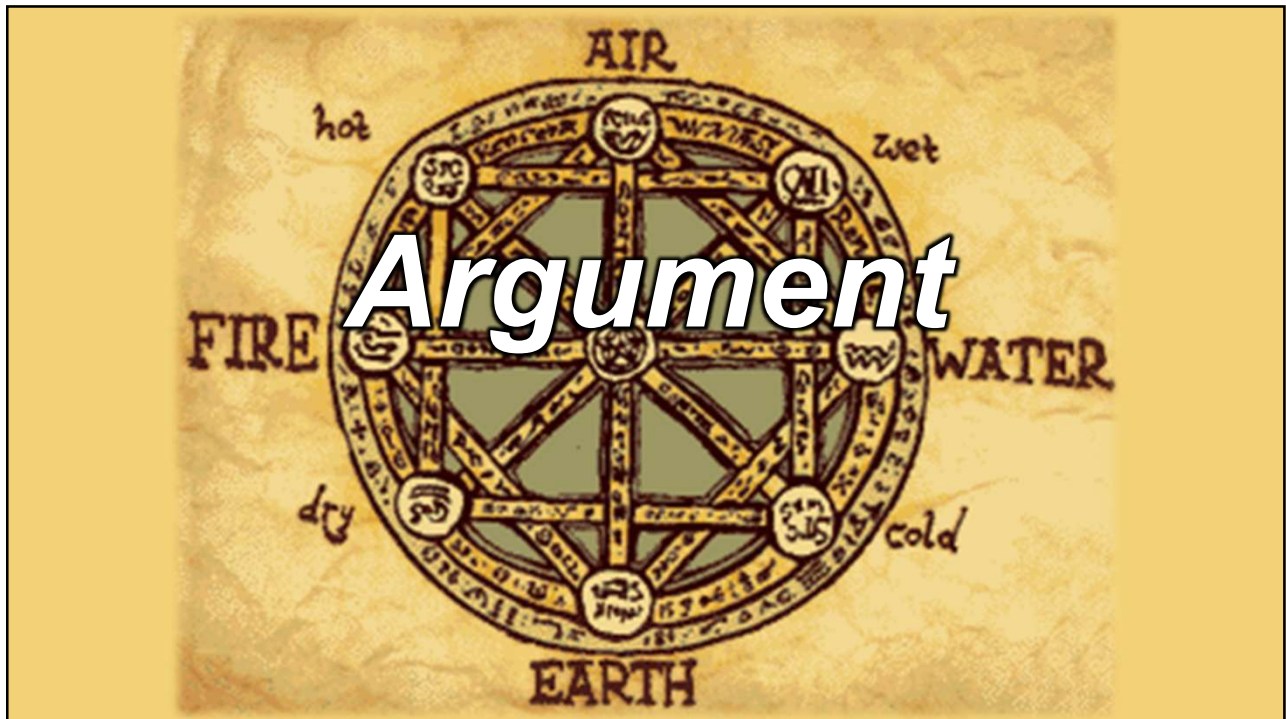


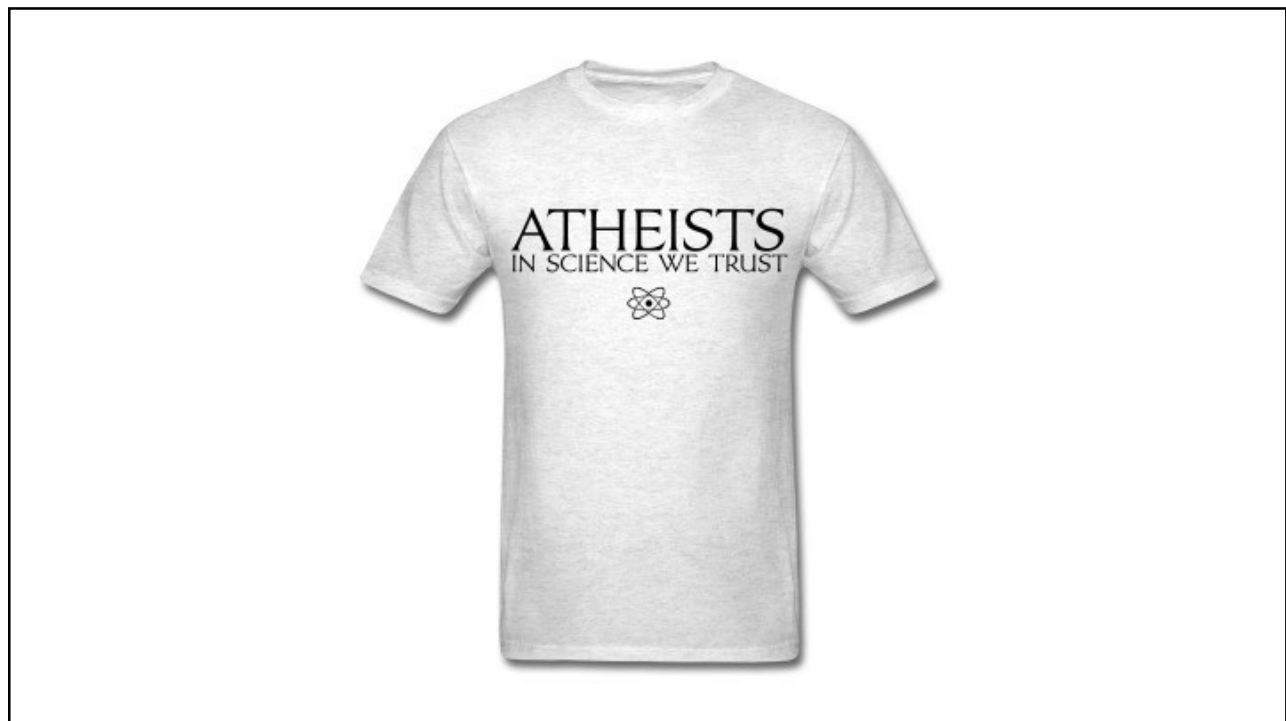
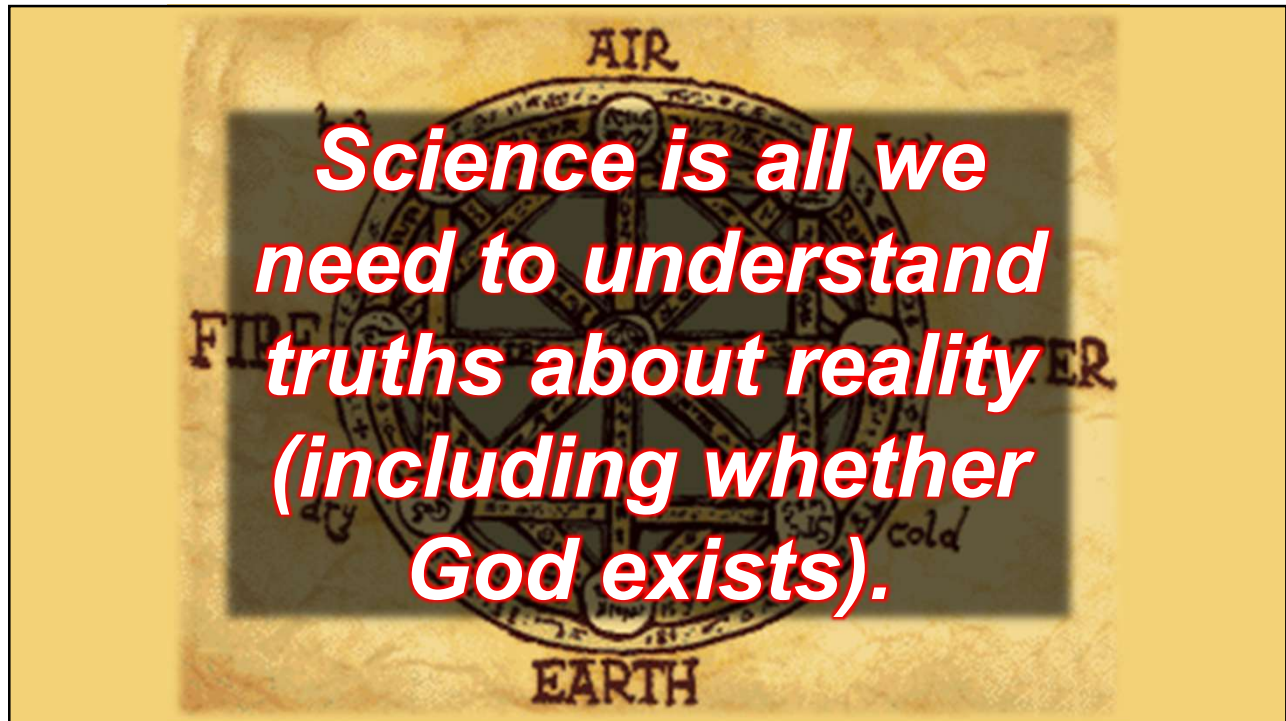


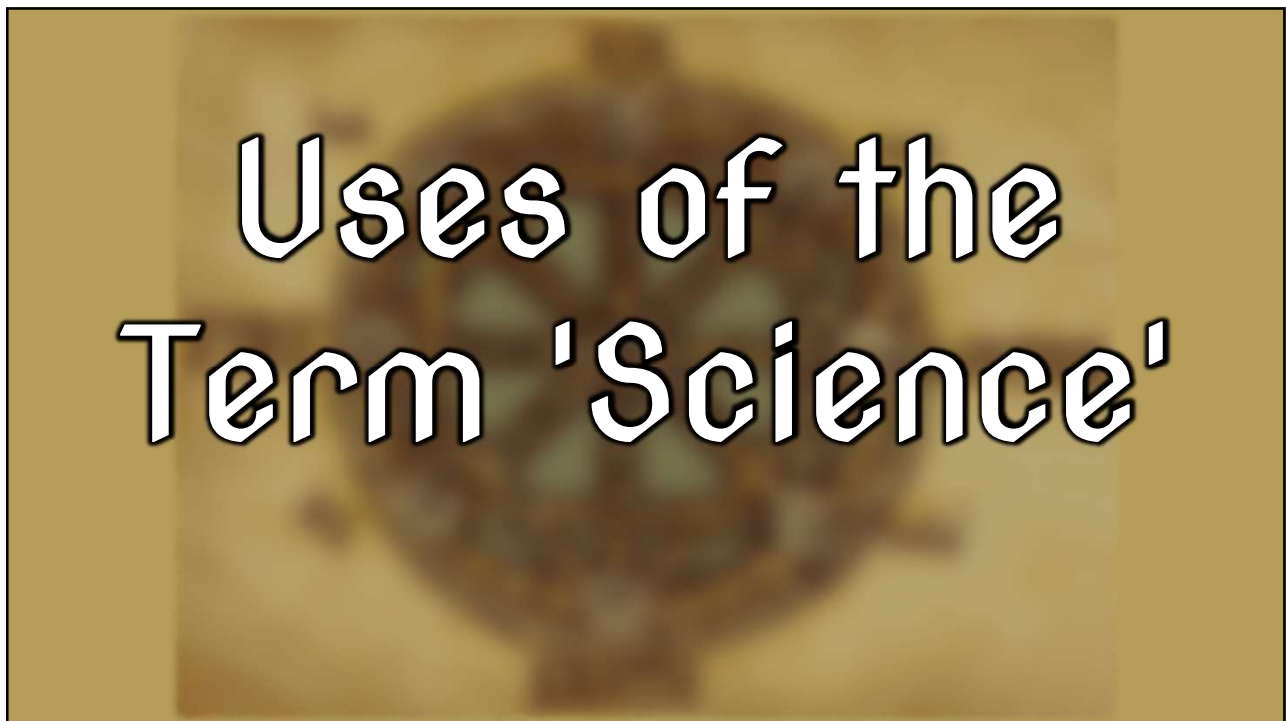
Popular Atheism



Argument



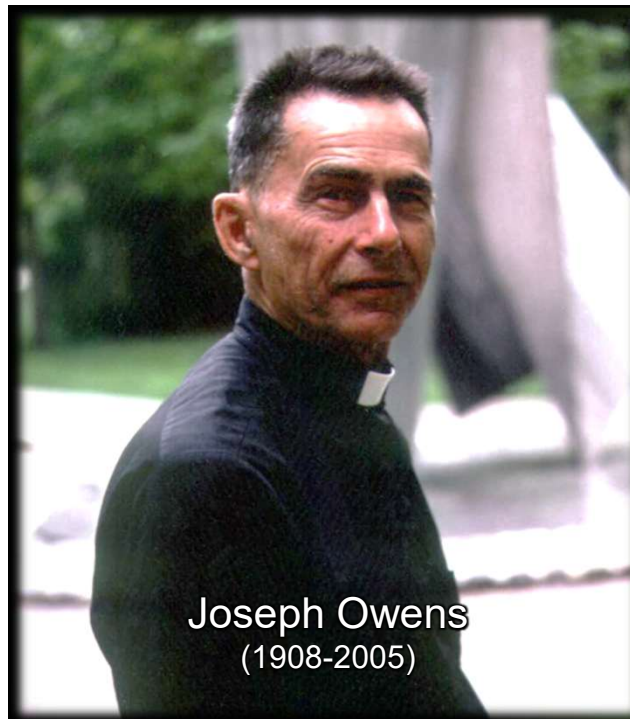




∞ science ∞

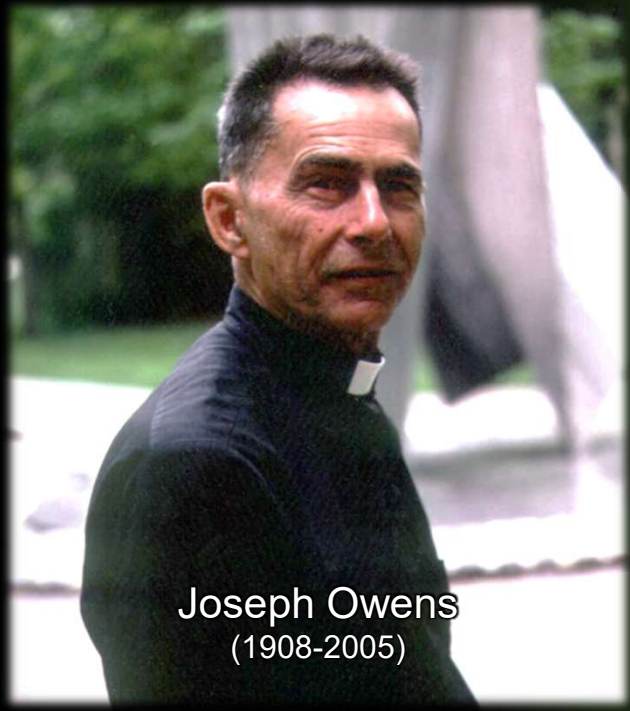
ancient and medieval use of the term

Here 'science' is any area of study and body of knowledge whose truths can be reduced to the first principles of that area.



