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Book Review of "Galileo: And The Science Deniers"

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Introduction

The author, Mario Livio, is an astrophysicist. The author is fascinated by one of the most influential scientists in the world, Galileo Galilei and until now the author does not understand how this scientist who fascinated him managed to achieve the extraordinary insight that the universe was "written in the language of mathematics," at a time when there was no mathematical expression, called the existing laws of nature. The author also considers Galileo not only one of the founders of modern science, but also the greatest hero of human intellectual history and an icon of the struggle for scientific freedom. Of the various reasons the author wanted to write the book, the most compelling reason to read this biography is the relevance of Galileo's famous political and religious struggle to today's problems. The author realizes that the book is needed now because of the efforts that humans are witnessing today to deny the reality of climate change. In addition, the initial tendency in some circles to minimize the danger of the coronavirus only adds to the author's belief that Galileo's story is now more important than ever.

The book is a thorough and thoughtful biography of Galileo. Throughout his engaging discussion of Galileo and the forces that have scattered against him, Livio highlights the commonalities of today's political and religious arguments against science-based positions. The book, which uses examples of climate change and current objections to vaccines and Darwin's evolution, is intended by the author to attract the attention of both students, academics, and the general

public. The author also aims to write a less dense and shorter biography, which is more accessible to the general public, all without compromising accuracy.

As is known, there are many biographical books that discuss Galileo, but very few have been written by astronomers or astrophysicists. Livio as an active astrophysicist believes he has brought a new perspective on scientific discoveries. The events of Galileo involve a complex interaction between ancient and new scientific ideas, biblical interpretations, deep-rooted theological and philosophical positions. Some historical episodes are more full of intricacies, irony, and ambiguity. To tell it properly requires the extensive knowledge and talent of an extraordinary chronicler. The author fulfills the task. The book covers not as it were science (to be anticipated from a profoundly talented astrophysicist), but also impressive developmental and classical background. Even more amazing, given that he isn't Catholic, is his generally advanced understanding of a few religious contentions and problems. The book also examines some of the anecdotes surrounding Galileo, stories that are often included in the soundtrack even today.

The book was written to stand out by placing the original Renaissance man and his discoveries in a modern scientific and social context. In particular, he argues, the accusations of heresy that Galileo faced for his scientific claims in the 17th century have parallels in the condemnation of today's science deniers. The book which deals with the denial of current science through comparison with the modern clash between science and politics is one of the recommended books to review. As is known, today we tend to lead to a mode where many prioritize ideology over truth and not a few deny science. Therefore, academics, students, political activists, and the general public need to read the book. The book review is expected to open the reader's mind to all possibilities that may occur in the future.

Review

The book, which is divided into 18 chapters, can provide a refreshing perspective on how Galileo come to striking modern results about the universe and the laws of nature. A free thinker who follows the evidence wherever it leads him. The author believes that every educated individual

ought to know science and writing, and insists on reaching as many audiences as possible. The book is a smart, captivating, and profoundly investigated life story that uncovers not only his complex personality but moreover how intellectually radical he was and way ahead of his time.

There are often reasons to retell the life of Galileo. In the book, the Galileo Case spanning 400 years provides an urgent new clue to what is happening to our lives today, namely the climate crisis. The book will explain in-depth and complexity related to these matters which also have a correlation with life in the 21st century so as to be able to meet the needs of readers. The author wants unlimited readers because the author also hopes that the book can be accessed by the wider community if they have a passion for science, ordinary readers, and the general public.

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The book influences the reader to be able to exercise their right, namely freedom of thought. The book also influences us to have critical thinking. As Mario Livio said, "I believe readers of today will be surprised by the relevance of Galileo's story today". In a world of government anti-science attitudes with denial of science a key position, the unnecessary conflict between science and religion, and the widespread perception of divisions between the humanities and sciences, Galileo's story serves, first of all, as a powerful reminder of the importance of

freedom of thought." The author seems concerned about the increasing anti-intellectual attitude in much of the modern western world and hopes that by reviewing important events that occurred some 400 years ago, the book can influence all of us to learn more about humanity's eternal struggle, to gain reliable knowledge, as close to the truth as possible, concerning the world in general, to act as the most reliable guide available, as well as for survival and well-being.

