Warren Roebling, Washington’s first wife; she played an essential role in the making of the bridge! It is a book about the two cities, New York City and Brooklyn, which came to be linked by the creation of the bridge. It is about the political corruption of the era. I am sure you’ve heard of the shenanigans of Tammany Hall, well here they are again. People that really get you mad! It is about how the bridge forever changed New York City. It was a time of great innovation played out and shaped by the people of this great metropolis. The bigwigs, the politicians, the business men, the artisans, the immigrants, the small people and the big, the dreamers and the workers.

Read this book to meet Washington Roebling! His engagement is utterly inspirational. When mistakes were made he never shirked his responsibility and he wanted the Board of Trustees to shoulder their responsibility too.

In making a solid foundation for the bridge, workers excavated the riverbed using massive wooden boxes

called caissons. These airtight chambers were pressed to the river’s floor by mammoth granite blocks; pressurized air was pumped in to keep water and rubble out. Workers succumbed to what is today known as “caisson disease”, "decompression sickness" or “the bends”: joint pain, numbness, paralysis, convulsions and sometimes death. Very little of this was understood then. In 1870 Washington Roebling worked from within a caisson to extinguish a fire that had broken out. Working often alongside men in the caissons he too came to suffer from the disease, as well as other nervous ailments.

I would have appreciated a more in-depth discussion of his medical problems resulting from "decompression sickness". Probably he also suffered from what is known as neurasthenia and perhaps secondary drug addiction. Due to his illnesses he worked in close corroboration with his wife holding his position as chief engineer "in absentia"! That he could later in 1921 become president of John A. Roebling's Sons Company at age 84 is hard to comprehend! It is for this reason I would have liked a fuller understanding of what afflicted him!

I did have trouble sometimes understanding the minute and detailed description of the component parts of the bridge construction. Yet I never felt that even the details which I didn’t completely understand should be removed. A picture says simply what a thousand words try to explain. I did look in internet for detailed drawings but you need more than just a diagram. What you really need is someone pointing out the respective parts of the diagram to fully understand. Listening and listening and still not completely understanding was frustrating to me.

I listened to the audiobook narrated by Nelson Runger. He does a totally fantastic job. He reads slowly. He reads clearly. He reads with feeling. When the bridge is completed, the author's lines and Runger's intonation allows one to appreciate the beauty and the magnificence of what had been created. There was a huge celebration with firecrackers, with bells tolling, whistles shrilling, firecrackers, tugs tooting, children scrambling and huge crowds marveling at the spectacle! I felt like I was there. When the electric lights of the bridge were first illuminated I could feel the wonder of the lights and the two dark stone towers, along with the thousands that watched.

An epilog completes the book so you know what happens to the central characters in the years after the bridge is completed.

Dave says

As expected with a David McCullough book, this one is excellent, at least 4.5/5 stars. The book encompasses the entire 14 years of construction from 1869 to 1883. Those were years of rapid growth of the country, spanning from immediately after the devastating Civil War, to the dawning of electricity and the edge of the twentieth century. McCullough does a good job of giving the reader that historical perspective. The construction of the Brooklyn Bridge was an undertaking of mammoth proportions at that time. They attempted things in this project on a scale never before tried. The story of the man responsible for the design and construction of the bridge, Washington Roeblings, is as fascinating as the story of the bridge itself. Key characters are brought vividly to life. I recommend this book to anyone interested in U.S. history or the development of the modern industrial age.

Kasa Cotugno says

So much minute detail, but worth the effort. As much a portrait of the era, political and social, as a portrait of the iconic bridge, its planning, execution, and the behind the scenes shenanigans by the scoundrels of the age.

Albert says

The Great Bridge was David McCullough's second. It is throughly researched, and is not only a history of the building of the Brooklyn Bridge, but also the politics that enabled and hindered that accomplishment and a history of the times. What makes this history very readable, though, are the personal stories revealed. John Augustus Roebling, the architect, Washington Roebling, son and chief engineer, and Emily Roebling, wife of Washington and true partner to both Washington and the project, are the characters around which the story revolves. The price that Washington and Emily paid to see the project through is quite remarkable. Washington's intellectual powers, the knowledge he had acquired by such a relatively early age and the attention to detail and level of commitment he brought to his responsibilities are truly amazing.

In school I learned about Boss Tweed, Tammany Hall and corruption in New York City politics during that period in history, but I can't say the topic and events ever really grabbed my attention. In McCullough's book they are provided in the context of a specific story and therefore much more interesting. The book also reveals though that there were worse villains in the building of the Brooklyn Bridge than Boss Tweed. The Great Bridge also does a great job of uncovering the individual motivations of different players that generated the various swings in public opinion and efforts to control the project.

