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OBSERVATIONS

Did Galileo Truly Say, “And Yet It Moves”? A Modern Detective Story

An astrophysicist traces genealogy and art history to discover the origin of the famous motto

“And yet it moves.” This may be the most famous line attributed to the renowned scientist Galileo Galilei. The “it” in the quote refers to Earth. “It moves” was a startling denial of the notion, adopted by the Catholic Church at the time, that Earth was at the center of the universe and therefore stood still. Galileo was convinced that model was wrong.

Although he could not prove it, his astronomical observations and his experiments in mechanics led him to conclude that Earth and the other planets were revolving around the sun.

That brings us to “and yet.” As much as Galileo may have hoped to convince the church that he was not contradicting scripture by moving Earth from its anointed position, he did not fully appreciate that church officials could not accept what they regarded as his impudent invasion into their exclusive province: theology.

During his trial for suspicion of heresy, Galileo chose his words carefully. It was only after the trial that, angered by his conviction no doubt, he was said to have muttered to the inquisitors, “*Eppur si muove*” (“And yet it moves”), as if to say that they may have won this battle, but in the end truth would win out.

But did Galileo really utter those famous words? There is no doubt

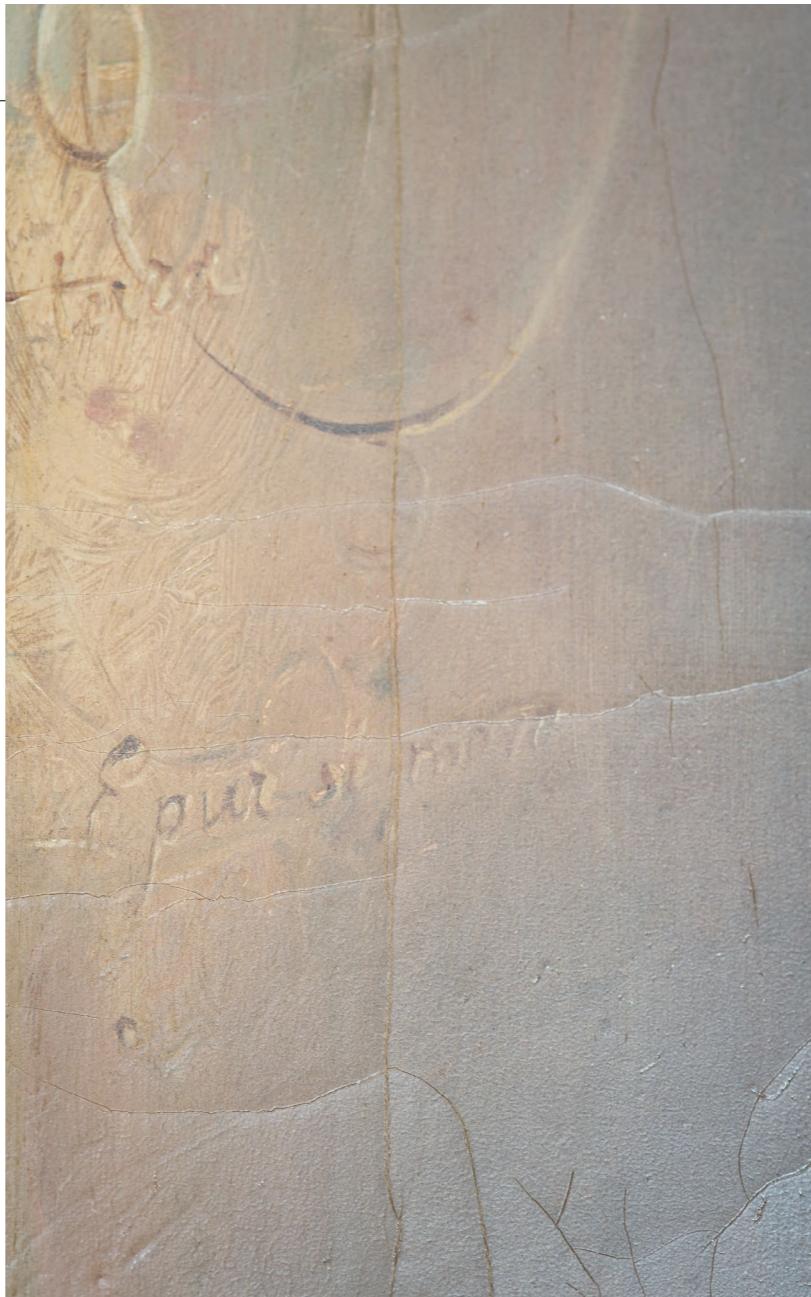


Galileo in Prison, by Romain Eugène Van Maldeghem. This painting is at Stedelijk Museum Sint-Niklaas in Belgium.

that he thought along those lines. His bitterness about the trial, the fact that he had been forced to abjure and recant his life's work, the humiliating reality that his book *Dialogue Concerning the Two Chief World Systems* had been put on the church's Index of Prohibited Books, and his deep contempt for the inquisitors who judged him continually occupied his mind for all the years following the trial. We can also be certain that he did not (as legend has it) mutter that phrase in front of the inquisitors. Doing so would have been insanely risky. But did he say it at all? If not, when and how did the myth about this motto start circulating?