The author opens the book with a discussion between the ruler of Tuscany and one of Galileo's companions. The author wrote the book since he saw the connection between Galileo's story and the unscientific and anti-scientific states of mind that exist in nowadays's wider world outside of active researchers (page 15). The book's problems begin in the first sentence of the book, with Christina and Castelli. The author portrays Christina addressing Castelli about revelations Galileo made since 1609 with his telescope and urging Castelli about whether the Earth is moving, given that a moving Earth appears to contradict the Book of scriptures. Castelli, in spite of the fact that threatened by the possibility of contending with the nobles, courteously and deferentially stood his ground. It can be seen that Castelli explained everything to Galileo in a note dated December 14, 1613, that still prevail.

Galileo's event proceeds to intrigue and incites after four hundred years. On the one hand, it is simple and very complicated. What was simple was the result: The great founder of modern science was tried, convicted, and sentenced to perpetual house arrest in 1633 by the Catholic Church for defending the idea that the Earth revolves around the sun, and was forced to retract under oath. These violations of freedom of thought, research, and conscience never cease to surprise.

The question is how and why it happened. St. Augustine had persuasively cautioned within the 4th century against deciphering sacred text opposite to what reason and involvement know for beyond any doubt. Typically a buttoned-down rule, acknowledged by Bellarmino, the church's top clergyman, who conceded in a well-known letter to one of the companions of Galileo that "if there is a true demonstration that... the earth revolves around the sun, then one must proceed with extreme caution in clarifying apparently conflicting Sacred writings, and on the opposite saying

that we don't sense them, instead of that what is appeared is false." (page 117)

The events of Galileo include a compound give-and-take of antiquated and unused logical thoughts, biblical interpretations, deep-rooted ecclesiastical and metaphysical environs, pundit territory fights, scholarly competitions, inadequate personalities, identity fracas, and clerical and common legislative issues, all lasting over 20 years within the fevered environment of the effort between the Reformation and Counter-Reformation and the Thirty Years' War. Some chronicled scenes are more full of intricacies, irony, and ambiguity. To tell it properly requires the extensive knowledge and talent of a great storyteller, and the author fulfills the task.

The author precisely classifies as an important misstep Bellarmine's thorough perception of the rules laid down by Trent for dealing with the Protestant protest. The law prohibits deciphering sections of sacred text in a manner that conflicts with the agreement of the previous chapel fathers on "questions of confidence and ethics." Galileo sensibly contended that since astronomy had nothing to do with confidence or ethics, the exacting rendering by the previous precursors of certain sections (justifiable in their day) was unnecessary. Bellarmine rejects this, nevertheless, employing a globular altercation. Bellarmine expect as it were the foremost exacting elucidation of the sections, which consistently requires that the cosmic ideas inferred in them be definitively instructed by sacred text and thus "a matter of confidence," in due order of succession requires (by Trent's proclamation) that one takes after the clericals, in deciphering it truly. The author properly summons Bellarmine's bumble a religious "bomb." The variety of extraordinary peculiarities that were imposed earlier was not a church rule, nor will it happen later. (pages 116-120)

However, evidence of Earth's movement could force a less exacting perusing, as Bellarmine admits. Bellarmino gave several reasons for this misguided belief, all of them clearly unscientific. First, he states that "saving sightings" in astronomy are not evidence of the motion of the earth. Even this seemingly convincing point contradicts what true scientists think. (page 118) Unluckily, such evidence was not available at the moment. Galileo did have evidence, from his farsighted revelations, that Ptolemy's 15th century

geocentric theory was off-base. The revelation was immediately affirmed by the Jesuit stargazers of Collegio Romano and others, and the Ptolemaic hypothesis was immediately deserted. But Galileo's discoveries were not sufficient to demonstrate Copernicus' hypothesis was right either that the Earth was moving, in order to there was a tertiary, very honorable hypothesis on the display, proposed a long time prior by the incredible Danish stargazer, Tycho Brahe.