While I enjoyed understanding the challenges such a construction project posed given the knowledge and technology of the time, I did feel there was too much of this detail in places. Part of this is due to my difficulty in visualizing some of the efforts and physical constructs described. As a reader I also couldn't help but want more insight into some of the personal details of the characters: the relationship between Washington and Emily, the intricacies of the politics and relationships within the Roebling family and the true causes of some of Washington's health issues. Despite the enormous amount of detail that McCullough apparently had available to him, some of those details are lost in the past and some of the detail provided comes across as a bit dry. Ultimately, though, I am today a great admirer of the Brooklyn Bridge, the architectural feat it is and what it took to make it happen.

David says

This is an engaging history of the building of the Brooklyn Bridge. The bridge was one of the greatest engineering feats of its time. The book goes into great detail about the bridge itself, its design and construction techniques.

But most of the book is devoted to the people involved. And the two people who were most involved were father and son, John and Washington Roebling. Thus, the book can also be classified as a biography. These two men had a great vision, and the skills and experience to bring the vision to a reality. John Roebling made the initial design. Washington Roebling carried it out. He was a very competent man; he was a hero during

the American Civil War.

A lot of the book also centers on the huge amount of corruption that engulfed many political figures in New York. The immense undertaking gave plenty of opportunities for roguish figures to get rich. There is an amazing story about how a steel contractor delivered sub-par quality of steel. So, Roebling had inspectors go to the warehouse at the point where the steel was being sent out, to ensure that the steel met the specifications. But lo and behold, the steel that arrived at the bridge was found to still be sub-quality! It turned out that in mid-trip to the bridge site, the carriage containing high-grade steel had been switched with another containing low-grade steel!

Another interesting aspect of the story is how many of the workers who worked at great atmospheric pressure inside the caissons were subjected to the bends. At the time, the cause of this malady was unknown. It was finally realized that it could be alleviated by rising up to atmospheric pressure more slowly--but the rate was still too fast. Washington Roebling himself encountered a near-fatal exposure to the bends.

This is a well-researched, comprehensive history of the Brooklyn Bridge, and the men who worked on it, designed it, and managed it. It is also an insightful look at the politicians of the time. I recommend this book to all who are interested in a good history.

Carol says

I've said it before, and I'll say it again. David McCullough is one of the very best authors of all times to me. I'm not great at history, but he has a way of telling a story that penetrates into my heart and brain and soul such that I actually learn something. Then I get excited and start researching and reading more and more about whatever topic grabbed me. This time being the Brooklyn Bridge. Very interesting and a great way to learn about it. I'm including some very interesting information I learned in my studies.

The Brooklyn Bridge is a hybrid cable-stayed/suspension bridge in New York City and is one of the oldest roadway bridges in the United States. Started in 1869 and completed fourteen years later in 1883, it connects the boroughs of Manhattan and Brooklyn, spanning the East River. It has a main span of 1,595.5 feet (486.3 m) and was the first steel-wire suspension bridge constructed. It was originally called the New York and Brooklyn Bridge and the East River Bridge, but it was later dubbed the Brooklyn Bridge, a name coming from an earlier January 25, 1867, letter to the editor of the Brooklyn Daily Eagle and formally so named by the city government in 1915. Since opening, it has become an icon of New York City and was designated a National Historic Landmark in 1964 and a National Historic Civil Engineering Landmark in 1972

DESIGN: Although the Brooklyn Bridge is technically a suspension bridge, it uses a hybrid cable-stayed/suspension bridge design. The towers are built of limestone, granite, and Rosendale cement. The limestone was quarried at the Clark Quarry in Essex County, New York. The granite blocks were quarried and shaped on Vinal haven Island, Maine, under a contract with the Bodwell Granite Company, and delivered from Maine to New York by schooner.

The bridge was built with numerous passageways and compartments in its anchorages. New York City rented out the large vaults under the bridge's Manhattan anchorage in order to fund the bridge. Opened in 1876, the vaults were used to store wine, as they were always at 60 °F (16 °C). This was called the "Blue Grotto" because of a shrine to the Virgin Mary next to an opening at the entrance. When New York magazine visited one of the cellars in 1978, it discovered on the wall a "fading inscription" reading: "Who

loveth not wine, women and song, he remaineth a fool his whole life long."

