



Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain

Cheryl Bardoe , Barbara McClintock (Contributor)

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The true story of eighteenth-century mathematician Sophie Germain, who solved the unsolvable to achieve her dream.

When her parents took away her candles to keep their young daughter from studying math...nothing stopped Sophie. When a professor discovered that the homework sent to him under a male pen name came from a woman...nothing stopped Sophie. And when she tackled a math problem that male scholars said would be impossible to solve...still, nothing stopped Sophie.

For six years Sophie Germain used her love of math and her undeniable determination to test equations that would predict patterns of vibrations. She eventually became the first woman to win a grand prize from France's prestigious Academy of Sciences for her formula, which laid the groundwork for much of modern architecture (and can be seen in the book's illustrations).

Award-winning author Cheryl Bardoe's inspiring and poetic text is brought to life by acclaimed artist Barbara McClintock's intricate pen-and-ink, watercolor, and collage illustrations in this true story about a woman who let nothing stop her.

Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain Details

Date : Published June 12th 2018 by Little Brown and Company

ISBN : 9780316394284

Author : Cheryl Bardoe , Barbara McClintock (Contributor)

Format : Hardcover 40 pages

Genre : Childrens, Picture Books, Biography, Nonfiction, Science, Mathematics, History

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From Reader Review Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain for online ebook

Betsy says

I think we've done it. I think we've finally moved completely into a new era of biographical picture books. High time, says I! Gone are the days when a picture book biography had to be of somebody already famous. Gone the days of scanning the Biography section of the children's room in the library only to see the same ten individuals over and over again. Now the elegant, intelligent, and obscure are filling book after book for kids. Whom do we credit? Publishers? STEM curriculums? The Common Core State Standards? The creators of these books themselves? Maybe the answer is E: All/Some of the Above. Because it isn't merely the fact that these biographies are celebrating little known figures that's noteworthy. They're also celebrating people in too little lauded fields. Rocket scientists. Costume designers. Poets. And, once in a very great while, mathematicians. When I look at *Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain* I don't just see a picture book biography of a female mathematician from the 1800s. I see possibility. I see heroism. I see remarkable strength in the face of opposition. Basically, I see a story more kids should really know (and adults too, while we're at it).

Outwardly, there was little about Sophie Germain that would have raised any alerts that she was different from other girls living in 18th Century France. Her father owned a fabric shop and she helped out. She'd stay up late reading. But rather than fiction or religious texts, Sophie liked to read and study math. Her parents tried to dissuade her but there was no use. Over time, Sophie got her math education under a male pseudonym. When her secret was revealed, she was seen as a kind of adorable little marvel and not a serious mathematician. All that began to change when she witnessed an experiment involving the effect of vibrations on sand. When the Academy of Sciences offered a reward of 3,000 francs to anyone who could predict patterns of vibration with mathematical equations, it was Sophie that tried (and failed) and tried (and almost got it) and tried . . . and got it! Thanks to her work, we have tall buildings and powerful bridges. Endmatter in this book includes further notes on Sophie's life, a Bibliography, information on the effects of vibrations, and Notes from the author and artist on their research and work.

Now let's look at the subtitle of this book. "The Story of Unshakable Mathematician Sophie Germain." I like that word. "Unshakable". I don't pay a lot of attention to subtitles of children's picture book biographies because usually, if they're doing a good job, they feel natural and disinclined to draw your notice. But in the case of the Sophie Germain book the word "Unshakable" is just odd enough to grab your notice. It's a good choice of language. A woman that perseveres in doing what she loves, with almost no support, could be called "unshakable". But it's also a rather charming play on words considering her work with vibrations as well. And unshakable women abound, but you have to decide how to craft their stories when you give their lives form and function in the form of a picture book. A human life is a messy thing. Kudos then to author Cheryl Bardoe not simply for selecting Sophie as her subject, but in giving us a woman who fought the odds, is a hero in a field that could stand to laud a few more females, and whose work has applications in the larger world today.

I'd like to tell you the degree to which this book influenced me. I'm no math geek. I sort of appreciate math in the same way I appreciate kale. I don't partake of it much myself, but I think the world is a stronger place for it. And yet, almost immediately after reading this book, I rushed to YouTube and typed in "Chladni" and "vibration" to watch sand move at different frequencies into different patterns. Have five minutes? Try it. If I lived in the 18th century I'd probably have been more inclined to ascribe mystical reasons to the shapes there than scientific or mathematical ones. Part of what Bardoe does so well here is explain why Sophie's work is important to us today, above and beyond the heroism of her own passions. If Sophie had worked as a mathematician and wrote equations, that could be enough. Yet as it stands, her accomplishments, above and

beyond becoming the first woman to win a grand prize from the Royal Academy of Sciences, are visible in our tallest buildings and our bridges. That's a concrete thing to tie to a hitherto little lauded figure. If I, as a librarian, was inspired to look at the sand dancing on the glass plates after reading this book, how hard is it to extrapolate and say that there won't be girls reading this book, seeing a woman persevering, inspired to keep going in their own lives (math related or not)?