Joseph Owens
(1908-2005)

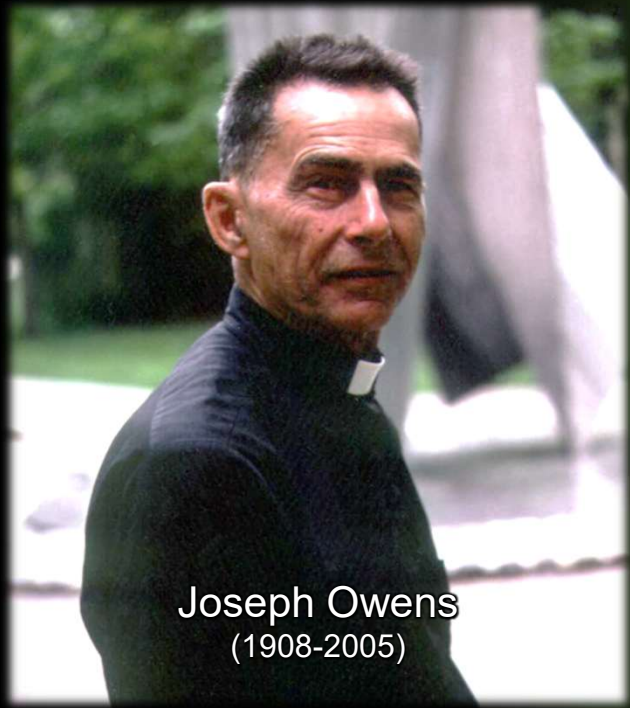
"In this tradition [that goes back to Plato and Aristotle], 'science' has a much wider and richer meaning than it has in the popular understanding of the word today. It means knowledge of a thing in light of its causes. It extends to any kind of explanation of things through the causes that account for their nature, their origin, and their function,

A portrait of Joseph Owens, a man with short dark hair, wearing a black clerical shirt with a white collar. He is looking slightly to the right with a thoughtful expression. The background is blurred, showing greenery and a white structure.

Joseph Owens
(1908-2005)

"whether the causes are in the sensible or the supersensible realm. In this tradition 'science' or 'scientific knowledge' includes mathematics, philosophy of nature, metaphysics, logic, and ethics, as well as the experimental sciences. ..."

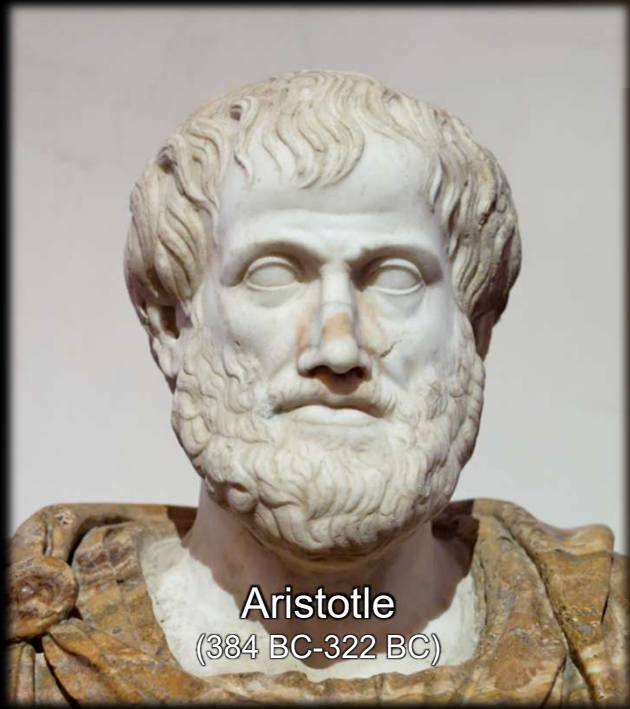
[Joseph Owens, "The 'Analytics' and Thomistic Metaphysical Procedure," *Mediaeval Studies* 26 (1964): 83-108 (87-88)]

A portrait of Joseph Owens, a man with short dark hair, wearing a black clerical shirt with a white collar. He is looking slightly to the right with a thoughtful expression. The background is blurred, showing greenery and a white structure.

Joseph Owens
(1908-2005)

"This traditional [i.e., ancient and medieval] use of the word 'science' is still alive today, in spite of the way in which the term has been appropriated to the experimental sciences in popular use."

[Joseph Owens, "The 'Analytics' and Thomistic Metaphysical Procedure," *Mediaeval Studies* 26 (1964): 83-108 (87-88)]



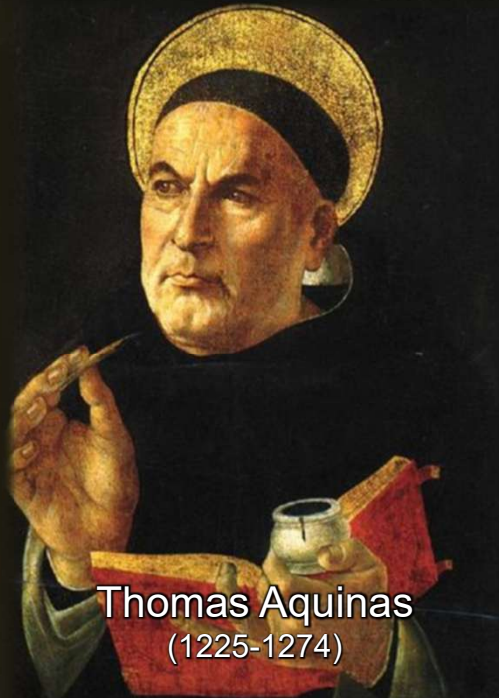
Aristotle
(384 BC-322 BC)

"And the most exact of the sciences [ἐπιστημῶν; epistēmōn] are those which deal most with first principles."

[Aristotle, The Metaphysics, trans. W. D. Ross in Richard McKeon, ed. The Basic Works of Aristotle, (New York: Random House, 1941), 691]

"Sacred doctrine is a science [scientiam]. We must bear in mind that there are two kinds of sciences. There are some which proceed from a principle known by the natural light of the intelligence, such as arithmetic ... There are some which proceed from the principles known by the light of a higher science. ... So it is that sacred doctrine is a science, because it proceeds from the principles established by the light of a higher science, namely, the science of God and the blessed."

[Summa Theologiae I, Q.1, art. 2]



Thomas Aquinas
(1225-1274)

∞ science ∞

ancient and medieval use of the term

In this regard, not only would areas like physics be regarded as a science but also metaphysics and theology.

∞ science ∞

contemporary use of the term

In contemporary usage, the term 'science' has become difficult to define to everyone's satisfaction.

∞ science ∞

contemporary use of the term

But one relatively uncontroversial aspect of definition of science is that it is confined to the study of the physical or material world and the forces which govern it.

∞ science ∞

contemporary use of the term

In this regard, while physics would be considered a science, metaphysics and theology would not.

∞ science ∞

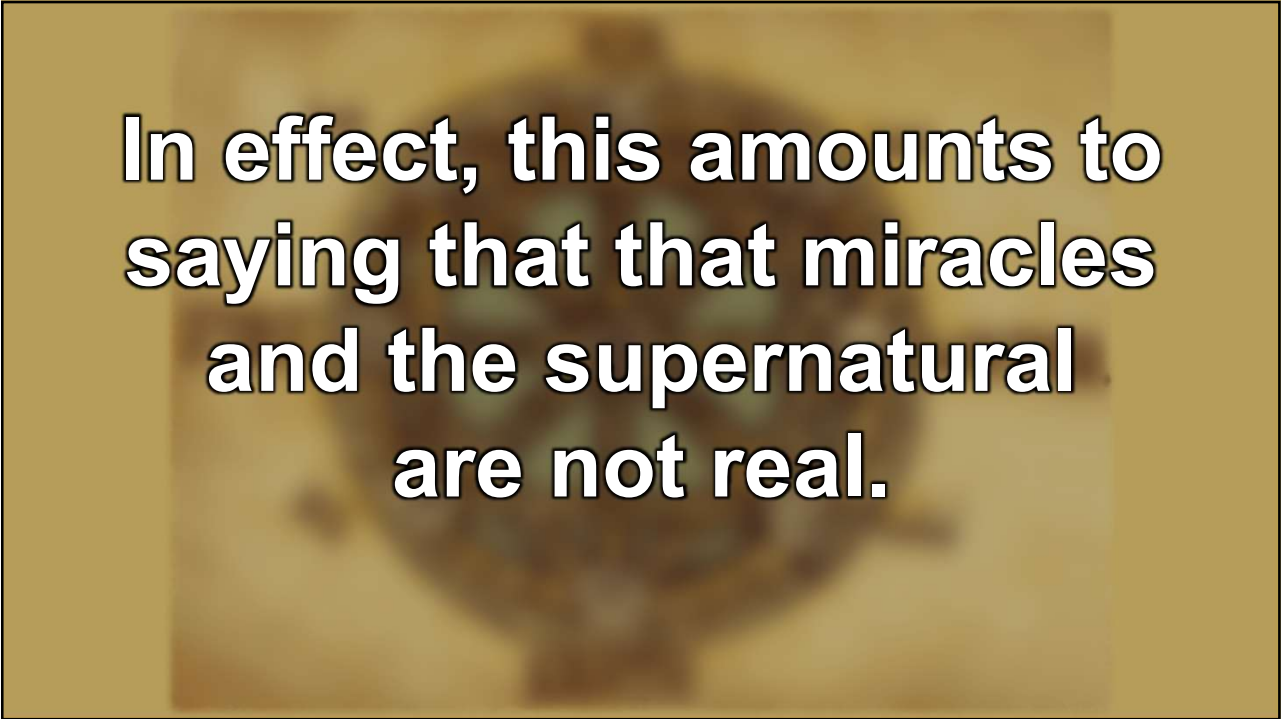
contemporary use of the term

The issue before us is whether there is any aspect of reality that is beyond the physical or material world and is thus beyond science in the contemporary sense of the term.

Science by any
other name ..

Some scientists insist that that science and its methods are the only way to discover or measure truths about reality.

They maintain that miracles and the supernatural fall outside the scope of the "scientific method."



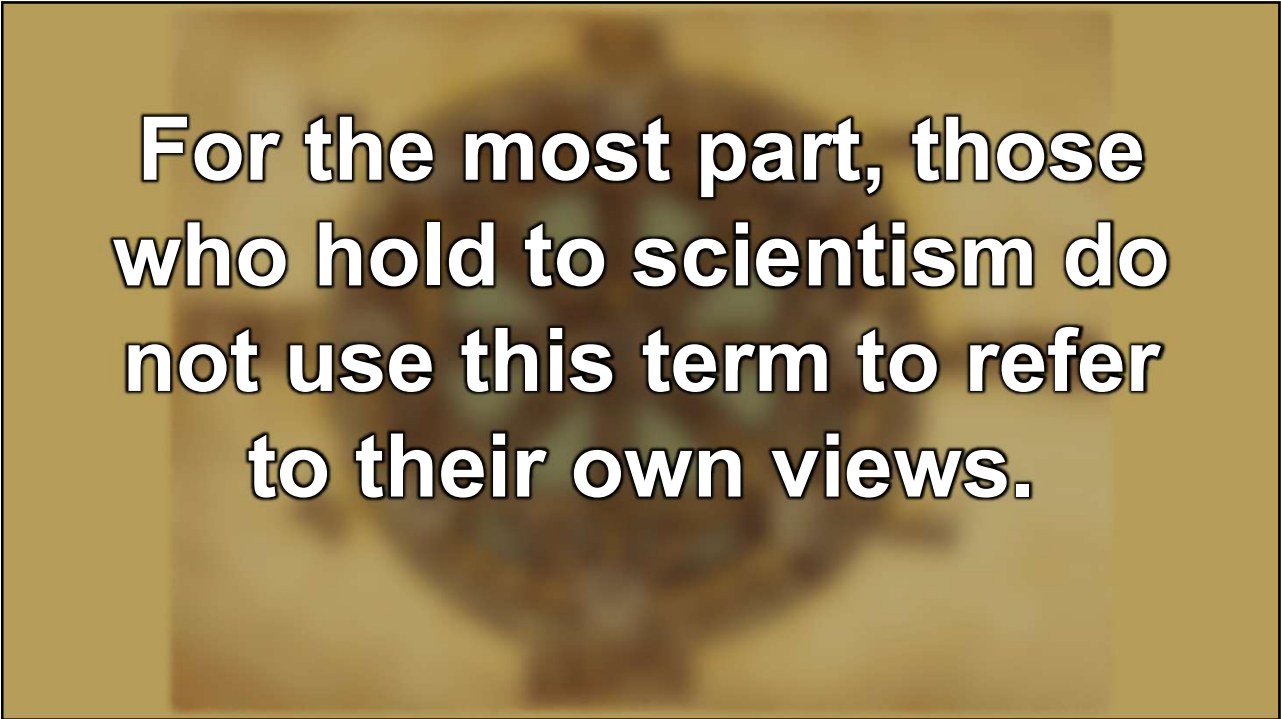
In effect, this amounts to saying that that miracles and the supernatural are not real.