CONSTRUCTION: The bridge was conceived by German immigrant John Augustus Roebling in 1852, who spent part of the next 15 years working to sell the idea. He had previously designed and constructed shorter suspension bridges, such as Roebling's Delaware Aqueduct in Lackawaxen, Pennsylvania, and the John A. Roebling Suspension Bridge between Cincinnati, Ohio, and Covington, Kentucky. While conducting surveys for the bridge project, Roebling sustained a crush injury to his foot when a ferry pinned it against a piling. After amputation of his crushed toes, he developed a tetanus infection that left him incapacitated and soon resulted in his death in 1869, not long after he had placed his 32-year-old son, Washington Roebling, in charge of the project.
In February 1867, the New York State Senate passed a bill that allowed the construction of a suspension bridge from Brooklyn to Manhattan. Two months later, the New York and Brooklyn Bridge Company was incorporated. The company was tasked with constructing what was then known as the New York and Brooklyn Bridge.

Construction of the Brooklyn Bridge began in 1869. The bridge's two towers were built by floating two caissons, giant upside-down boxes made of southern yellow pine, in the span of the East River, and then beginning to build the stone towers on top of them until they sank to the bottom of the river. Compressed air was pumped into the caissons, and workers entered the space to dig the sediment, until the caissons sank to the bedrock. The whole weight of the bridge still sits upon 15-foot-thick southern yellow-pine wood under the sediment.

Many workers became sick with the bends during this work. This condition was unknown at the time and was first called "caisson disease" by the project physician, Andrew Smith. Washington Roebling suffered a paralyzing injury as a result of "caisson disease" shortly after ground was broken for the Brooklyn tower foundation on January 3, 1870. Roebling's debilitating condition left him unable to physically supervise the construction firsthand.

As chief engineer, Roebling supervised the entire project from his apartment with a view of the work, designing and redesigning caissons and other equipment. He was aided by his wife, Emily Warren Roebling, who provided the critical written link between her husband and the engineers on site. Warren Roebling studied higher mathematics, calculations of catenary curves, strengths of materials, bridge specifications, and intricacies of cable construction. She spent the next 11 years helping to supervise the bridge's construction. When iron probes underneath the caisson for the Manhattan tower found the bedrock to be even deeper than expected, Roebling halted construction due to the increased risk of decompression sickness. He later deemed the sandy subsoil overlying the bedrock 30 feet (9.1 m) below it to be firm enough to support the tower base, and construction continued.

The construction of the Brooklyn Bridge is detailed in The Great Bridge (1972), the book by David McCullough, and in Brooklyn Bridge (1981), the first PBS documentary film by Ken Burns. Burns drew heavily on McCullough's book for the film and used him as narrator. It is also described in Seven Wonders of the Industrial World, a BBC docudrama series with an accompanying book.

OPENING: The New York and Brooklyn Bridge was opened for use on May 24, 1883. Thousands of people attended the opening ceremony, and many ships were present in the East Bay for the occasion. President Chester A. Arthur and Mayor Franklin Edson crossed the bridge to celebratory cannon fire and were greeted by Brooklyn Mayor Seth Low when they reached the Brooklyn-side tower. Arthur shook hands with Washington Roebling at the latter's home, after the ceremony. Roebling was unable to attend the ceremony (and in fact rarely visited the site again), but held a celebratory banquet at his house on the day of the bridge

opening. Further festivity included the performance of a band, gunfire from ships, and a fireworks display. Since the New York and Brooklyn Bridge was the only one across the East River at that time, it was also called East River Bridge.

On that first day, a total of 1,800 vehicles and 150,300 people crossed what was then the only land passage between Manhattan and Brooklyn. Emily Warren Roebling was the first to cross the bridge. The bridge's main span over the East River is 1,595 feet 6 inches (486.3 m). The bridge cost US$15.5 million in 1883 dollars (about US$393,964,000 in today's dollars) to build, and an estimated 27 men died during its construction.

On May 30, 1883, six days after the opening, a woman falling down the stairway caused a stampede, which was responsible for at least twelve people being crushed and killed. On May 17, 1884, P. T. Barnum helped to squelch doubts about the bridge's stability—while publicizing his famous circus—when one of his most famous attractions, Jumbo, led a parade of 21 elephants over the Brooklyn Bridge.
At the time it opened, and for several years, it was the longest suspension bridge in the world—50% longer than any previously built—and it has become a treasured landmark. Since the 1980s, it has been floodlit at night to highlight its architectural features. The architectural style is neo-Gothic, with characteristic pointed arches above the passageways through the stone towers. The paint scheme of the bridge is "Brooklyn Bridge Tan" and "Silver", although it has been argued that the original paint was "Rawlins Red".