You won't find it in this book, but a mathematician told me that Sophie Germain once said "Algebra is nothing more than geometry, in words; geometry is nothing more than algebra, in pictures." So let's talk pictures. Please answer me the following question as best as you can: When seeking an illustrator for a picture book biography with a focus on math, what qualities do you consider most important? Would you want someone with prior interest/experience with the subject? Someone adept at turning cerebral concepts into visual tropes? Or would you simply select someone talented and hope for the best? See, this is why I'll never want to be a book editor. There are just too many ways you can go, and who's to say that one decision or another is best? I guess if I, personally, were to choose, I'd want someone who did their homework, but that also knew how to highlight the beauty in the math itself. Enter: Barbara McClintock.

I have wracked my brain, trying to remember if Ms. McClintock has ever done a picture book biography before. Finally I had to cave and look it up. Answer: nope. Aside from the occasional picture books with nonfiction elements, Ms. McClintock has studiously avoided the world of nonfiction for years. And now, after reading this book, I'm liable to get upset about that. Dang it, Barbara! You're really quite good at this. Why deny us your talent for this long? In many ways this feels very akin to *The Boy Who Loved Math* by Deborah Heiligman, illustrated by LeUyen Pham, and the art is a key part of that. Like Pham, McClintock integrates numbers into the text seamlessly. They are both a design element as well as a practical method of highlighting important concepts and moments. For example, in one of my favorite parts of the book, young Sophie examines Greek equations that explain how to make water flow uphill, show a single man pulling a single ship ashore, and measure the size of the earth. Each of these comes with an accompanying visual aid, which means that McClintock has to do something I've not seen her do before. As she mentions in her Note in the back of the book, she uses collage for the first time in this book. So not only do we have ancient illustrations but also her letters, books, newspaper pages, and more integrated into the art.

This is all the more impressive when you consider that Ms. McClintock has to illustrate some less than entirely thrilling moments. Take away the art and then just read the text. It's a great story, and deserving of close examination, but aside from the occasional French Revolution, there's not a lot of action. Sophie writes a lot of letters. She has a visit from a gentleman caller. She writes equations. Corrects equations. Writes them again. Now try to visualize all of this in an interesting way. McClintock's solutions are to try something new. In addition to collage she brings markers and gouache into the mix. Then she breaks things up. A picture of Sophie writing is split into at least sixteen parts. A sequence of trial and error shows her in eleven different places on (one presumes) eleven different days. For moments in a drawing room talking math, or making vibrations in the street with her feet, the math appears in the air itself, like a living substance she breathes in. The vibrations play a particularly important role, and McClintock explains in her Note her desire to turn a newsboy's shouts into vibrations that bend buildings, and tumble birds out of the air (turning into papers on the next page). I was a bit sad that when the numbers were part of the architecture at the beginning of the book there was no real need for them to be that way aside from the fact that Sophie herself loved numbers. I prefer it when the metaphorical visual aids support the story in a concrete way, but aside from that mild quibble I think McClintock did a stand up and cheer job.

Biographies of female mathematicians are in a funny little place, these days. They're out there, sure thing, but they're almost entirely limited math as it applies to computer science. You can understand why. With the rise of computers, women have seen their own opportunities grow and flourish. As a result we get women involved in the earliest days of programming (Ada Lovelace) as well as women with more contemporary flair (Grace Hopper and the mathematicians of *Hidden Figures*). Still, I feel like I've been waiting for the female version of Deborah Heiligman's aforementioned *The Boy Who Loved Math* for years now. Where's

the story about a girl who loved math and made a difference in a way that didn't involve computers? Together, Bardoe and McClintock have done just that. They've gone into new territory, tried new artistic techniques, and brought to life ideas that until now have never been displayed in this way in a biography for kids. Bardoe had to turn a life into a story. McClintock had to make the invisible visible. That they not only succeeded but triumphed is to be lauded and loved. I love this book. And whether or not they already like math or science, a lot of boys and girls are going to love this book too.

On shelves June 12th.

Michael Francis Perez says

Some really nice art here. I wonder if this is too wordy. It certainly has its place in a collection.

Kim says

A wonderfully beautiful and relatable picture book biography about Sophie Germain, a young girl who loved math. Despite her family's objections, she became a self-taught mathematician who because the first woman awarded a grand prize from the Royal Academy of Sciences by determining the formula for vibrations moving objects. This formula was the start of being able to build bridges and tall building. This book would be a great read aloud.