Science historian Antonio Favaro dedicated four decades to the study and contextualization of Galileo's life and work, eventually producing the monumental book *Le Opere di Galileo Galilei* (*The Works of Galileo Galilei*). As part of that Herculean effort, in 1911 he also published a few articles describing his extensive research devoted to uncovering the origins of the motto. Favaro determined that the earliest mention of the phrase in print was in a book entitled *The Italian Library*, published in London in 1757 by Italian author Giuseppe Baretti.

Baretti colorfully wrote, "This is the celebrated Galileo, who was in the Inquisition for six years, and put to the torture, for saying, that the Earth moved. The moment he was set at liberty, he looked up to the sky and down to the ground, and, stamping with his foot, in contemplative mood, said, *Eppur si move*; that is, still it moves, meaning the Earth."



Detail of Van Maldeghem's painting *Galileo in Prison* shows the motto written as "E pur si move" and Earth orbiting the sun.

Even if we were to disregard the unhistorical embellishments in this account, it would be difficult to accept the testimony of a book that appeared more than a century after Galileo's death as evidence of the veracity of the quote. Favaro was equally skeptical initially—until an unexpected event caused him to reconsider the question.

AN INTRIGUING PAINTING

In 1911 Favaro received a letter from a certain Jules Van Belle, who lived in Roeselare, Belgium. Van Belle claimed to own a painting that had been painted in 1643 or 1645 and that contained the famous motto. If true, this assertion would have meant that the phrase was already known very shortly after Galileo's death in 1642.

The painting, of which Favaro saw only a photograph, showed Galileo in prison. He held a nail in his right hand, with which he had apparently traced Earth moving around the sun on the wall with the words "*E pur si move*" written underneath.

Based on an unclear signature, Van Belle attributed the painting to the 17th-century Spanish painter Bartolomé Esteban Murillo. And he speculated that it had originally belonged to the Spanish army commander Ottavio Piccolomini, brother of the Archbishop of Siena, in whose home Galileo served the first six months of his house arrest.

Favaro publicized this story of the presumed discovery of a portrait of Galileo dating to the 17th century and containing the celebrated motto, and the tale made it to the pages of several newspapers. Belgian physicist Eugene Lagrange even went to Roeselare to see the painting with his own eyes, as he reported in the Belgian newspaper *L'Etoile Belge* on January 13, 1912.

The discovery of the painting definitely had an impact. Until then most historians had considered the famous phrase to be a myth, but the new finding caused a number of Galileo scholars to change their minds. Science historian John Joseph

Fahie wrote in 1929, "We must revise our judgments, and conclude that Galileo did utter these words, not, however, in the awful chamber of the Inquisition, as the fable has it, but to some sympathetic friend outside, from one of whom, doubtless, Piccolomini had them." Renowned Galileo scholar Stillman Drake also concluded, "In any case, there is no doubt now that the famous words were attributed to Galileo before his death, not invented a century later merely to fit his character."

Strangely, in spite of its great value for the history of science, Van Belle's painting has never been subjected to any independent examination by experts. When I wanted to initiate such a scrutiny, I was astonished to discover that not only was the current location of the painting unknown, but as far as I could initially determine, no science or art historian had even seen it after 1912. Naturally, I decided to search for it.

THE HUNT

First, I wanted to get an expert opinion on the attribution to Murillo. To this end, I sent a copy of the photograph of the painting to four Murillo specialists (two in Spain, one in the U.K. and one in the U.S.). They all independently responded that although it is difficult to provide conclusive opinions based on a photograph, when considering the style, subject matter and relevant historical facts, they were quite convinced that Murillo did not paint this portrait. One said that the painter was probably not Spanish, and another suggested that the painting was from the 19th century.

Motivated to continue to investigate by these

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—*Stillman Drake*

unanimous, unexpected judgments, I discovered that an article about the painting appeared simultaneously in two Belgian newspapers (*De Halle* and *De Poperinghenaar*) on February 23, 1936. The feature reported that an important portrait of Galileo had been exhibited at Museum Vleeshuis in Antwerp, Belgium.