This view of science is sometimes referred to as "scientism".



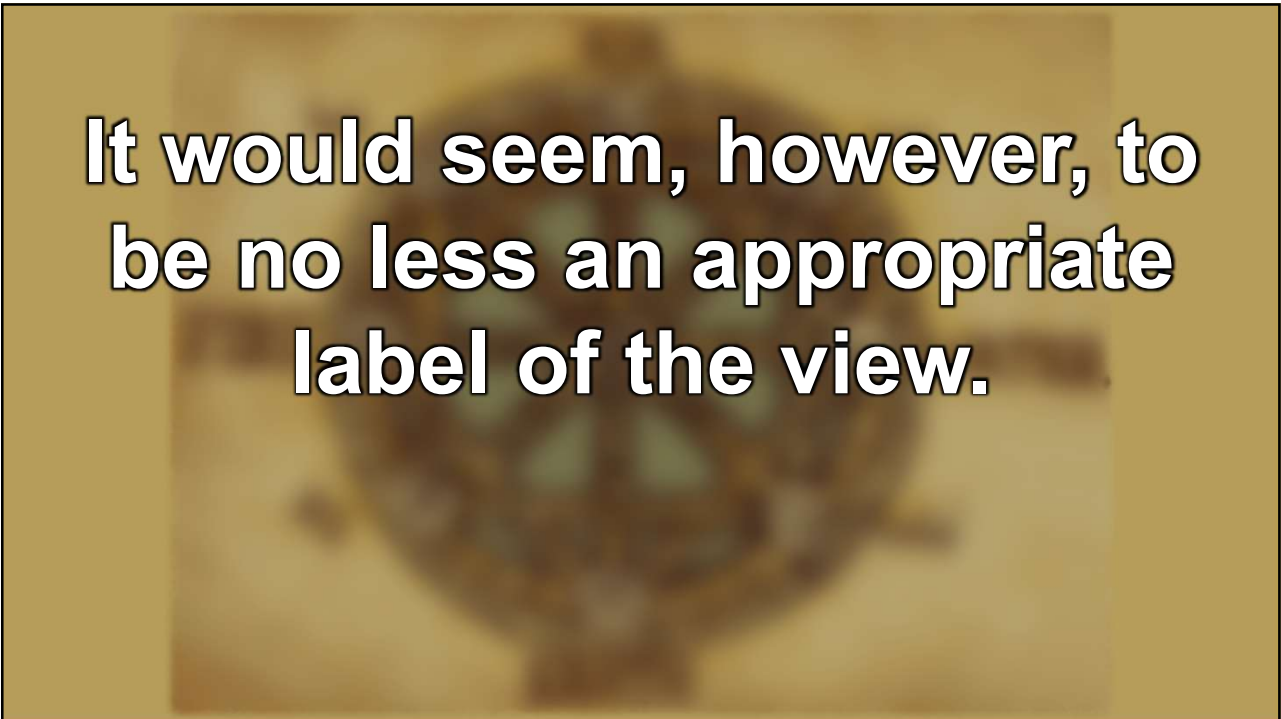
**Not all scientists hold
to scientism.**



**For the most part, those
who hold to scientism do
not use this term to refer
to their own views.**



**It originated more or less
as a pejorative term used
by critics of the view.**

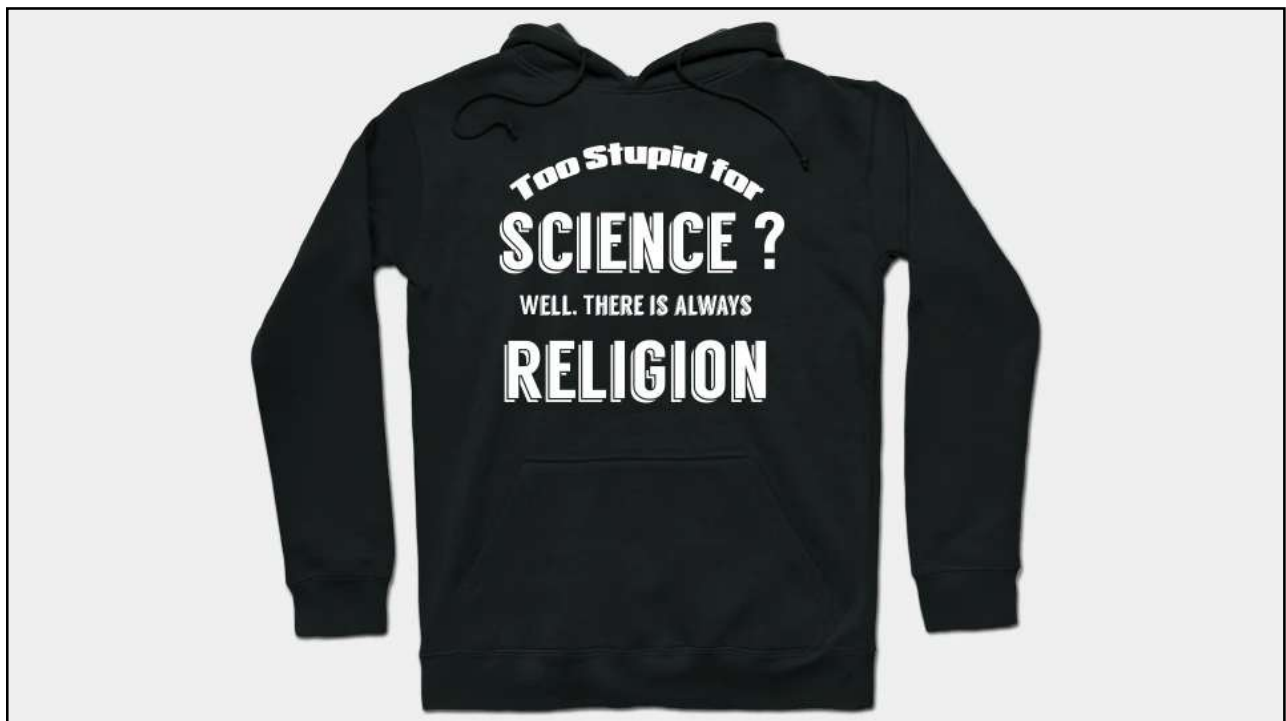


**It would seem, however, to
be no less an appropriate
label of the view.**

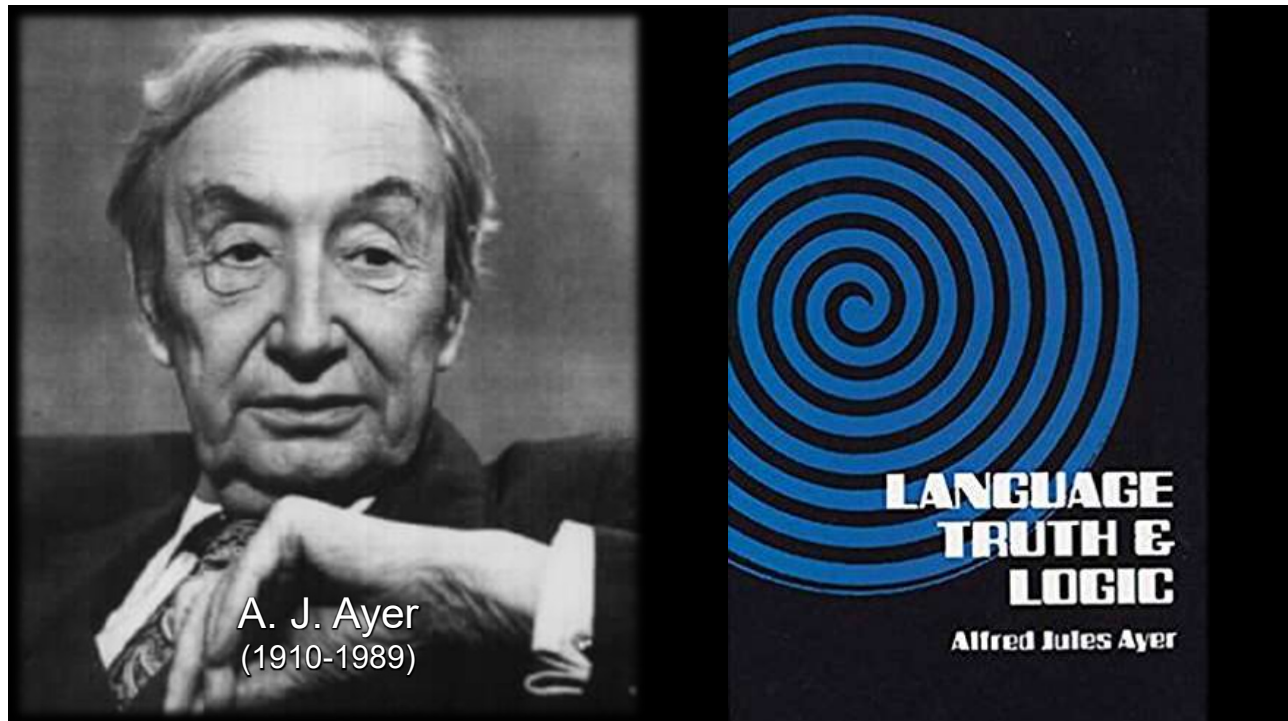


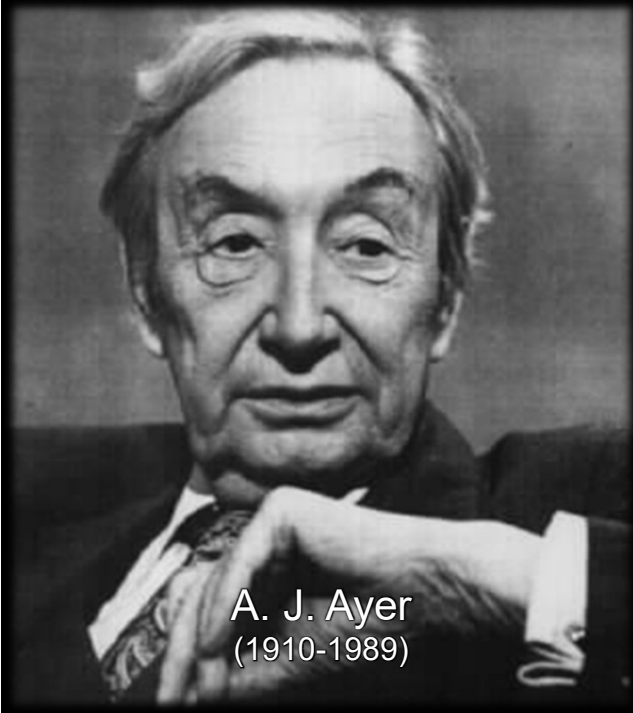






Scientism in Action: Philosophers

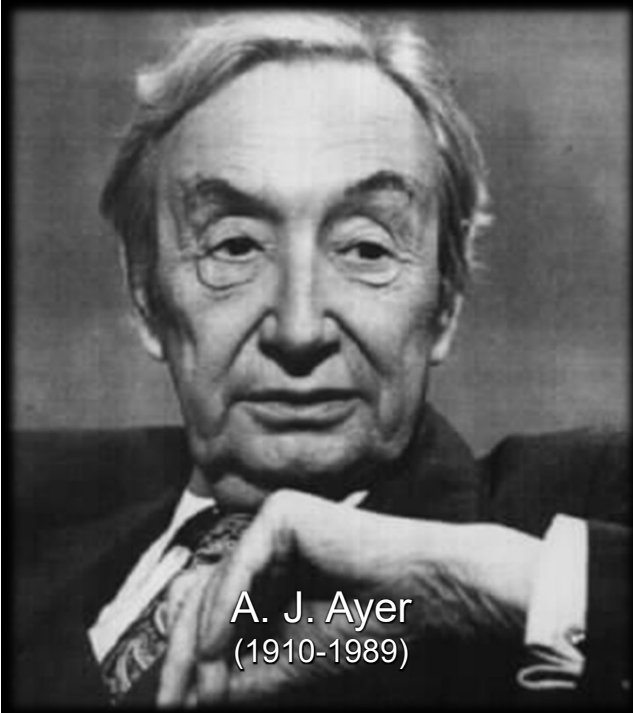




A. J. Ayer
(1910-1989)

"We mean also to rule out the supposition that philosophy can be ranged alongside the existing sciences, as a special department of speculative knowledge."

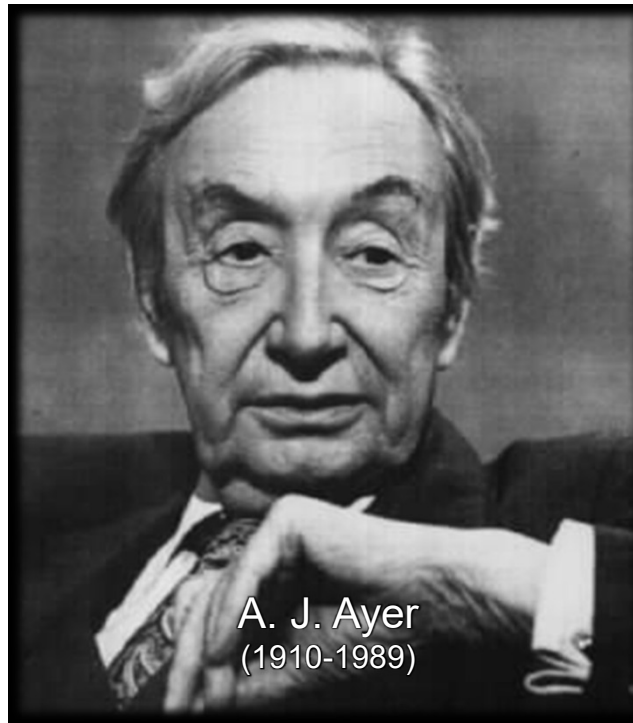
[A. J. Ayer, *Language, Truth and Logic* (New York: Dover Publications, 1952), 48]



A. J. Ayer
(1910-1989)

"There is no field of experience which cannot, in principle, be brought under some form of scientific law, and no type of speculative knowledge about the world which it is, in principle, beyond the power of science to give."