Margie says

It has been happening every single day for generations, hundreds of years. Women of courage and conviction defy the definition of dictated behavior. They dare to be different. They pursue their passions even if it means they are alone and are apt to face uncomfortable consequences. Most of them do so without notice.

A few months before the ratification of The United States Declaration of Independence on July 4, 1776, a girl named Marie-Sophie Germain was born in Paris, France. Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain (Little, Brown And Company, June 12, 2018) written by Cheryl Bardoe with illustrations by Barbara McClintock chronicles and honors her life. Page by page you will be inwardly cheering for this woman until you shout out loud.

My full recommendation: [https://librariansquest.blogspot.com/...](https://librariansquest.blogspot.com/)

Barb Middleton says

Great message on perseverance and breaking into a new field as a female. Grade 2 stuck with it even though I thought it might have too many words for them.

Lynn says

Very well written story of Sophie Germaine, a French mathematician growing up during the French Revolution. Without going into details, Bardoe provides a sense of what Sophie worked on. The main focus was the restricted societal conditions of the time and how this remarkable woman managed to surmount them.

Barbara McClintock's illustrations are terrific! Numeric symbols flow through the pictures and convey the sense that math can be a wondrous pursuit.

Liza Wiemer says

Fabulous! This is an amazing picture book about an incredible woman that will certainly encourage young girls to pursue math. Great for discussion. Wonderful illustrations!

VillaPark Public Library says

This easy nonfiction book tells the story of Sophie Germain, a prominent female mathematician born during the French Revolution. Sophie always loved math and never let anything get in the way of her dream to become a mathematician. This book shows a wonderful female role model who loved math. Sophie teaches us the lesson of never giving up and having a positive attitude. The creative pictures show math and patterns visually.

Check this book out at the Villa Park Public Library:

[https://catalog.swanlibraries.net/client/en_US/vpd/search/detailnonmodal/ent:\\$002f\\$002fSD_ILS\\$002f0\\$002fSD_ILS:1708936/ada?qu=nothing+stopped+sophie&lm=VPD](https://catalog.swanlibraries.net/client/en_US/vpd/search/detailnonmodal/ent:$002f$002fSD_ILS$002f0$002fSD_ILS:1708936/ada?qu=nothing+stopped+sophie&lm=VPD)

Beverly says

I really liked this biography of a female genius mathematician, but then I think all mathematicians are geniuses, since math is so far over my head! Anyway, Barbara McClintock did a fabulous job of illustrating this book with numbers and equations swirling around on just about every spread. On one page, Sophie is jumping around (after she saw the sand vibrating on glass), and in the illustration are depicted shapes that sand actually makes when vibrated on glass--McClintock says she researched this for that illustration. Artistic genius! And, in her note, the artist says that this is the first book in which she used collage. I think that the text and pictures worked together extremely well in this book.

Pam says

I struggled with this book. While I loved the idea of this biography on a famous woman mathematician, who deserves far more attention, I felt bored with the story. While the need for perseverance in all you do is a good moral teaching that felt like the objective of the book. As a woman in STEM, I wanted the author to

communicate the fun, the mystery, the challenge of being a mathematician, and none of that came out in the story. The illustrations communicated that better and the text.

Sherrie says

I read this title as part of my mock Caldecott lesson, it is the story of one of the very first female mathematicians and the struggles and prejudices that she overcame. The illustrations are unique in that they show mathematical concepts.

Alice says

I am not a math girl. I struggled and struggled and struggled. It was cool to read about a girl in the early 1800's who not only was good at math but excelled at it. She even the homework form a math class and sent the homework in by mail under a mans name. The professor was so impressed he went to meet this man... to realize it as Sophie! Another great unsung amazing woman!

Jesse says

What a fantastic true story of a girl who broke gender barriers, shared her intelligence, and was deeply involved in mathematics and science. I love underdog stories, and stories where girls unapologetically dominate their field(s). The end matter is great, too! There are notes from the author and illustrator, as well as a bibliography, more on Sophie, and suggestions for an experiment to be conducted by the reader.

Judi Paradis says

Another great book introducing us to the hidden contributions of women in STEM. This picture book biography showcases the life and work of French mathematician Sophie Germain, who overcame extreme prejudice in the 1790s to offer huge contributions that were gradually accepted by the males who dominated European science and math. Sophie was the only person capable of devising a formula that described vibration patterns and contributed to our understanding of prime numbers. Children will be impressed with her determination and love of math, and stunned at how much it took to overcome resistance to females in math. Excellent back notes add a great deal to our understanding of her contributions.

Kristen says

I must have really liked it bc I kept insisting my daughter look at this part and hear that part. I learned a lot, and Sophia's life journey is inspiring.