Inquiry at Vleeshuis revealed that on September 13, 1933, Van Belle had indeed loaned it a painting entitled *Galileo in Prison*. The loan was also reported (with the title "Galileo and His *E pur si muove*") in the *Gazet Van Antwerpen* on September 15, 1933. Further inquiries uncovered the surprising fact that Stedelijk Museum Sint-Niklaas (SteM Sint-Niklaas) in Belgium has in its collection a painting that appears to be identical to the one loaned to Vleeshuis. Moreover, a close inspection of the wall in front of Galileo in this painting revealed a drawing of Earth orbiting the sun, a few other drawings (possibly of Saturn or the phases of Venus) and the famous motto. This portrait was documented as having been painted in 1837 by Flemish painter Romaan Eugeen Van Maldeghem. It was donated to the city of Sint-Niklaas by art collector Lodewijk Verstraeten, and the museum obtained it after his wife's death in 1904 or 1905.

This development created a very interesting situation. There were two virtually identical paintings. One, owned by Van Belle, was claimed to have been painted in 1643 or 1645. The other, by Van Maldeghem, was painted in 1837. The Van Belle painting made its first documented public appearance in 1911. It was loaned to Vleeshuis in 1933 and was exhibited there in 1936. Since then, its whereabouts have been unknown. The second painting has been in the collection of SteM Sint-Niklaas since 1904 or 1905. The extreme similarity of the two paintings left no doubt that either Van Maldeghem copied an earlier painting or someone copied Van Maldeghem's painting in either the 19th or the early 20th century.

To complicate things further, I discovered that in 2000 the Antwerp auction house Bernaerts Auctioneers took bids on a painting entitled *Galileo in Prison*. It was listed as having been painted by Flemish painter Henrij Gregoir in 1837—the same year in which Van Maldeghem painted his portrait of Galileo with the same title. Fortunately, I was able to obtain a photograph of the painting, and although the title is the same, the artwork is very different.

EUREKA!

To make further progress, I tried to uncover more information about Van Maldeghem and his painting. Two Flemish books on the lives and works of Flemish and Dutch artists—one by J. Immerzeel, Jr., from 1842 and another by Christiaan Kramm from 1859—listed *Galileo in Prison* as one of Van Maldeghem's original paintings, without any hint or suggestion that it might have been a copy. Significantly, these two books were published while Van Maldeghem was still alive, when all the information concerning the painting was still readily available. It was difficult, therefore, to avoid the impression that his painting was the original after all. This feeling was further enhanced by the realization that the theme of Galileo's conflict with the Inquisition became quite popular with painters only in the 19th century. And it was also entirely consistent with the opinions previously expressed by the Murillo experts. Recall that one suggested that the painter was not Spanish, and another judged that the painting was from the 19th century.

All of this, however, still did not explain what happened to Van Belle's painting after 1936. I could think of three main possibilities: The painting could have been sold by Jules Van Belle himself. Or it could have been inherited by a relative (and perhaps sold later). Or it might have been destroyed during World War II. Following this line of thought, I decided to attempt some genealogy research.

To make a very long story short, with a serious effort, considerable help and quite a bit of luck, I managed to find a living great-grandson of Van

Belle's niece. And through him, I discovered that in 2007 his grandmother sold a collection of paintings via the Campo & Campo auction house and gallery in Antwerp. Lot number 213 on the list was entitled *Galileo in Prison*. The auction house's photograph shows it to be the very painting I was searching for. I rediscovered Van Belle's painting!

Common practice in the art world prevents auction houses from revealing the identity of buyers, but I did find out that the painting was bought by a private collector and not by a dealer. There were two other noteworthy pieces of information that were revealed in the auction. First, Campo & Campo judged the painting to be from the 19th century. Second, a close inspection did not find any date or signature. This observation was confirmed by a representative from the auction house.

So what can we say about the question of whether Galileo said those famous words? The historical evidence points to the story first appearing (or at least being documented) only in the middle of the 18th century—long after Galileo's death. This makes the motto much more likely to be apocryphal. Nevertheless, it would be thrilling if (perhaps as a result of the present article) the current owner of *Galileo in Prison* would allow it to be thoroughly examined to determine its exact age.

Even if Galileo never spoke those words, they have some relevance for our current troubled times, when even provable facts are under attack by science deniers. Galileo's legendary intellectual defiance—"in spite of what you believe, these are the facts"—becomes more important than ever.

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