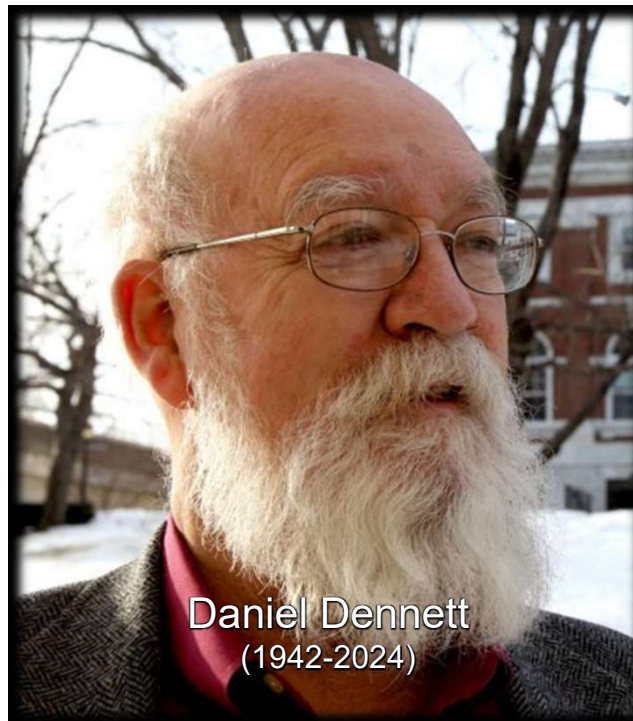
[Ayer, *Language*, 48]



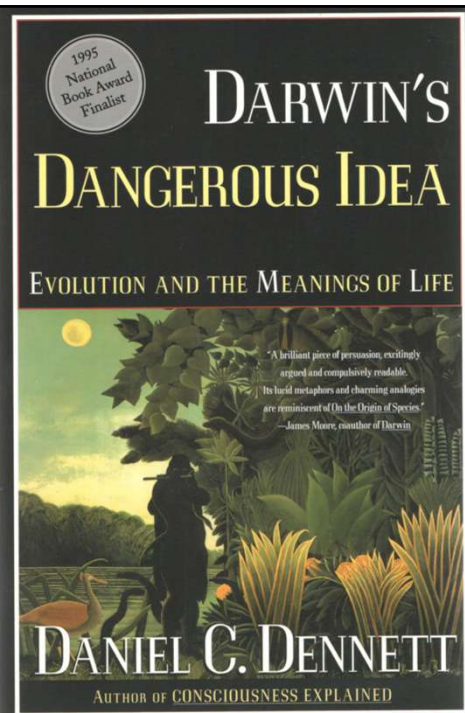
A. J. Ayer
(1910-1989)

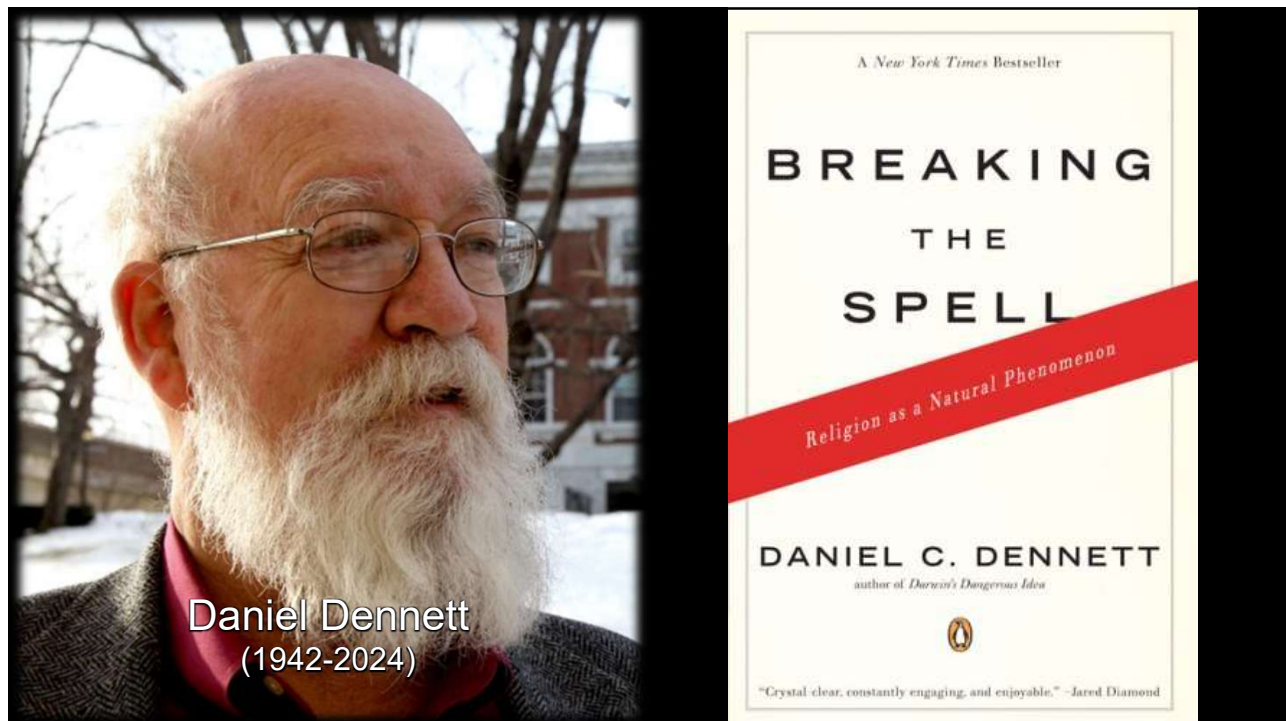
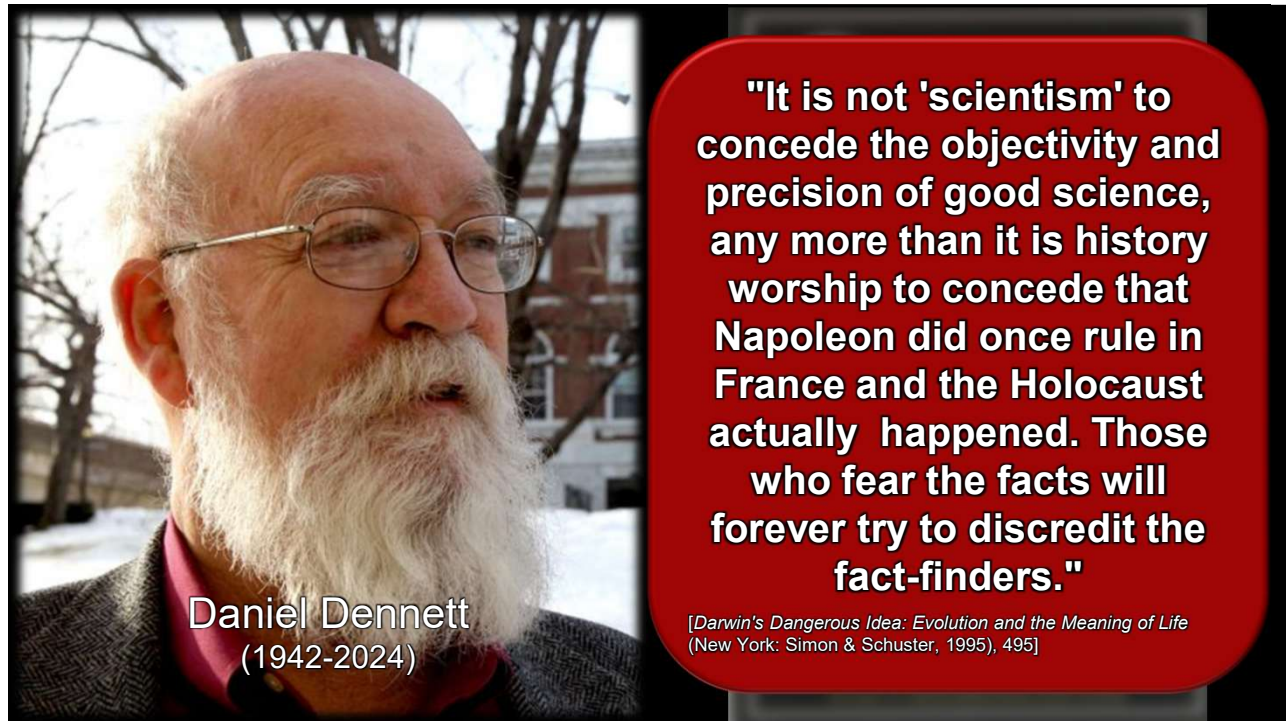
"The philosopher, as an analyst, is not directly concerned with the physical properties of things. **He is concerned only with the way in which we speak about them.** In other words, **the propositions of philosophy are not factual, but linguistic in character.**"

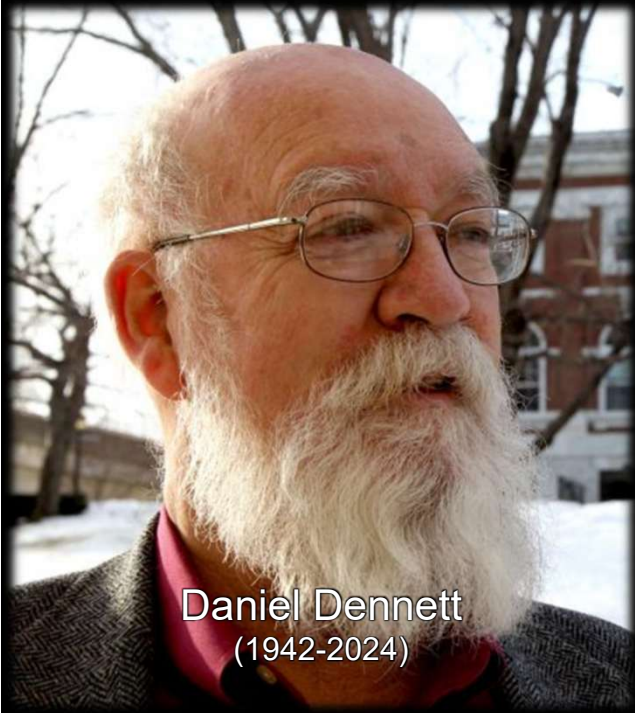
[Ayer, *Language*, 57]



Daniel Dennett
(1942-2024)








Daniel Dennett
(1942-2024)

"Perhaps some cancer cures are miracles. If so, **the only hope of ever demonstrating this** to a doubting world would be by **adopting the scientific method**, with **its assumption of no miracles**, and showing that science was utterly unable to account for the phenomena."

[*Breaking the Spell*, 26]

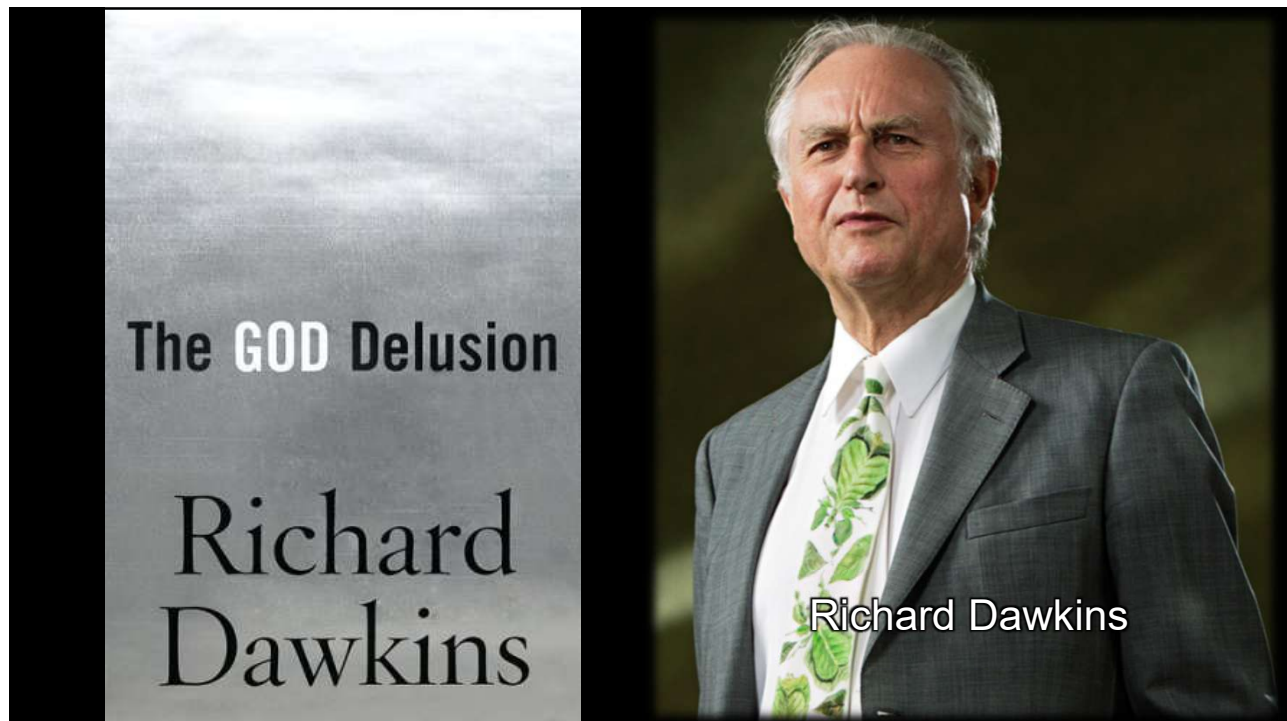


John Shook

*"Philosophical naturalism undertakes the responsibility for elaborating a comprehensive and coherent worldview based on experience, reason, and science, and for defending **science's exclusive right to explore and theorize about all of reality.**"*