At the time the bridge was built, engineers had not discovered the aerodynamics of bridge construction. Bridges were not tested in wind tunnels until the 1950s, well after the collapse of the original Tacoma Narrows Bridge, known as Galloping Gertie, in 1940. It is therefore fortunate that the open truss structure supporting the deck is by its nature less subject to aerodynamic problems. Roebling designed a bridge and truss system that was six times as strong as he thought it needed to be. Because of this, the Brooklyn Bridge is still standing when many of the bridges built around the same time have vanished or been replaced. This is also in spite of the substitution of inferior quality wire in the cabling supplied by the contractor J. Lloyd Haigh—by the time it was discovered, it was too late to replace the cabling that had already been constructed. Roebling determined that the poorer wire would leave the bridge four rather than six times as strong as necessary, so it was eventually allowed to stand, with the addition of 250 cables. poorer wire would leave the bridge four rather than six times as strong as necessary, so it was eventually allowed to stand, with the addition of 250 cables.

LATER YEARS: In 1915, the city government officially named the structure the "Brooklyn Bridge", a name first mentioned in print in a January 1867 letter to the editor of the Brooklyn Daily Eagle.
During the Cold War, a fallout shelter was constructed beneath the Manhattan approach. The abandoned space in one of the masonry arches still contained the emergency survival supplies for a potential nuclear attack by the Soviet Union when rediscovered in 2006 during a routine inspection.
In 1964, the bridge was designated a National Historic Landmark, having become an icon of New York City since its opening, and a National Historic Civil Engineering Landmark in 1972.
The centennial celebrations on May 24, 1983, saw a cavalcade of cars crossing the bridge, led by President Ronald Reagan. A flotilla of ships visited the harbor, parades were held, and in the evening the sky over the bridge was illuminated by Grucci Fireworks The Brooklyn Museum exhibited a selection of the original drawings made for the bridge's construction, some by Washington Roebling. Media coverage of the centennial was declared "the public relations triumph of 1983" by Inc.

Beginning on May 22, 2008, five days of festivities celebrated the 125th anniversary of the bridge's opening. The events kicked off with a live performance of the Brooklyn Philharmonic in Empire–Fulton Ferry State Park, followed by special lighting of the bridge's towers and a fireworks display. Other events held during

the 125th anniversary celebrations, which coincided with the Memorial Day weekend, included a film series, historical walking tours, information tents, a series of lectures and readings, a bicycle tour of Brooklyn, a miniature golf course featuring Brooklyn icons, and other musical and dance performances. Just before the anniversary celebrations, artist Paul St George installed the Telectroscope, a video link between New York City and London, on the Brooklyn side of the bridge. The installation lasted for a few weeks and permitted viewers in New York City to see people looking into a matching telectroscope near London's Tower Bridge. A newly renovated pedestrian connection to the DUMBO neighborhood was also unveiled before the anniversary celebrations.

RENOVATION: After the 2007 collapse of the I-35W highway bridge in Minneapolis, public attention focused on the condition of bridges across the U.S. The New York Times reported that the Brooklyn Bridge approach ramps received a rating of "poor" during its inspection in 2007. According to a NYC Department of Transportation spokesman, the poor rating did not indicate a dangerous state but rather implied it required renovation. A US$508 million project (equivalent to US$570 million in 2017) to renovate the approaches began in 2010, with the full bridge renovation beginning in early 2011 which was originally scheduled to run until 2014, however the project did not finish until April 2015.

Work included widening two approach ramps from one to two lanes by re-striping a new prefabricated ramp; raising clearance over the eastbound Interstate 278 at York Street, on the double-deck Brooklyn-Queens Expressway; seismic retrofitting; replacement of rusted railings and safety barriers; and road deck resurfacing. The nature of the work necessitated detours for four years.

In August 2016, after the renovation of the bridge had already been completed, the New York City Department of Transportation announced that it would conduct a seven-month, US $370,000 study to verify if the bridge could support a heavier upper deck that consisted of an expanded bicycle and pedestrian path. As of 2016, about 10,000 pedestrians and 3,500 bikers use the pathway on an average weekday. Work on the pedestrian entrance on the Brooklyn side was underway by 2017.
Great Book - HIGHLY RECOMMEND.

Lynn says

I apparently liked this book more than I originally thought I had (see below). There is an awful lot of detail in this book, maybe too much. I now know way more about caissons, the bends and different types of steel than I ever thought I would ever know or ever needed to know. I do understand why all the information was included, but it was a slog to get through it all. I also have a better understanding of the Tammany Hall scandal. The political scandals of that era were amazingly blatant.
The book is filled with so many interesting people, especially Washington Roebling and his wife Emily. He sacrificed his health and nearly his life to build that bridge, and she became his eyes, ears and legs when he became incapacitated. The level of engineering that went into building the Brooklyn Bridge is just extraordinary, given the time. It stands as a monument to the people who believed in it and built it.
I usually enjoy David McCullough's books a bit more than this one, but I felt it got bogged down in the engineering aspects of the subject matter. When he was writing about the people and the times, the book was much better. Either way, I know I'll never regard the Brooklyn Bridge the same way again. I absolutely have a new found respect for it. Last night I was watching Law and Order SVU and there it was in the opening credits. It brought a big smile to my face. I honestly had never noticed it before. Now I can't not notice it. Good job, David McCullough!