In the model of Tycho, the asteroids compassed the sun, but the sun compassed a motionless Earth. The model is totally reliable with all perceptions of the time. This maintains a strategic distance from not as it were the biblical problem but moreover a critical logical complaint to Copernicus' theory, specifically the disappointment to see "stellar parallax" (the little clear movement of faraway stars that would be resulting from a shift within the Earth's perspective because it circles the sun). The impact was not discovered until 1838. Galileo had a simpler explanation for the absence of parallax. As we saw earlier, he ended that the clear measurements of stars as seen with the bare eye don't portray their actual material size, but are merely artifacts. The stars were indeed at such great distances, he said, that their shift in position could not be detected, even with the telescopes available at the time. Galileo was right: parallax detection would have to await the development of telescopes with higher resolutions. Star parallax was first observed only in 1806 by the Italian astronomer Giuseppe Calandrelli. The first successful parallax measurement was made by German astronomer Friedrich Wilhelm Bessel in 1838. (page 65)

Long after Galileo's passing, the scientific debate between the supporters of the Copernicus model and the Tycho model proceeded, and both sides involved complex scientific debates. A clear scientific consensus that the earth is moving only appeared when Isaac Newton discovered universal gravitation and the laws of motion in the late 17th century. Newton eventually used his theory of gravity to explain in detail how the combined action of the Moon's and Sun's gravity produces the tidal generating force. (page 124)

Given that the book doesn't give the kind of new perspectives and experiences (particularly about science at the time) that a researcher might give, and given that "The Galileo Affair"

is undoubtedly a platitudinous field, why then does the book prevail? it gives no support for opportunity of thought, or opportunity to be off-base. The author composes that the huge lesson from the Galileo Case is that "no official, be it devout or government, has the authority to impose penalties on scientific, religious, or any other type of opinion (whether right or wrong)". (page 200), which sounds great, at that point he includes "as long as it doesn't hurt, or incite others to hurt others".

Moreover, the author points out that Pope Urban VIII declared that Galileo's thoughts were "not only wrong but also dangerous for humanity", perhaps that Galileo's repression could be accepted under the dangerous clause. The book describes Galileo's opponents as poisonous reptiles. Given the book's unconcern in the scientific talk about at the time, the book basically retells the story of a legend. The author did good. The author doesn't ignore the hero's personality flaws but rather ignores his scientific fallacies. The legend who overlooked important truths in showing his hypothesis of ups and downs was both logical and brilliant. His opponent's interest in and consent of science was ignored. So, there's the legend and his friends, and there's the awful fellow, the enemy so fiendish that the kill of Jamal Khashoggi comes to intellect.

Towards the end of the book, numerous paragraphs are interpolated. In the subtitle of the book, the author compares Galileo's rivals with modern "science deniers", in which he implies fundamentalist anti-evolutionist and global warming doubter, nevertheless this similarity is somewhat tense. Nowadays, no one has been tested and convicted of protecting the notion of development or global warming or forced to retract those ideas. In contrast to contemporary anti-evolutionists who close their eyes to the overwhelming scientific evidence, the proponents of the Ptolemaic theory immediately abandoned it when confronted with Galileo's discoveries, instead of adopting Tycho's theory, which was quite scientifically feasible and respectable until Newton came, who at that time, too, was left.

The author has a writing style that is quite scientific, knowing he is an academic. In the book, the author writes a fluent writing style so that it becomes one of the factors that attract readers. On the other hand, Livio also provides ample, and often ambiguous, evidence about Galileo's life and trial. The relationship between the parts of

the book can be said to be quite relevant because, on the one hand, the span of time covered here is from childhood to his final days and beyond (because his work and trials have implications for our time). On the other hand, the book has a zigzag, unchronological plot that may be difficult to follow, but allows the author to focus on a theme, such as Galileo's polymath. The emphasis of the book is on the struggles Galileo faced to present scientific information to a world dominated by the Catholic church and all the other dissenters of the science of his time. The author points to parallels with modern times and the battle for scientific evidence on climate change, and those who choose to disprove it. Galileo's story always involves complex interactions. The number of pages and the bold size of the book seems to tell a complex story, and it is true that the contents are in accordance with the original purpose of writing the book.

Writers tend not to ignore a fact or idea so that the reader can consider it. The author says that there are other things that the reader would like to consider which are divided into 3 main points. First, the author wants us to realize that as long as scientific conclusions about physical reality are accepted, without the intervention of religious beliefs and do not denounce provable facts, there is no conflict between the two realms. Second, Galileo was a true "Renaissance man", for him science and the humanities were an inseparable part of one human culture. Third, intellectual freedom is priceless. It is everyone's right to receive information from all points of view without limitation. This includes the freedom to hold, accept and share ideas. Tried Galileo by the Inquisition wrong not only because he was right about science. It would be wrong even if the theory was completely wrong.