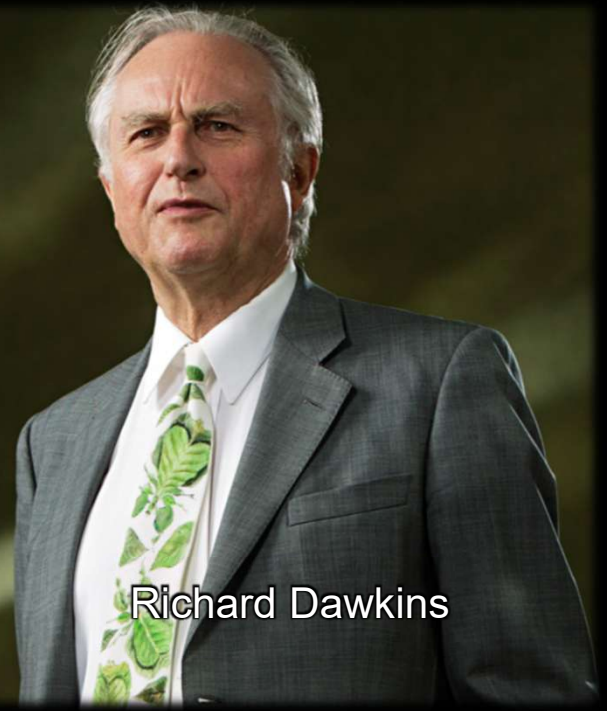
["The Need for Naturalism in a Scientific Age" https://centerforinquiry.org/blog/the_need_for_naturalism_in_a_scientific_age/, accessed 06/22/22, emphasis added]

Scientism in Action: Scientists

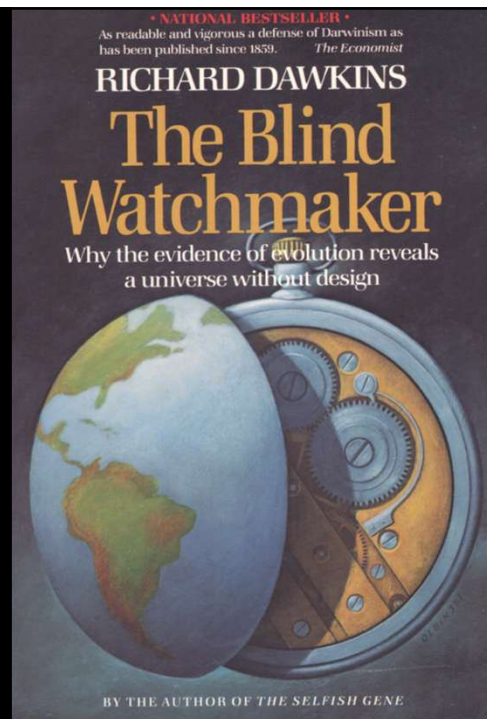
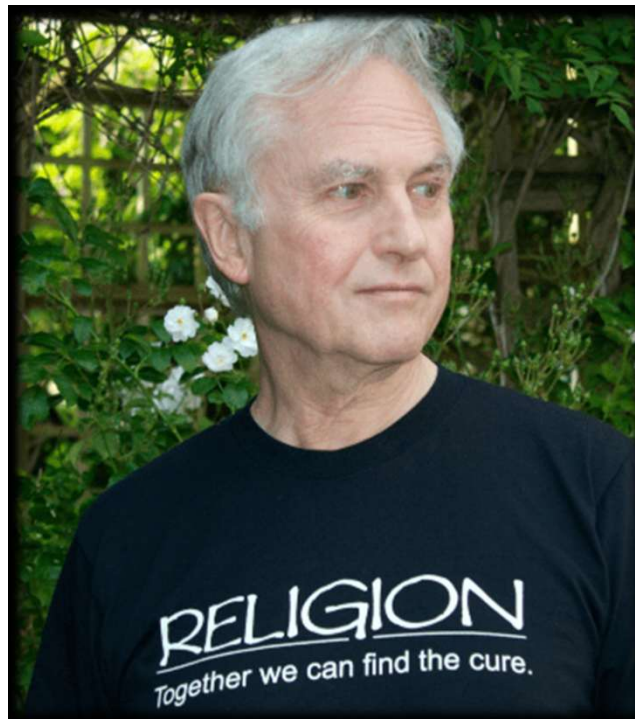


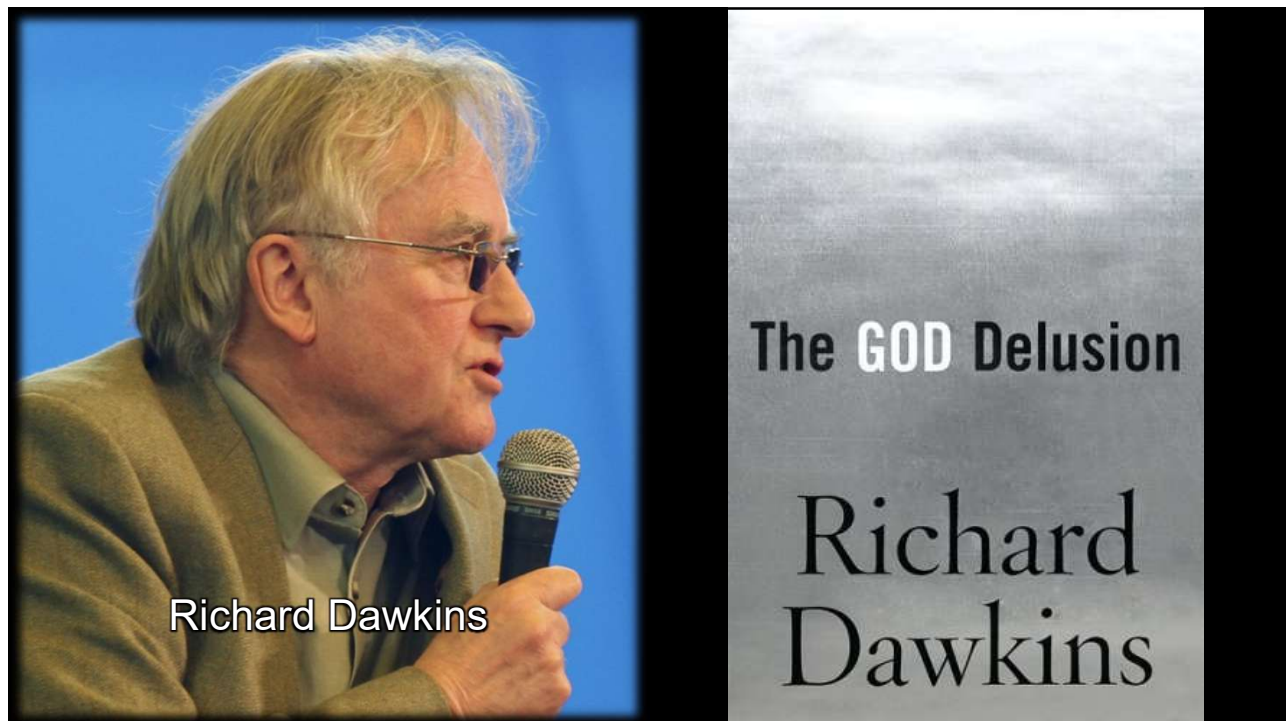
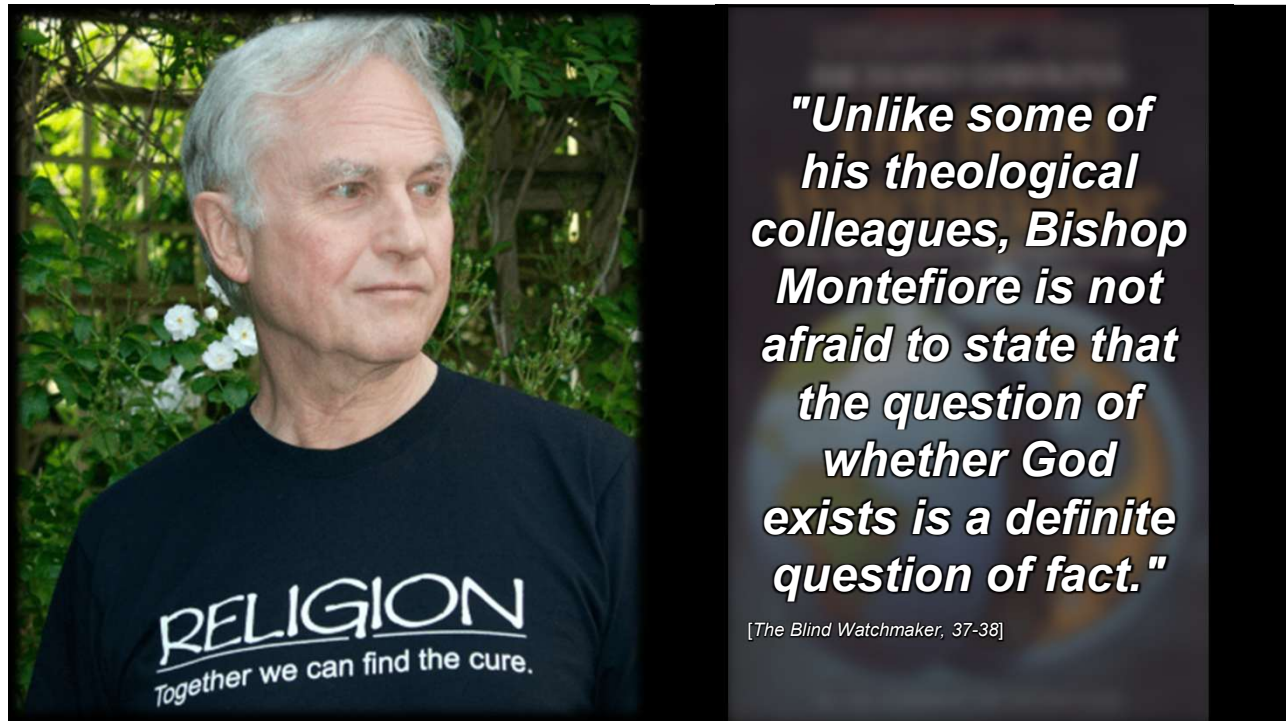
"The presence or absence of a creative super-intelligence is unequivocally a scientific question, even if it is not in practice—or not yet—a decided one."