10/15/17: I just raised my rating to 4 stars. I realized that after all this time, I just can't get this book out of my mind, so it must have made a bigger impression on me than I had imagined at the time of writing my initial thoughts of the book. When we were in NYC this summer, one of my goals was to see the bridge in person, and we did. I am now obsessed with the Brooklyn Bridge. Well played, David McCullough!

Brian says

I love David McCullough. I have yet to be disappointed by a book of his, and I have read most of them, and will read them all. “The Great Bridge” is no exception, but there were times when I had to push myself to read through (only a few times). This is not the fault of the author, but my own. As this book is about the building of the Brooklyn Bridge McCullough at times (appropriately) talks about engineering and other matters of science and my mind does not naturally attach itself to such things. If yours does, then there will not be a dull moment. If you are a humanities guy (like me) there will be moments of struggle, but they are short and necessary.
Like all history, this book is really the about the times and people, and the building of the Brooklyn Bridge is a catalyst around which to illuminate the times. As I told someone the other day, this text is “about all of the things about the Brooklyn Bridge that I did not know I needed to know.”
In McCullough’s capable hands the era comes alive and one cannot help but be astonished at the amazing engineering and genius that allowed such a marvel to be constructed in the manner in which it was conceived and executed, in the 1870s no less!
“The Great Bridge” is about us really, as we are today, because people are people and the struggles, triumphs, foibles and follies of those whose lives intersected with the construction of this bridge are our own. Read this book to learn something about an amazing engineering marvel, a piece of iconic American history, and to jump into the lives of some interesting people. You will find the past for sure, but you will also recognize a bit of the present. Good historians do just that, and David McCullough certainly fits that bill.

Kressel Housman says

This is only the second David McCollough book I’ve ever read, and my motivation for it was exactly the same as with the last one: someone is planning on adapting it into a feature film. Unlike that other film, though, a biopic of Teddy Roosevelt’s years in the Dakotas that has disappeared from the American Film Company website, this one has an announced starring cast. *fangirl drumroll* DANIEL RADCLIFFE as Washington Roebling. Need I say more? Well, all right, that Oscar winner Sir Ben Kingsley as his father, John Roebling, and Brie Larson as his wife, Emily. I knew nothing about the Roeblings going into this book, so the images of those three actors completely dominated my reading of the book, as did thoughts like, “That will translate beautifully into film,” and “How are they going to pull that one off?”

The books is over 500 pages, and the bridge took fourteen years to build, so naturally, the film will have to skip plenty. Truth be told, there’s plenty about the book I just skimmed through myself, particularly the engineering sections. But David McCollough knows how to weave the human story into the details, and the Roeblings’ story is ripe for it.

The bridge began as the brainchild of engineer John Roebling, already known by then as one of the greatest bridge builders in the world with four significant bridges to his name. He won himself backers, but when the building began, he was injured on site and died of tetanus shortly thereafter. The descriptions of the violence

of his seizures put me right into movie director mode. If they stage it the death as the book describes it, Sir Kingsley is going to win another Oscar.

John Roebling's son Washington, then in his late twenties, succeeded his father as Chief Engineer of the bridge. Because he was so young, there were some who objected to him, but it turned out that nobody understood John Roebling's design and intentions better. He was every bit as devoted to the bridge as his father was, and spent almost all of his time on site, solving whatever problems arose, and there were many of them. Remember, this was the late nineteenth century. There weren't that many machines that could be sent underwater to build the caissons. Human beings had to do it, which meant they were subject to a condition that deep sea divers sometimes suffer: "the bends." At worst, "the bends" were fatal, but at other times, they resulted in paralysis, sometimes temporary and sometimes not. When a fire broke out during construction, Washington spent too long submerged underwater fixing the problem that caused it, and he emerged with "the bends." To make a long story short, he never fully recovered.

Washington Roebling's condition varied over the remaining years, but for most of it, he was basically a shut-in. The most famous image of him, one that the movie will no doubt play up, is of him sitting at the window in his Brooklyn apartment, watching the progress on the bridge.

