

Galileo's Contradiction: The Astronomer Who Riled the Inquisition Fathered 2 Nuns

A Q&A with author Dava Sobel

The astronomical discoveries made by Galileo Galilei in the 17th century have secured his place in scientific lore, but a lesser known aspect of the Italian astronomer's life is his role as a father.

Galileo had three children out of wedlock with Marina Gamba—two daughters and a son. The two young girls, whether by their illegitimate birth or Galileo's inability to provide a suitable dowry, were deemed unfit for marriage and placed in a convent together for life.

The eldest of Galileo's children was his daughter Virginia, who took the name Suor Maria Celeste in the convent. With Maria Celeste, apparently his most gifted child, Galileo carried on a long correspondence, from which 124 of her letters survive. Author Dava Sobel translated the correspondence from Italian into English, weaving the letters and other historical accounts into the unique portrait *Galileo's Daughter: A Historical Memoir of Science, Faith and Love* (Walker, 1999).

On the occasion of the International Year of Astronomy, convened to celebrate the 400th anniversary of Galileo's first telescopic observations of 1609, we spoke to Sobel about Galileo's complex and overlapping relationships with his family and with the Catholic Church, the latter of which would ultimately lead to his condemnation by the Holy Office of the Inquisition.

[An edited transcript of the conversation follows.]

How did *Galileo's Daughter* come about?

While I was doing the research for *Longitude*, I read a book about Galileo's work on timekeeping and longitude. It's a wonderful book called *The Pulse of Time* by Silvio Bedini. And Bedini had read the daughter's letters and included one of them in that book because she specifically mentioned having to fix the clock in the convent.

So that was my first introduction to the fact that Galileo had children at all and to the fact that both daughters were nuns. And that astounded me, because I had always just thought he was the enemy of the Church. But the letters bespoke an intimate correspondence, which made me think: What if he did everything he did as a believing Catholic?

I suddenly had a sense that I could look at his story from another perspective, not a strict Church-versus-science angle as it's always pitched, but a look at the full complexity of his situation. And of hers, because if she was really a devout nun, what would she make of his work and his dialogue with the Church?

One Galileo scholar, Albert Van Helden of Rice University, was very encouraging, and he said the great thing, which was, "When you read her letters, they'll break your heart."

And did you find the letters to be heartbreaking?

Yes. The first thing that struck me was that she has an extraordinary writing ability, a tremendously complex style with long sentences and transitions from the most mundane things—the laundry, the cooking—to some vision of the afterlife.

But why did they break your heart?

Her situation in the convent was so difficult. She writes about pulling her own teeth. She was living in poverty and poor health and had a great number of responsibilities. She teaches the novices to sing the Gregorian chants, she leads the choir, she negotiates for the convent for all sorts of things.

In one of the most poignant letters she writes about the priest who comes for confession. They had a series of these unscrupulous characters who had no experience with convent life, and she refers to the way they take advantage of the sisters. It sounds like she's talking about rape. And so her request to Galileo is that when he goes to Rome to meet his friend who is now the pope, would he please intercede for them and make sure that they get a father confessor who is a truly religious individual.

Then there is a letter where she reports the violent suicide attempt of the nun who was in charge of the novices. So things in the convent were really tough. She and her sister might have had an easier life if Galileo had put them in a different order. But it was against the law for natural sisters to be admitted to the same convent and he had an in with the mother abbess at that place. A friend of his who was a cardinal finessed the whole thing, and the two girls were allowed to be together in the same convent—and nearby, so he could visit, because they were only 12 and 13.

And both daughters spent the rest of their lives there.

They did. And at first, to a modern observer, it just sounds horrific. It sounds like some kind of torture. But then you realize that that was pretty common. It was at least common for young girls to be put in a convent to be educated, to be safe, and to assure their virginity. Of course it wasn't, when you think about what she had to say about the unscrupulous priests.

But it was a common thing in Italy for a girl to go in at a young age, and then at 16, when her parents found her a husband, they would take her out and marry her off.

But of course marriage wasn't in the cards for Galileo's daughters.

No. But I particularly didn't want to view their being in a convent as a sentence of life imprisonment, because I don't think I could have written the book with a feeling of resentment. It wasn't a book about women's issues; it was his story. And what Maria Celeste went through was really a product of those times and not something bad that he did to her.

Other people won't agree with me; there are people who feel that he could have found an easier road for them, that he did not do enough for them. But the relationship was a genuinely loving one; I think there is ample evidence to support that.

By the time of these letters (1623 to 1633), Galileo was already quite famous. Do his scientific works and his stature come up in these letters?

His accomplishments do come up. They don't really talk about science. But he sends her letters he gets from important people, and she loves that. She loves seeing how he is respected in the world. And he also apparently at times asks her to write letters for him—not to compose them but to write them out in her hand or to make copies. So she was very familiar with his correspondence and very proud of him.

Why was this daughter, Maria Celeste, unique among Galileo's three children?

I think she was far brighter than the others. The second child, Arcangela, seems like a really difficult character, and there are no letters from her. Many of the references to her suggest that she was hypochondriacal, difficult to get along with, and probably alcoholic. There is a moment in the story when as the jobs of the convent rotated, it was Arcangela's turn to have charge of the wine cellar. Maria

Celeste realizes that this is a formula for disaster and exerts her influence to have Arcangela put in charge of the linens.

There are seven letters from the youngest child, the boy, that survive, but he is an altogether different sort of personality. He has a sense of entitlement, let's call it, and asks for things—big things—in an imperious way: a house, a job, money.

Although both his daughters were nuns, Galileo's discoveries didn't exactly stand him in good stead with the Catholic Church. How did the letters reflect his relationship with the church at that point in his life?

Maria Celeste seems to feel that nothing her father does is really against the Church, which I think is how he felt, as well. When he realizes that the Church is on the verge of banning Copernicus's book, he goes to Rome, not really to fight against the Church but to try to make them see reason—that just because they're theologians doesn't mean that they know about science. The Bible is not an astronomy text, and they should realize this and adopt a different attitude, a less literal interpretation, toward the sections of the Bible that seem to be talking about astronomy.

He was saying, Now that we're getting more evidence about these issues that Copernicus spoke of, don't put him off-limits. If only the Protestants are allowed to read him, then they will figure everything out and the Church will be embarrassed.

Aside from the fact that Galileo had children, was there anything that you found particularly surprising in researching and writing this book?

Just that he didn't have to stop being a Catholic to do what he did. The image of him that I formed as a schoolchild was the modern myth—that he put all that religion and superstition behind him and became the first modern scientist. Well, that's not exactly right.

Throughout his life, he expressed his love of the Church, his belief in God. What does he say when he makes this fantastic discovery with the telescope, when he finds the moons of Jupiter? He thanks God for making him alone the one person in all of history who was the first to see them and know about them.

So in this extraordinary moment of realization, it's also a prayer—a prayer of thanksgiving.