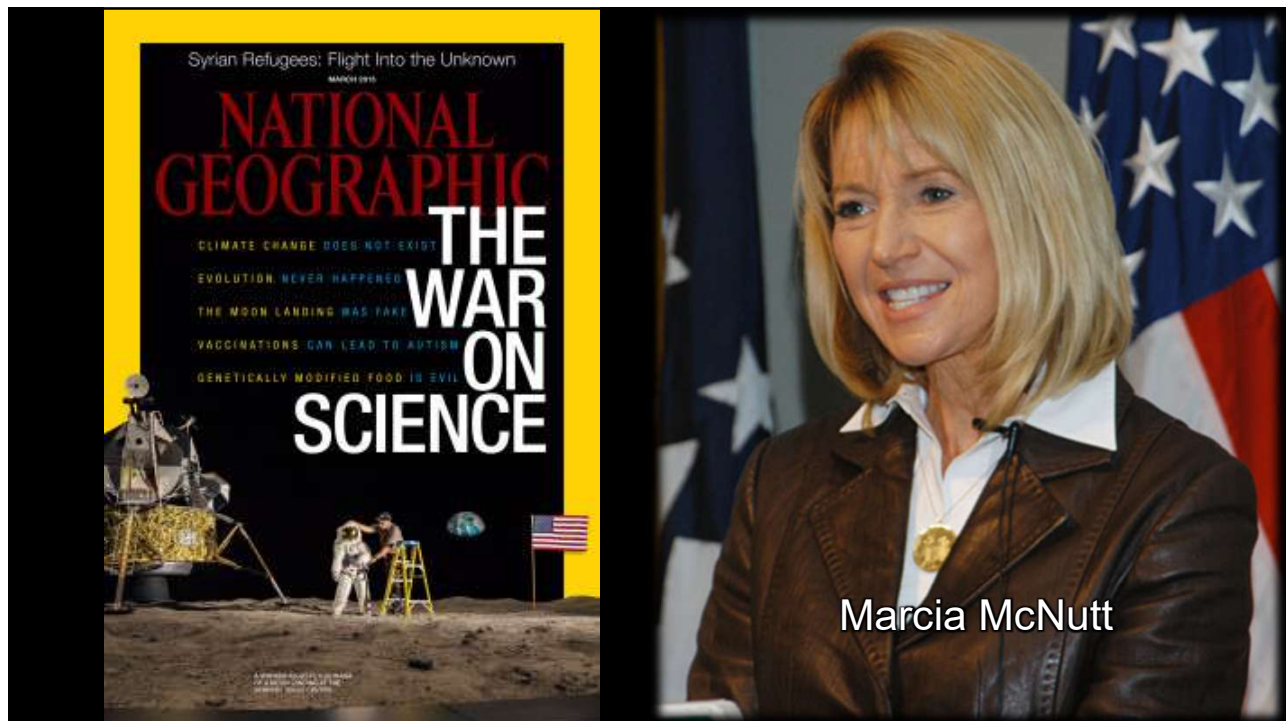
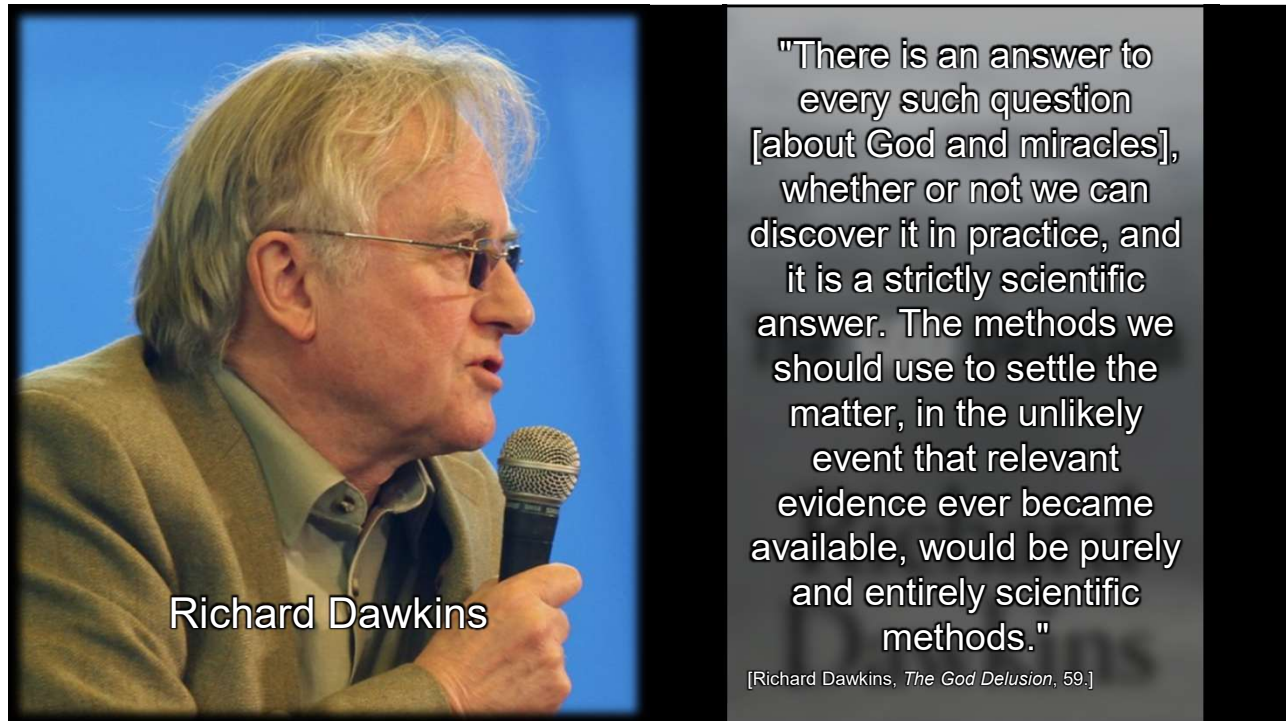
[*The God Delusion* (Boston: Houghton Mifflin, 2006), 58-59]



Richard Dawkins







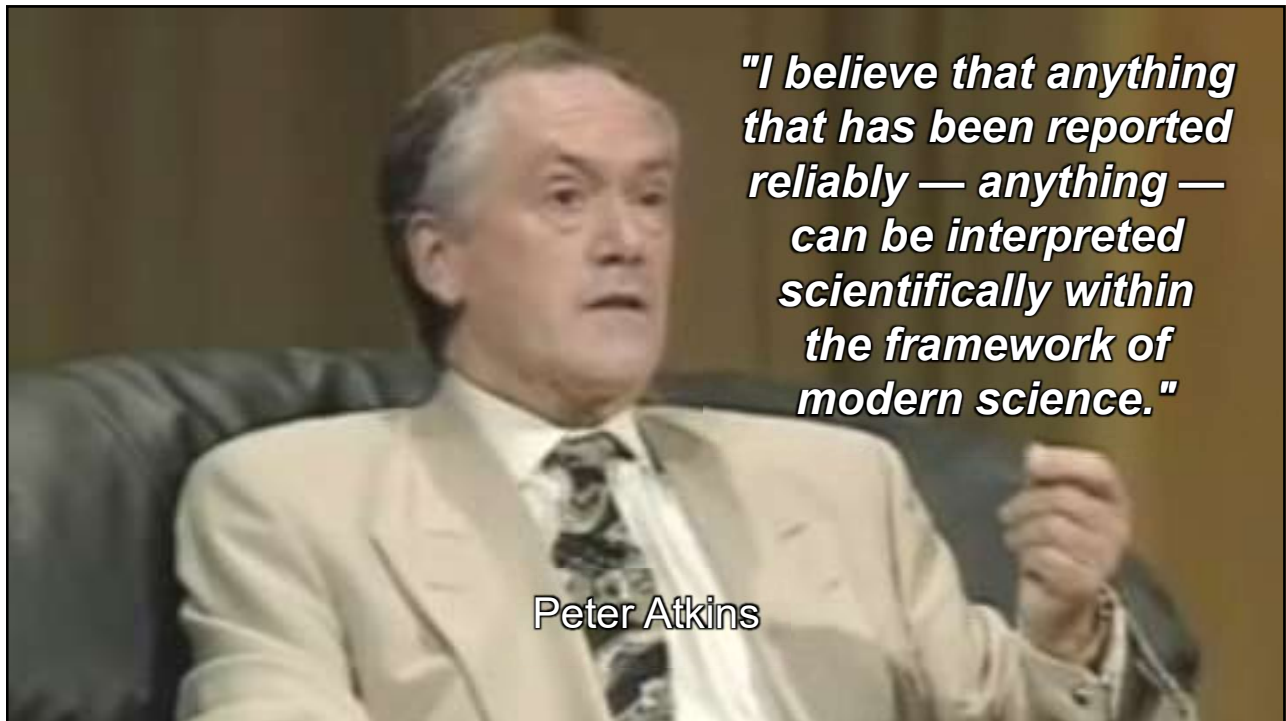
"Science is a method for deciding whether what we choose to believe has a basis in the laws of nature or not."

[in Joel Achenbach, "The Age of Disbelief," *National Geographic* (March 2015): 40]

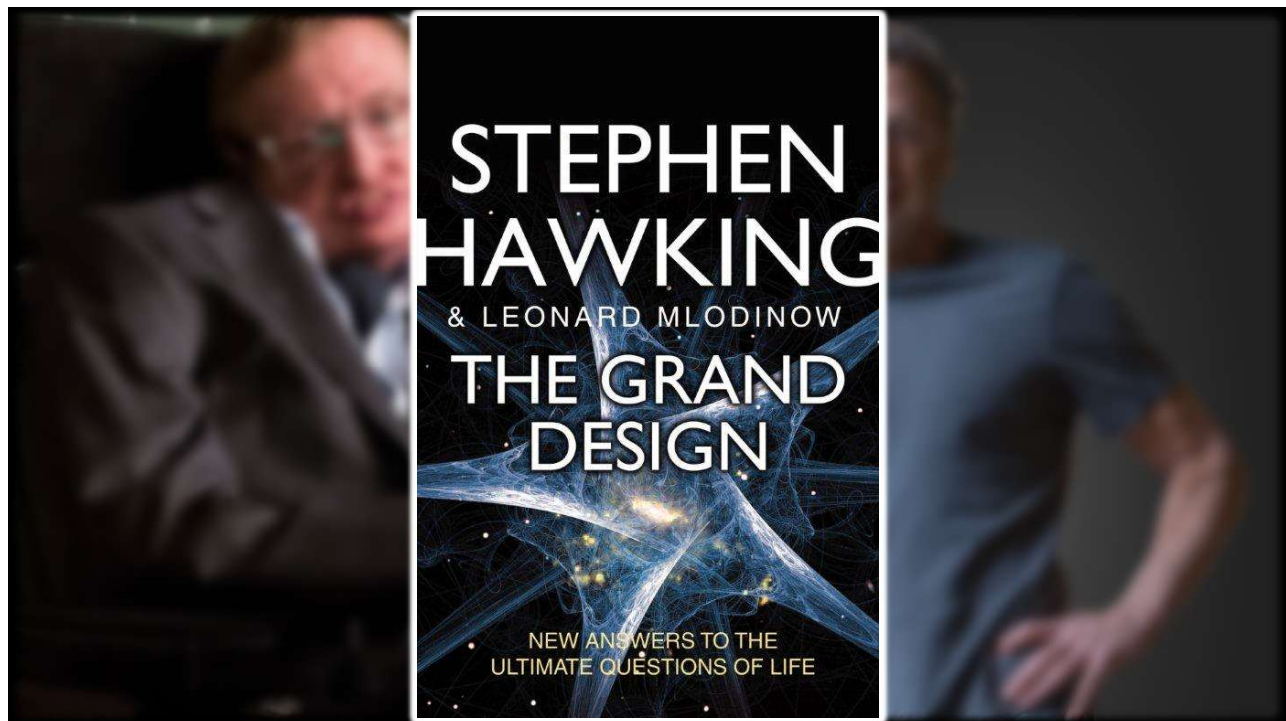
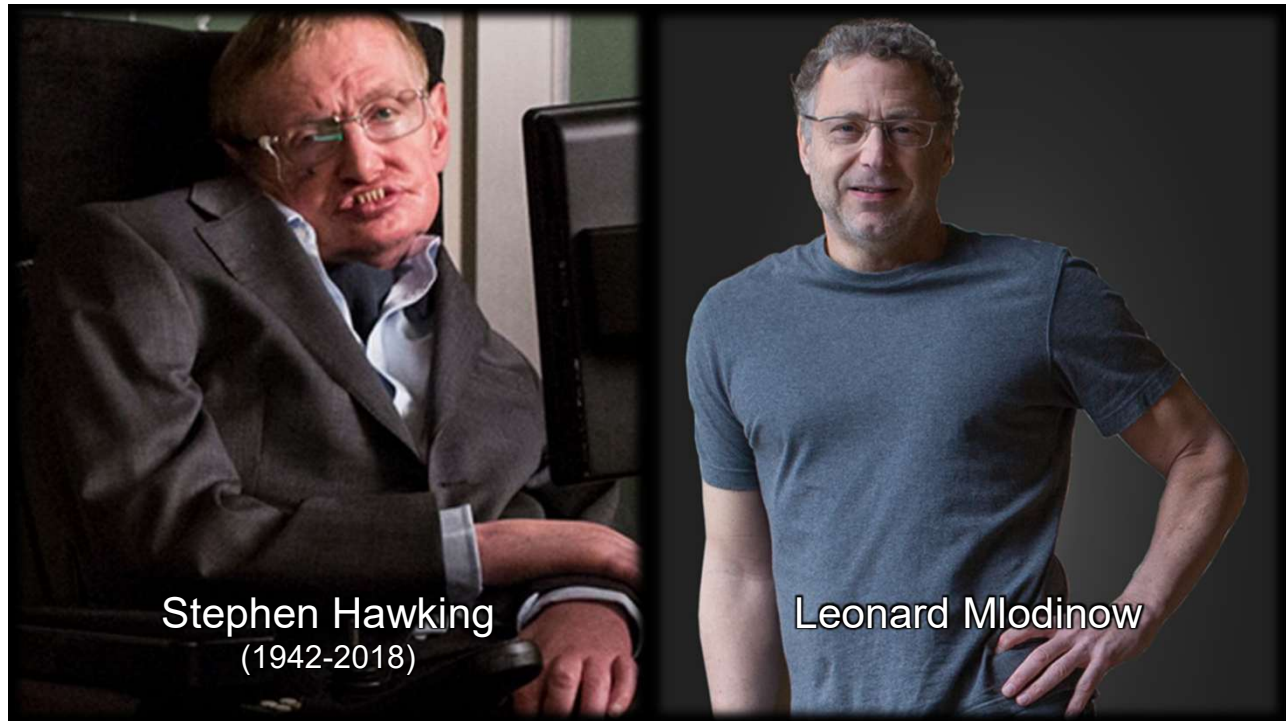


Marcia McNutt

"I believe that anything that has been reported reliably — anything — can be interpreted scientifically within the framework of modern science."



Peter Atkins



*"How can we understand the world in which we find ourselves? How does the universe behave? What is the nature of reality? Where did all this come from? Did the universe need a creator? ... Traditionally these are questions for philosophy, but **philosophy is dead**. Philosophy has not kept up with modern developments in science, particularly physics."*

[Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam Books, 2010), 5]



General Revelation and Special Revelation

General Revelation

God making known to mankind through His creation His existence, attributes, and goodness.