Note the binoculars beside him. The book said he had a telescope, too. So he would watch the bridge's progress, and then dictate instructions to his wife Emily, who would take them down and deliver them to the assistant engineers and mechanics. In this way, she became well-versed in the principles of engineering herself, sometimes getting credit in the press for being the real brains behind the bridge. That she had brains and talent is undeniable, but the truth is that they really were partners. Emily was her husband's secretary, nurse, and forewoman. She also served as diplomat to the bridge's Board of Directors, and it was in this capacity that he valued her most as there were several attempts to remove him as Chief Engineer. As with any major accomplishment, it was a fight every step of the way.

Though I didn't really "get" the engineering sections of this book, I'd imagine that for some people, they would be the most interesting part. I didn't get all the details of the corruption scandals the bridge faced, either. Boss Tweed figured in heavily in the beginning, but worse was a man named J. Lloyd Haigh, who supplied the bridge with shoddy wire. It could never have happened had Washington Roebling been on site, watching every detail as he did at the beginning. But even if there are facts about this story that I missed, here's one that I'm pretty sure will stick: in the fourteen years it took to build the bridge, both the telephone and the lightbulb were invented. In other words, this book is not just about the bridge or the Roeblings; it's about the Industrial Revolution. Great things were happening. Bridges were being built, as were railroads. But in order to make our modern world possible, plenty of unknown workmen gave their lives. The movie will no doubt pay tribute to the Roeblings and their sacrifices. The bridge opening, complete with fireworks, will make one heckuva triumphant scene. But if you want to learn about the sacrifices of the average nineteenth century workman, David McCullough doesn't let you forget him either.

And on that note, here's my favorite historic picture of the Brooklyn Bridge: Jews doing the ritual of *tashlich* in the early 20th century:

Kalliope says

I first became interested in the story behind the design and building of the Brooklyn Bridge a few years ago when I watched the TV documentary 'New York' by Ric Burns. In one of the episodes it focused on this land-and-river-mark - on its novelty, its innovations and the human tragedy that it also brought about.

Around that time also I read, and was fascinated by, David McCullough's The Path Between the Seas. I have therefore wanted to read this book for several years.

I have to acknowledge, though, that though I have enjoyed greatly learning more about this historical episode of human ingenuity, McCullough's treatment was too good for me. I have felt that I was facing far too large a load of information when reading it. The descriptions of technical details were often over my head. As I am a visual person, I needed more graphs than textual accounts, so I resorted to the web for additional videos, graphs and drawings.

I enjoyed the way McCullough puts the building of the bridge in the context of similar and earlier engineering feats. There are so many aspects in the structure of this bridge, that one cannot say that it is "The First" except in a few of its characteristics. The building took from 1869 to 1883, so it is to be expected that during the fourteen years many incidents happened; most were related to the Brooklyn enterprise directly and some indirectly, as it happened with the tragedy of the Tay Bridge disaster in Scotland in 1879.

The most fascinating part of the construction was the design and sinking of the two huge 'caissons'; structures that were different and had to be dealt with differently at either side, the Brooklyn and the Manhattan sides; the latter having to go a great deal deeper than the former.

Also over my head went the stories of the local politics - both at the city level and at the corporate level. These sections I scanned for the most part except for a couple of episodes. Most fascinating of all was the account around the highly corrupt Boss Tweed, politician and significant landowner, and his fall after the Orange Riot of 1871.

The most engaging aspect was however the human. Learning about the outstanding Roebling family - the father, the son, the other sons, and particularly the wife of the son - is sufficient for recommending the book.

In particular **Washington Roebling (1837-1927)**, the eldest son, stands out. Not just for what he did - he was right in that we should consider him as the maker of the bridge and not his father - but also for his personality. Men like him are enigmatic. How can one accumulate exactly the right qualities that are required when one's role is extremely difficult? With his health severely damaged from an early age, he however outlived them all. May be his life was suspended from an invisible thread of supernatural steel.

And he married the right woman. **Emily Warren Roebling (1843-1903)** comes across as the angel of steel, also wonderfully suspended over the construction of the bridge taking over the responsibilities of the Chief Engineer when her husband became too weak.

As with the Panama story - when not just engineering but a biological and medical obstacle had to be solved, malaria - also here the physiological problem made the building project more complicated. The effects on the human body when going down to great depths were not understood. Some investigation on the effects on people when submerging had been done in France but the new and greater depths required in the sinking and reinforcement of the Brooklyn Bridge 'caissons' was occasioning the little understood 'Bends' that took several lives. Indeed, the too fast decompression that the workers endured is also what severely damaged the health of Washington Roebling himself.

This is a great read even if for some readers McCullough's astounding command of data and fastidiousness in his narration can leave as if one had sunk in one of the Caissons. But when closing the book one is certainly going to feel differently when crossing this marvelous bridge.