The book written by Livio has certain advantages so that it can be said that it is important for readers to read it. If you see the connection with today's life and many people need new scientific material, then the book can answer it. Without us realizing it, the book is very relevant in modern times, because history tends to repeat itself. Sometimes we need to look back before moving forward. His eloquent writing style and the way he presents Galileo's life make the book a very engaging read. Also, the number of bibliographic records and references is astounding (20% of the total number of books). Another thing is that the book also explains the dispute between the theory of evolution and the creationist theory

that may never be resolved. At least, not in our lifetime. Always a pleasure to read, I recommend all of Livio's books wholeheartedly, this one being one of them.

Although the book is good enough to be used as reading material by readers, it also has several weaknesses. Many people may think that the book is a biography of Galileo, but the book itself can be said not to be a biography of Galileo, but it covers many key aspects of his life, even though his life is explored from the beginning to the unspeakable trials at the end of his long life. Another thing that might be a weakness in the book is that the author occasionally deviates to didactic, not homiletic. This will be annoying or annoying for some readers. But that doesn't detract from the rest of his book, which reveals the tale of Galileo in a keen, enlightening, and stabilized way. Another drawback was that there was no real timeline, it shifted frequently, and developed into a critique of the Holy See and how unfair the popes, cardinals, and others were to Galileo who he was.

The book deals with an interesting look at Galileo's life and work, as well as the opposition and censorship he faced at the hands of the Church, culminating in his trial which is recounted in considerable detail. The author, Livio, draws a clear parallel between the Church's blatant attempts to ignore and suppress Galileo's ideas and discoveries that challenged conventional beliefs at the time and the efforts of modern science deniers to discredit climate science, evolution, and more in favor of to hold fast to and spread the faith- and wishful thinking-based theory. This paper is very interesting and can be used as a reference for those who want to explore science, religion, and politics. My suggestion after reviewing the book by reviewing important events that occurred about 400 years ago, readers are expected to learn more about the eternal struggle of mankind, to acquire reliable knowledge, as close as possible to the truth, in relation to the world in general, to act as the most reliable guide available, as well as for survival and well-being.

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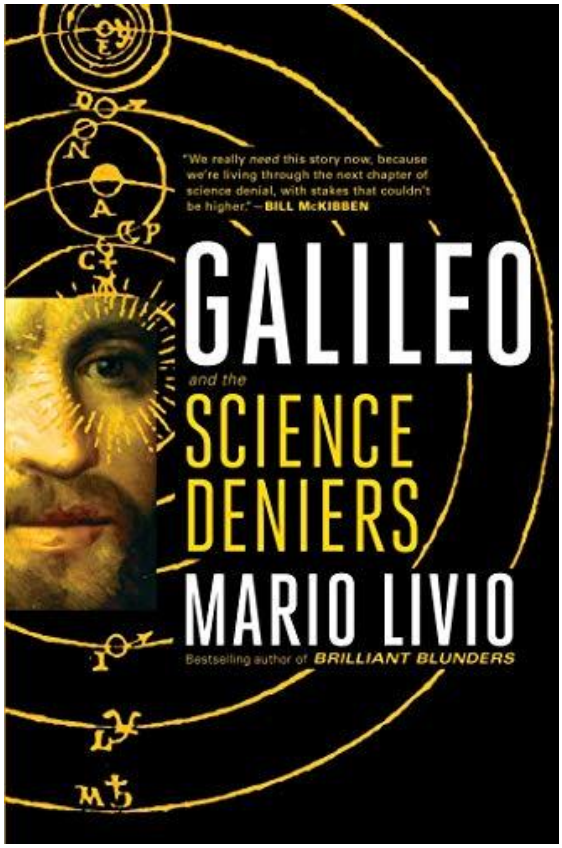
Book Cover



Author Biography

Mario Livio is an internationally recognized astrophysicist, bestselling author, and popular speaker who has appeared on The Daily Show, 60 Minutes, and NOVA. He is the bestselling author of The Golden Ratio, Brilliant Blunders, and Galileo. He lives in Baltimore, Maryland.