Special Revelation

God making known to mankind through His prophets, apostles, and His Son His nature and will that could not necessarily be known through General Revelation

***The Bible teaches that
God has revealed himself
through His creation.***

***This being so, many
people have been able to
believe that God is real
merely by observing the
wonders of creation.***



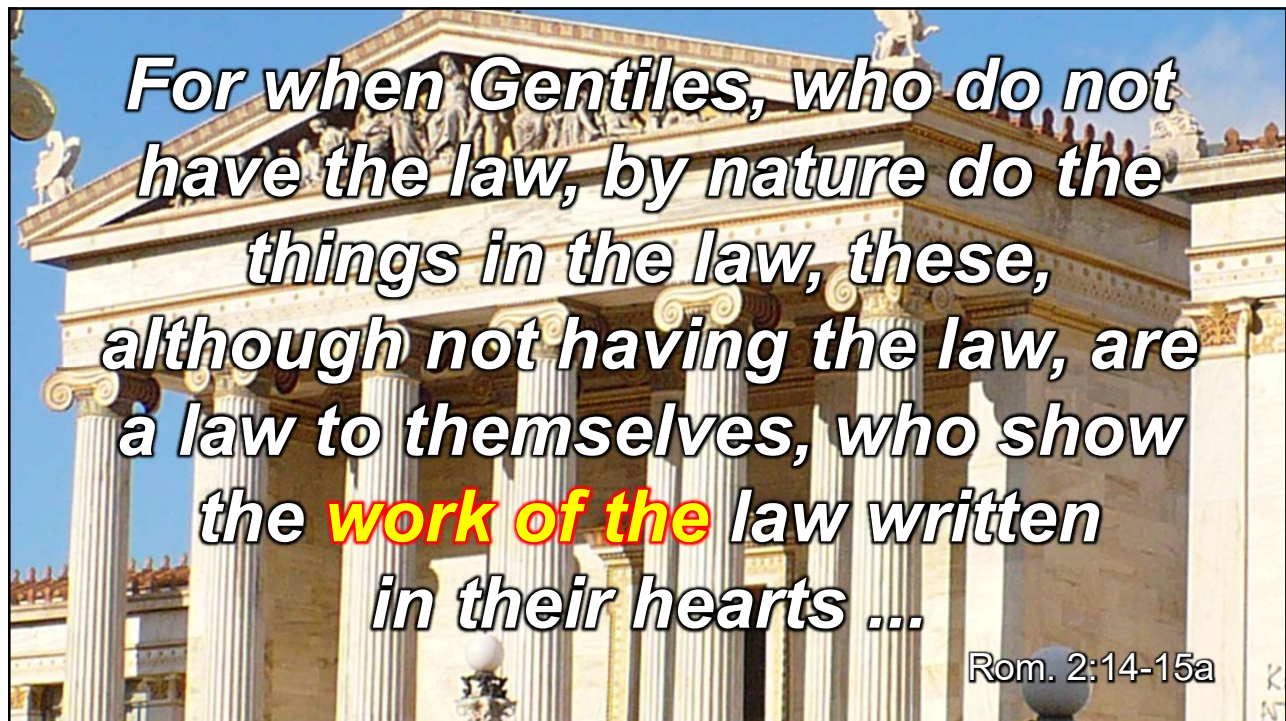
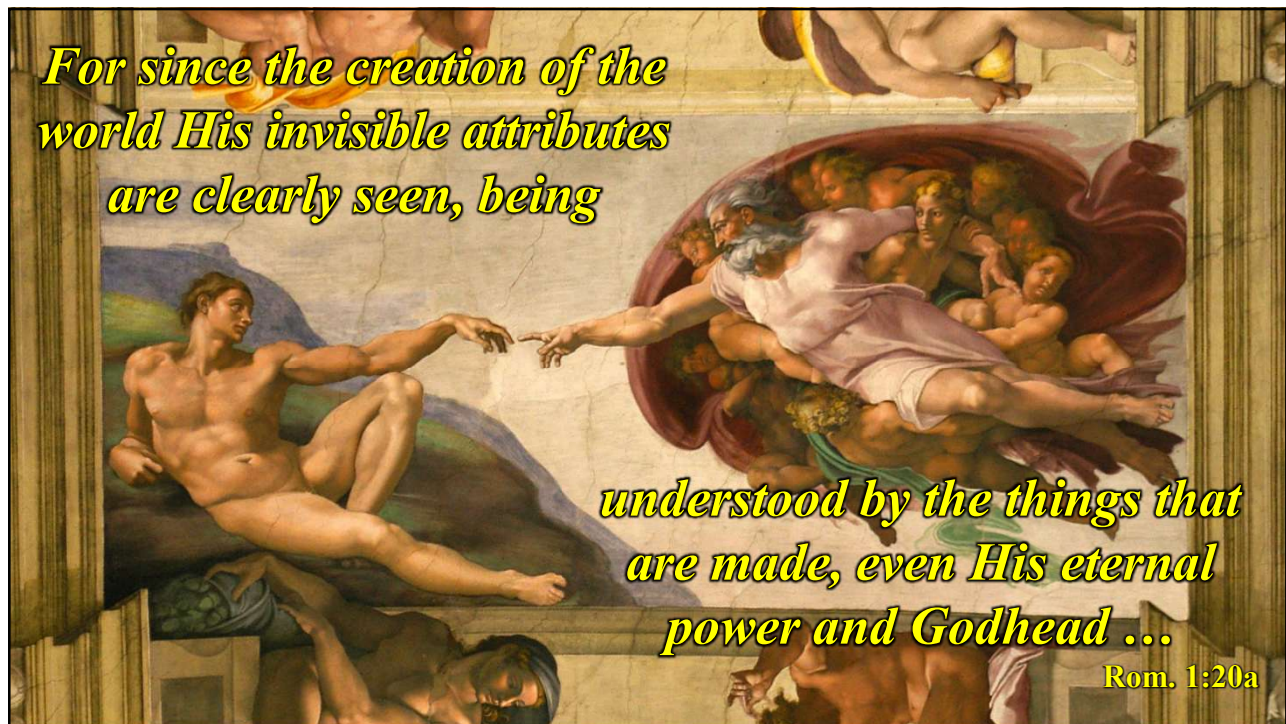
***The heavens declare
the glory of God; and
the firmament shows
His handiwork.***

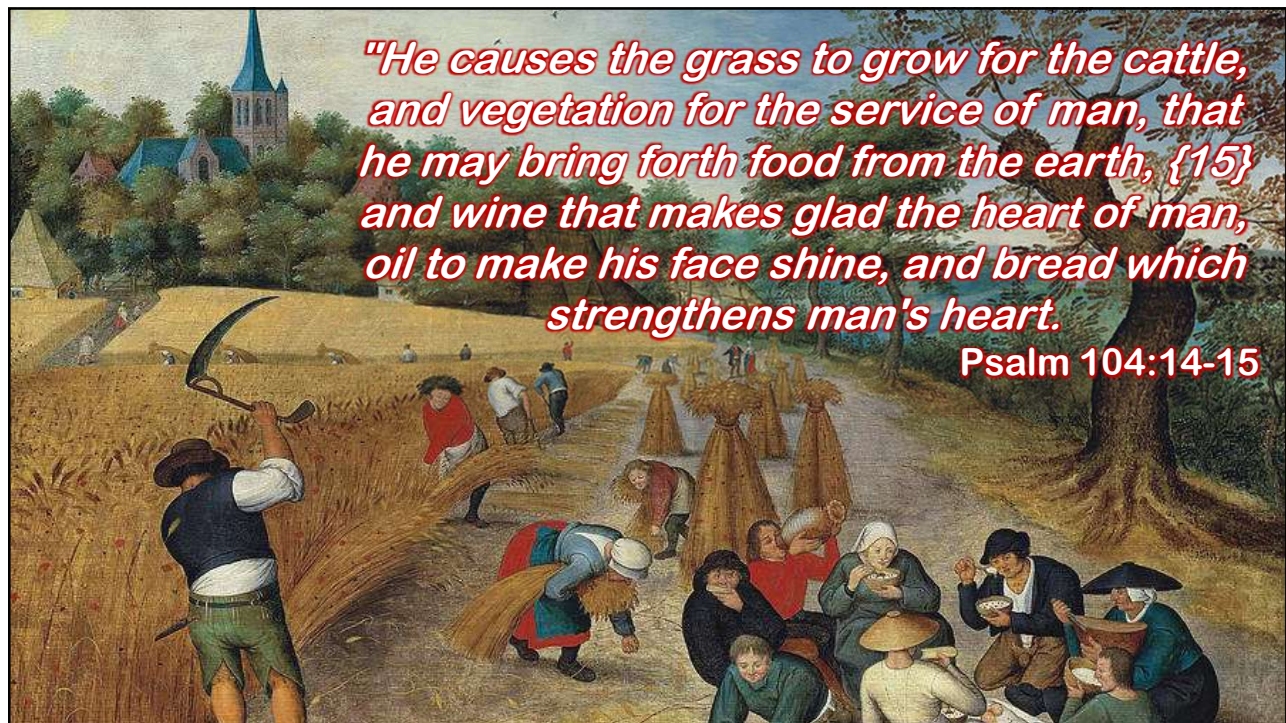
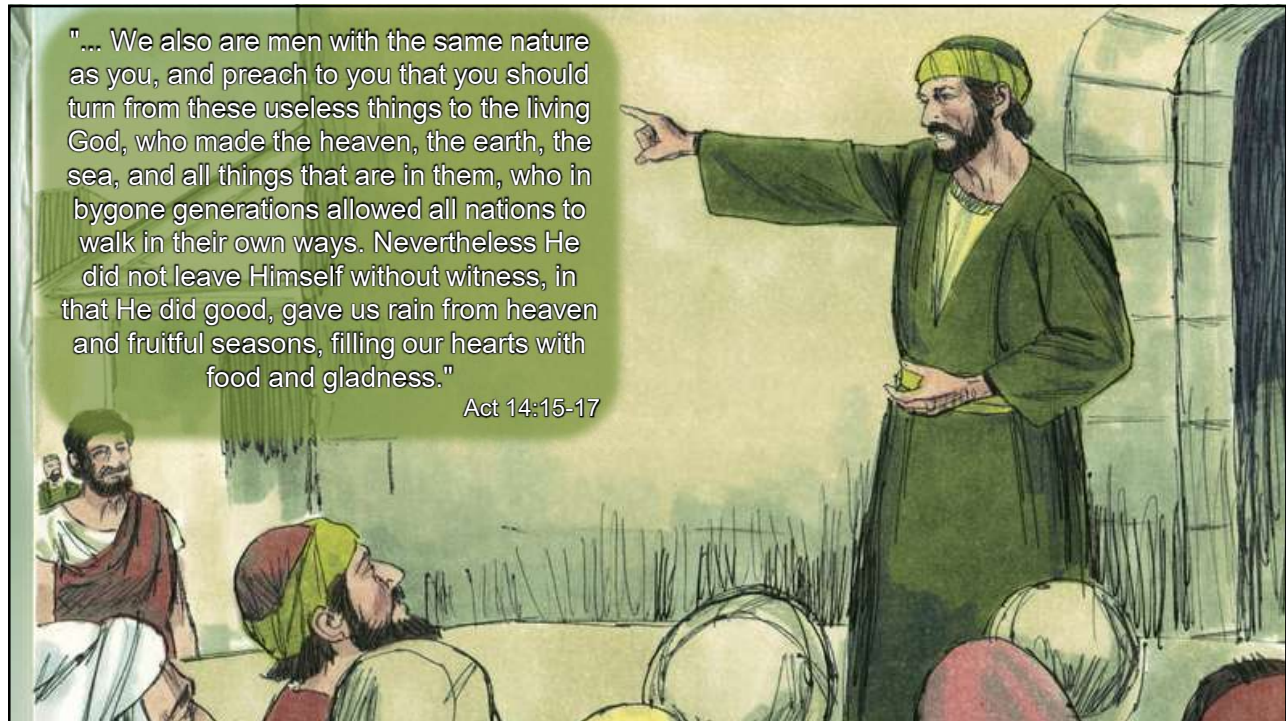
Psalm 19:1