I understand there is a documentary by Ken Burns on this Bridge, solidly based on this book, but I have not seen it.

This is the one I have:

https://www.youtube.com/watch?v=nevq4...

Czarny Pies says

David McCullough est le plus grand historien americain de notre époque. A mon avis il mérite le prix de Nobel de Littérature qui a déja été accordé a un historien a deux ou trois reprises.

"The Great Bridge" qui raconte l'histoire de la construction entre 1869 et 1883 du pont de Brooklyn qui traverse l'East River afin de relier l'isle de Manhattan avec la vile de Brooklyn. Il est le deuxieme livre de McCullough. Il n'est pas encore au sommet de sa forme mais tres pres. Ce livre mérite incontestablement d'etre lu. Si vous avez aimé la biographie d'Haussman par Michel Carmona il est certain de vous plaire. Les deux livres traitent d'un grand projet de construction dans une ville majeure au milieu du dix-neuvieme siècle. Il possedent les memes elements. Ils expliquent l'état a l'époque de la science medicale et de le technologie de la construction et leurs roles dans le déroulement de la construction. Aussi ces deux livres donne un portrait détaillé de la maniere dont les jeux politiques des deux pays ont eu un influence sur le déroulement des projets. Aussi, les deux livres offrent des descriptions de la corruption qui prevalaient à l'époque et les effets sur les travaux.

Long de 1,825, le pont de Brooklyn a ete lors de son ouverture le plus long pont suspendu du monde. Washington Roebling l'ingenieur en chef avait du compose avec beaucoup d'inconnus. McCullough reussit admirablement a explique les problemes techniques de maniere a interesser le lecteur qui connait a peu pres rien dans le genie civile. McCullough nous donne une tres long recit sur la fabrication des cables de fils

d'acier qui est absolument passionnant. Le plus grand defi du projet relevaient des caissons a air comprimes. Les caissons du pont de Brooklyn ont ete a l'epoque les plus grands et les plus profond de l'histoire du genie civile. Par consequence, il y a eu beaucoup d'accidents de decompression et plusiers morts. L'ingenieur en chef Roebling est tombe gravement malade suite a un accident de decompression et il 'a pas pu quitter sa maison pendant les huits dernieres annees de la construction. McCullough decrit les efforts medecins de remedier au probleme qui etaient finallement vains parce que on n'avait pas encore invente la caisson hyperbare.

The Great Bridge decrit de facon brillant la vie politique municipale aux E-U du milieu du dix-neuvieme siecle, Notamment, McCullough nous donne un portrait extraordinaire de Boss Tweed le plus grand detourneur des fonds publiques municipaux de l'histoire americaine.

Il n'y a aucun écrivain amérícan soit dans le domaine de la literature soit dans le domaine de l'histoire qui maitrise mieux l'art du narratif que David McCullough. Comme historien il juge les hommes severmentmais avec justice. Vraiment, The Great Bridge est une joie extraordinaire.

Sheila says

I couldn't believe that I was hooked on a 500 page book about bridge building. This is truly an eloquently written and expertly researched epic story of building the Brooklyn Bridge in the late 19th century.

McCullough, a masterful storyteller brought the history of the Brooklyn Bridge to life. The Brooklyn Bridge would not have existed without John and Washington Roebling, father and son. John Roebling was a German immigrant and engineer who designed the bridge with great ingenuity, but died of an accident before the bridge building began. Here are some memorable quotes from the book about him. "His success in everything he turned his hand to was generally attributed to an inflexible will and extraordinary resourcefulness." "One of his strongest moral traits was his power of will, not a will that was stubborn, but a certain spirit, tenacity of purpose, and confident reliance upon self . . . an instinctive faith in the resources of his art that no force of circumstance could divert him from carrying into effect a project once matured in his mind. . . ."

Washington Roebling became the chief engineer of the bridge after his father's death and led the arduous and painstaking construction effort for fourteen years. He endured not only many technical challenges and setbacks, but also debilitating "caissons disease" and tremendous political pressure at all times. I was amazed by the brilliance, courage and determination of Washington Roebling as his sacrifice and accomplishment was utterly inspirational.

A significant portion of the book was also dedicated to the politics and corruption associated with this immense public undertaking. Reading "The Great Bridge" gave me a renewed appreciation of the iconic American history of the ongoing growth of immigration, multiculturalism and technological progress.

