

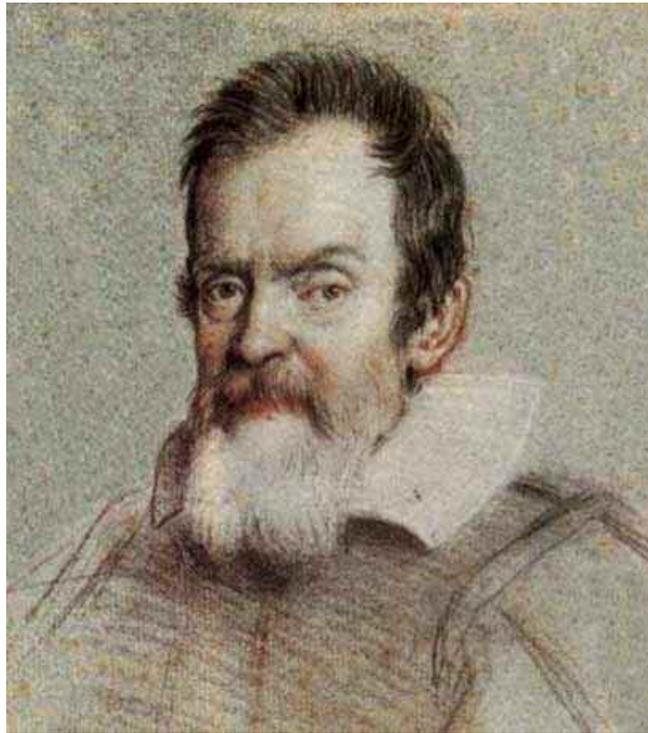
The Boy Who Proved His Teachers Wrong

D ID YOU KNOW that when America was young it was believed that tomatoes were poisonous? That if people rode in trains that went faster than 24 miles an hour they would get heart attacks and die? And that nobody would ever be able to fly? That's a pity, because life always gets better when truth comes out. That's why some of the greatest people of all time have given their lives to the study of truth.

One of the most famous of these was born in Florence, a beautiful city in Italy, in 1564. His name was Galileo. Even as a young boy, he was interested in a great many things and how they worked. Above all, he believed everything should make sense. Nothing should be believed just because somebody had said so—not even if it was a man named Aristotle. Aristotle was a famous scholar who had lived about two thousand years before Galileo. Because he had discovered many wonderful things, people had come to believe that everything he had said and written was true. In fact, in Galileo's day, when somebody declared that Aristotle said so, that was the last word; no one was supposed to argue.

But Galileo thought that was wrong. He knew that people make mistakes; most likely that included Aristotle. He told this to his teacher in school. That made his teacher very angry, and he scolded Galileo. "How dare you doubt Aristotle!" he shouted at him one day.

Can't you just imagine how Galileo must have felt? After all, he was just a young boy. Who was he to challenge what scholars had believed for



Crayon portrait by Leonni

Galileo

Galileo, 1564-1642, made his own telescope with which he calculated the height of the moon's mountains, discovered four satellites of Jupiter, and located sun spots. His public confirmation of the Copernican system led to his imprisonment and the burning of his books, but he did not recant from the truth of his findings.

almost two thousand years? But he had to prove that Aristotle had made errors. That was the only way to convince others. So he had to keep his eyes wide open, to find something somewhere that showed Aristotle had actually made a mistake. Eventually, his opportunity came.

As you know, back then there were no electric lights. People used candles or torches. Sometimes they hung from the ceiling. They had to be lit. Sometimes, in the process, they started swaying a little. Galileo once watched that. He immediately remembered what Aristotle had written—that big and heavy things fall faster than small and light ones. Galileo now believed, after having seen torches and candles of various sizes swing the same way, that Aristotle had been wrong.

His big chance to prove this came when he was a professor at the University of Pisa. Perhaps you've heard of this city; it is famous because it has a tower that leans. What better way to prove that things with different weights fall equally fast than to drop two such objects from the top of the tower?

Of course, Galileo couldn't just walk up there and drop them. He had to get permission, and set a time for what he had planned—someone below might get hurt by walking by at the wrong time!

It wasn't easy for Galileo to get permission. After all, the very idea of even questioning Aristotle was unheard of. Wasn't he supposed to always be right? But finally Galileo got permission; a time was set; people would come and watch.

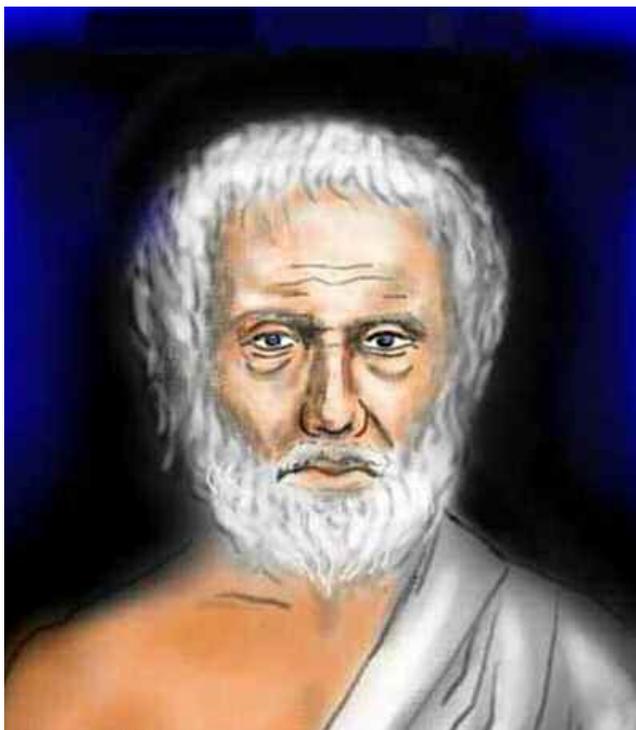
One object weighing about ten pounds was to be dropped, another of just one pound. They both reached the ground at exactly the same time. Galileo had proved he was right! But do you suppose the people cheered him? Only a few stayed to shake his hand; most just walked away. They didn't know what to make of it. Should they stick with what they had been taught all their lives, or believe what they had seen?