Ally A says

The book The Great Bridge by David McCullough was a very detailed account of the long and troublesome building of the Brooklyn Bridge. It starts with John Roebling and his design and plans for the building of the Brooklyn Bridge. When he eventually passes away his son Washington Roebling takes over and continues where his father left off. Washington Roebling and his team encounter many different problems and political situation that add time and frustration to the total time it will take to build the bridge. This book was a little slow moving due to all of the details. There were many different people mentioned throughout the story and I had trouble following who was who, except for the main characters. I often found myself falling asleep because I had lost interest. Unless you are a true history person, then I would not recommend reading this book.

James Van Duker says

When I picked up this book, I was daring McCullough to get me to read the whole thing. How could a 562 page book about a bridge -- not to meantion an antiquated bridge, not the modern technological wonders of today -- keep me going that long, I thought? Yet I had heard reviews...I had to find out what they were talking about.

I finished the book in two weeks, and as it turns out, it's not just a book about a bridge (that really would be boring), it's a book about the people and events in one of them most famous, celebrated, and exciting times in American history. A time when people were choosing to expand westward and upward; when iron and coal were king; a time when anyone could be anything; it was America's time of manifest destiny, and the building of the bridge was a symbol of it all: east-west expansion, independence, unity, power, technology, urbanization, money, politics, corruption, immigration, just to name a few.

True to McCulloughs style, he finds those larger-than-life people: engineers, politicians, soldiers, seedy crooks, and socialites and tells their fascinating stories in the context of the building of the bridge. At times I wondered that McCullough hadn't been an engineer himself the way he described sinking caissons, raising stone towers, stringing steel suspension cables, and constructing trusses. I also wondered that McCullough had not personally watched the bridge rise out of the east river as an eyewitness in a former life , and whether in that same former life those dynamic figures in his book had not been his own personal confidants.

The only negative that I have to say about the book is that more pictures and diagrams would add immensely to his masterful descriptions of such complex things like bridge anchorages and compression caissons. He forgot to apply that age old adage: a picture is worth a thousand words.

The book was definately worth the read.

The only thing left is to see the bridge for myself.

Michael Jones says

For anyone not familiar with the great struggles involved in these terrific public works projects, this is a real eye-opener. This book is very THOROUGH. I was amazed by 3 things:

1. The brilliant engineering ingenuity and hard-fought struggle to implement.

2. The totally horrible corruption surrounding politics of that day. Makes me feel like our day is not necessarily the worst.

3. How totally captivated the general public was by the spectacle of its construction. Nowadays things are being built and we don't pay much attention.

The author does a very fine job of relating many of the correspondences and legal proceedings which add great depth to understanding what is involved to convince people to try something very innovative.

Mike Tully says

One of the best non fiction books I've read. David McCullough is an extraordinary historical writer. To understand that this bridge was built over 150 years ago without all the modern excavation tools and equipment that we have today is amazing. The Brooklyn Bridge is still standing and still a valuable asset to travelers to this day.

Erik Graff says

McCullough has improved as a writer since this book came out in 1972, but he was writing well enough even back then to carry this reader through almost seven hundred pages in three days.

One of the first grownup books I remember reading was a history of scams involving the sale of the Brooklyn Bridge. Now, finally, I've read about the construction of the thing, years after having lived in Manhattan and driven across it repeatedly and unappreciatively.

Of course McCullough, a social historian, writes about a lot more than engineering in this book. Along with the accounts of its centerpiece, he provides biographies of the chief players, a brief history of bridge--particularly suspension bridge--building, a discussion of "the bends", a review of New York politics and the infamous Tweed ring etc. etc. etc.

Most touching--and McCullough often seeks to be touching--is the portrayal of Emily Roebling, wife of and assistant to the chief engineer of the bridge and its outworks.

Jhopec says

As David McCullough is one of my favorite writers about history, I expected a lot from this book and was not disappointed. Aside from the immensely engaging story of the obstacles, both engineering and human, faced and overcome to build the bridge, I was struck once again by the cavalier way most of us take great accomplishments for granted. Thank goodness there are people like David McCullough who do not!

I've read this book and listened to it a couple of times on CD, and it never fails to fascinate.

Jill Hutchinson says

Now wouldn't you think that a book about the building of a bridge would be rather dry and uninteresting? Not if it is written by historian David McCullough, a two-time Pulitzer Prize winner. An amazing amount of research has gone into this history of the Brooklyn Bridge.....from the dream of a father (John Roebling) to a reality by the son (Washington Roebling). We sometimes take for granted such icons as this bridge spanning the East River and never realize what it takes to make an idea a reality.....the "bends" caused by being in the caissons which killed and crippled, the involvement of "Boss" Tweed and the political machinations that surrounded the project. This is beautifully written and almost reads like fiction. It will have you from page 1 and I highly recommend it to any reader, regardless of your favorite genre.....it is that good!!