The leaders of the university knew what to do: they told Galileo to get out. Shouldn't they instead have rewarded him? But no, they said he had been hired to teach old knowledge, not to challenge it. They said he had disturbed the minds of his students, and that was not a very nice thing to do.

So Galileo had to look for other places to teach, like Padua and Florence. Most important, he was now more sure than ever that Aristotle had not always been right. That got him interested in a book he came across that had been written by a man named Nicholas Copernicus, a former student at Padua, where he happened to be teaching at the time.

In that book he read that Aristotle had been wrong to believe the Sun moves around the earth; it was the other way round, but it could not be proved. It made perfect sense to Galileo; it helped him understand a great many other things. But he couldn't prove it.

Not until 1609, that is, when he heard a traveler



Painting by S. Uchii

Aristotle

With respect to intellect alone, Aristotle has been said to be the most remarkable man that ever lived. He was the tutor of Alexander the Great and had been a pupil of Plato.

from a country far away tell an amazing tale. Someone in the Low Countries (presently known as Belgium and Holland) had invented something to make objects far away appear to come closer and look much bigger. This, of course, you know as the telescope.

But there was something wrong with the telescope that old man had invented: when one looked through it, things looked upside down. That was confusing. Galileo set about to correct this. And now, when one looked through it, distant objects could be magnified almost a thousand times and they were right side up. Galileo received much honor and fame for making his improvement, but of course his real interest was still in finding out whether the Sun moved round the earth, or the other way round.

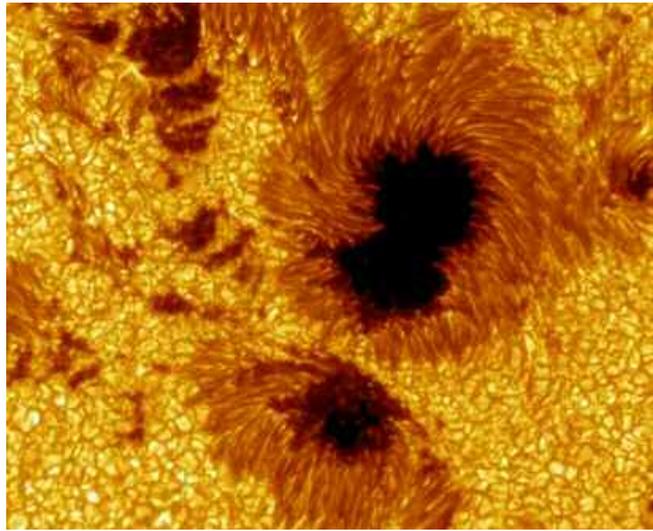
He was greatly encouraged by one fact: shortly before, a beautiful bright new star had appeared in the heavens. But Aristotle, 2,000 years earlier, had said no new stars would appear. Since he was mistaken in this fact about the heavens, could he not also be wrong as to what moves around what?

Galileo now spent practically all his time looking through his telescope. At times he forgot to eat and sleep. But even though his health was not the best, he kept on pushing himself, afraid he might not live long enough to learn the truth as to what's in the center, sun or earth.

He made it. How? He knew that if Venus and Mars moved around the Sun, then the earth did too. He also knew that if they did, they would appear to get smaller and at other times bigger, like the moon does when it becomes New Moon and then Full Moon. And that is exactly what he saw Venus and Mars do. They seemed to change size.

Galileo also discovered "spots" on the Sun, though there were not supposed to be any. The more he studied the heavens with his telescope, the more he realized that hearsay is often just that— hearsay.

Galileo wrote everything down in a book, so that as many people as possible might read about it. Nowadays, some people become rich and famous after writing books. Not Galileo. He was thrown in jail. Those in authority tried to get him to "recant," that is, to take back what he had said and written and to promise that he no longer believed it.



Institute for Solar Physics, Stockholm, Sweden

This picture of sunspots has been made with one of today's high-powered telescopes. Galileo's telescope could not magnify as much, but still, with it he could see the spots on the sun

But how could he? Just because most people had for a long time believed the old way, that didn't make it right. And if people should some day tell you to believe something just because it had been believed by many for a long time, you'll know what to tell them, won't you? You'll just tell them about Galileo, What else! □

—A Probationer

Crossword Answers

Crossword on page 26 of the July/August 1995 Rays issue.

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References from Mark:

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| 1. | 13:28 | 13. | 12:17 |
| 2. | 9:13 | 14. | 11:24 |
| 3. | 2:17 | 15. | 4:14 |
| 4. | 14:18 | 16. | 5:41 |
| 5. | 8:12 | 17. | 13:14 |
| 6. | 12:1 | 18. | 8:19 |
| 7. | 4:29 | 19. | 7:9 |
| 8. | 4:21 | 20. | 13:20 |
| 9. | 13:34 | 21. | 7:27 |
| 10. | 9:12 | 22. | 11:29 |
| 11. | 14:15 | 23. | 12:7 |
| 12. | 16:18 | 24. | 10:8 |

Submissions Information

The Rays welcomes manuscripts for publication. The subject matter of all articles should be oriented toward an understanding of the Western Wisdom Teachings, including book reviews, health and healing, art, science, current events, and, generally, the application of the Teachings to better "living the life." All submissions should be finished works, typed (double spaced), and free of grammatical and factual errors. The editor reserves the right to edit and amend all submissions.