***The heavens declare
His righteousness,
and all the peoples
see His glory.***

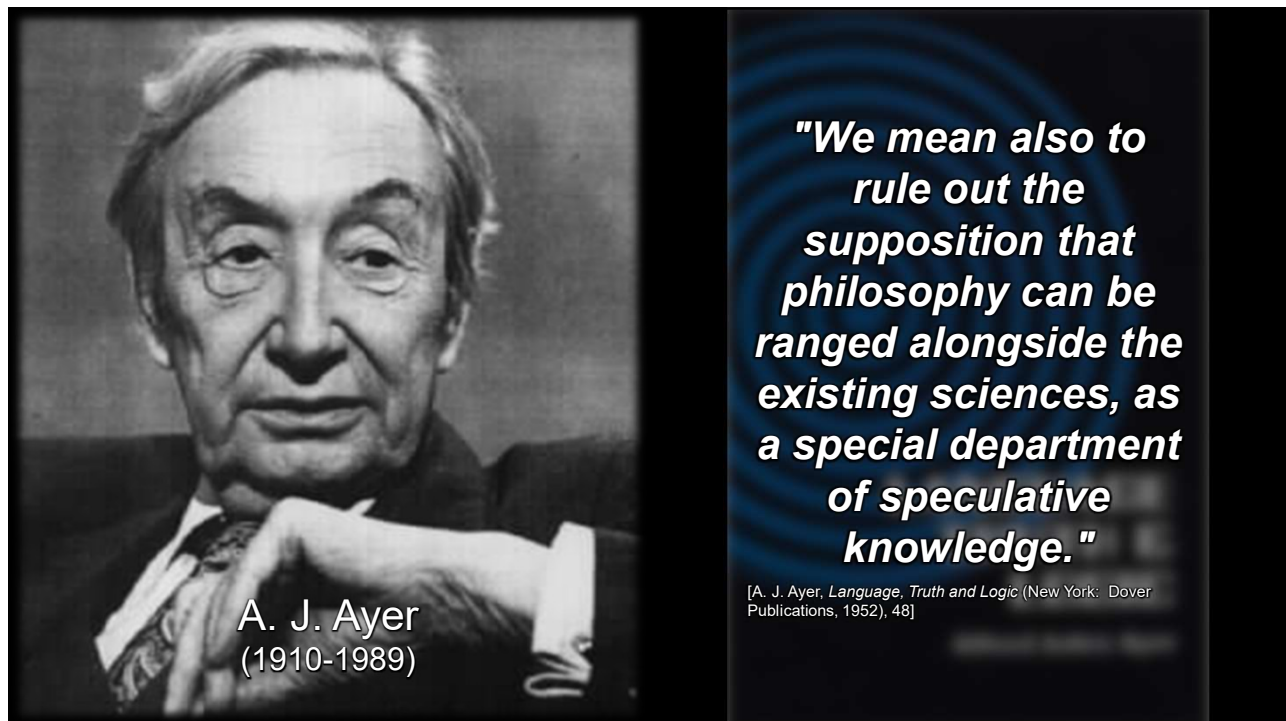
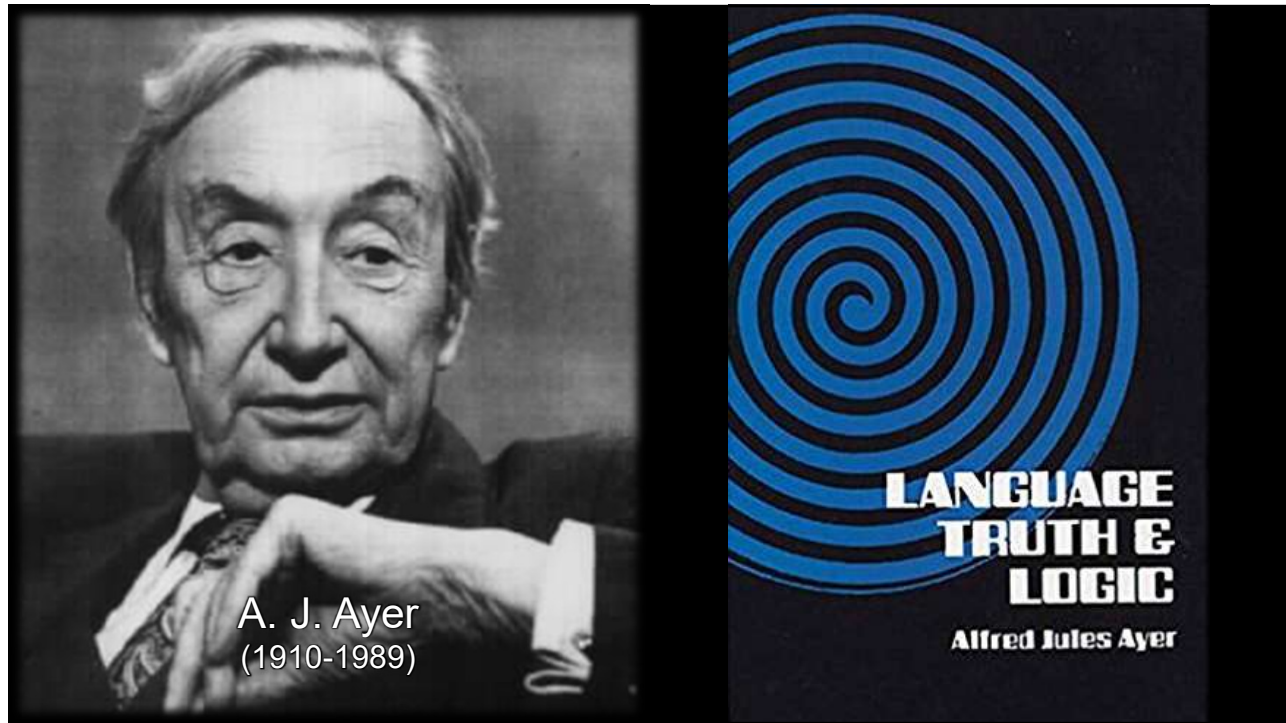
Psalm 97:6

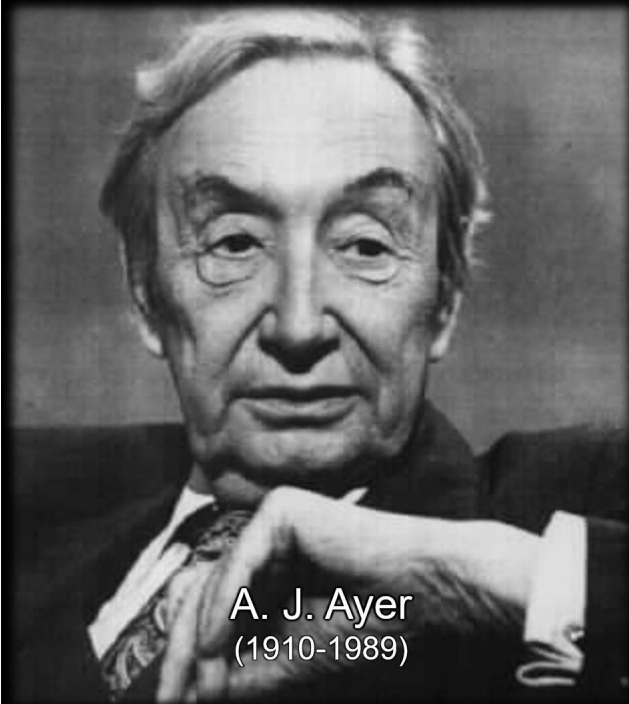




But as more toxic philosophical voices have fogged the conversation throughout history, the need arises to appeal to deeper issues in philosophy.

Answering the
Philosophers:
A. J. Ayer

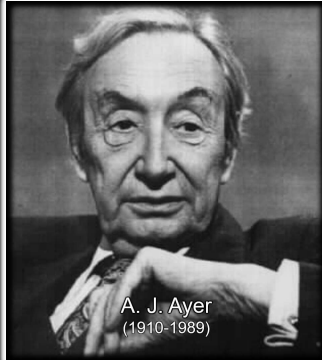




A. J. Ayer
(1910-1989)

"There is no field of experience which cannot, in principle, be brought under some form of scientific law, and no type of speculative knowledge about the world which it is, in principle, beyond the power of science to give."

[Ayer, *Language*, 48]

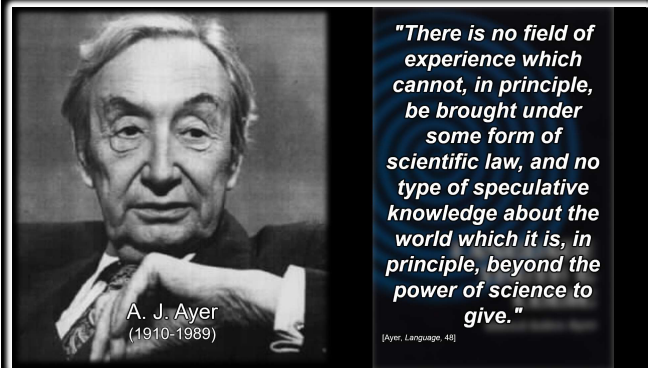


A. J. Ayer
(1910-1989)

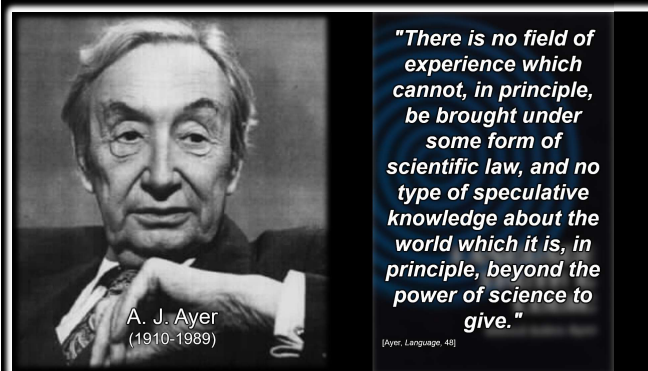
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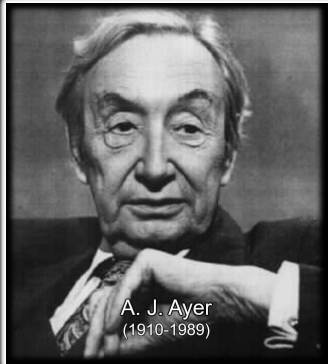
Can this statement be "brought under some form of scientific law?"



If the answer is no, then this statement is not a scientific statement.



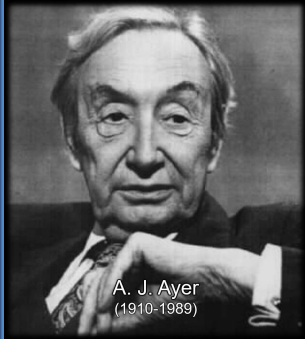
If this statement is not a scientific statement, what kind of statement is it?



"There is no field of experience which cannot, in principle, be brought under some form of scientific law, and no type of speculative knowledge about the world which it is, in principle, beyond the power of science to give."

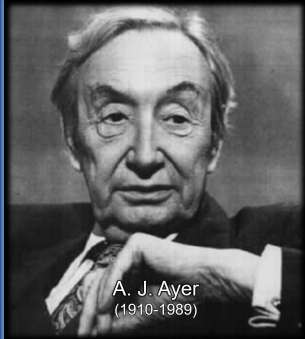
[Ayer, Language, 48]

If this statement is a philosophical statement, is it?



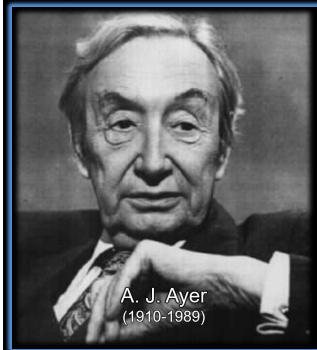
"The philosopher, as an analyst, is not directly concerned with the physical properties of things. He is concerned only with the way in which we speak about them. In other words, the propositions of philosophy are not factual, but linguistic in character."

[Ayer, Language, 57]



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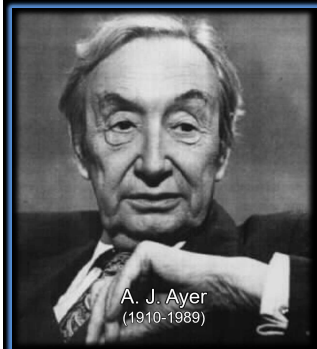
[Ayer, Language, 57]



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[Ayer, Language, 57]

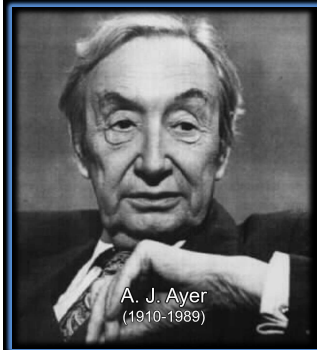
Is this
statement
factual or
linguistic?



"The philosopher, as an analyst, is not directly concerned with the physical properties of things. He is concerned only with the way in which we speak about them. In other words, the propositions of philosophy are not factual, but linguistic in character."

[Ayer, Language, 57]

Is this
factual
linguistic?

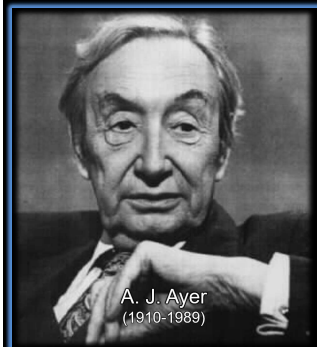


A. J. Ayer
(1910-1989)

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[Ayer, *Language*, 57]

For Ayer,
exactly what is
it about
which the
philosopher is
concerned?

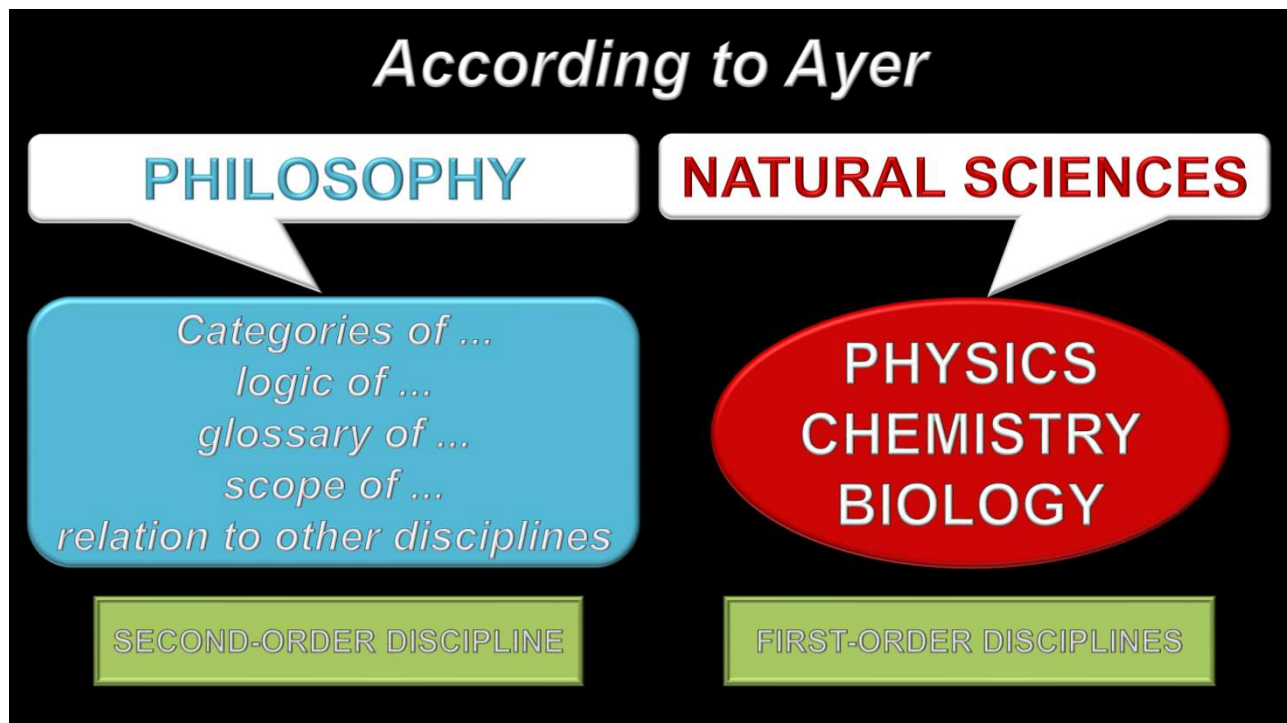
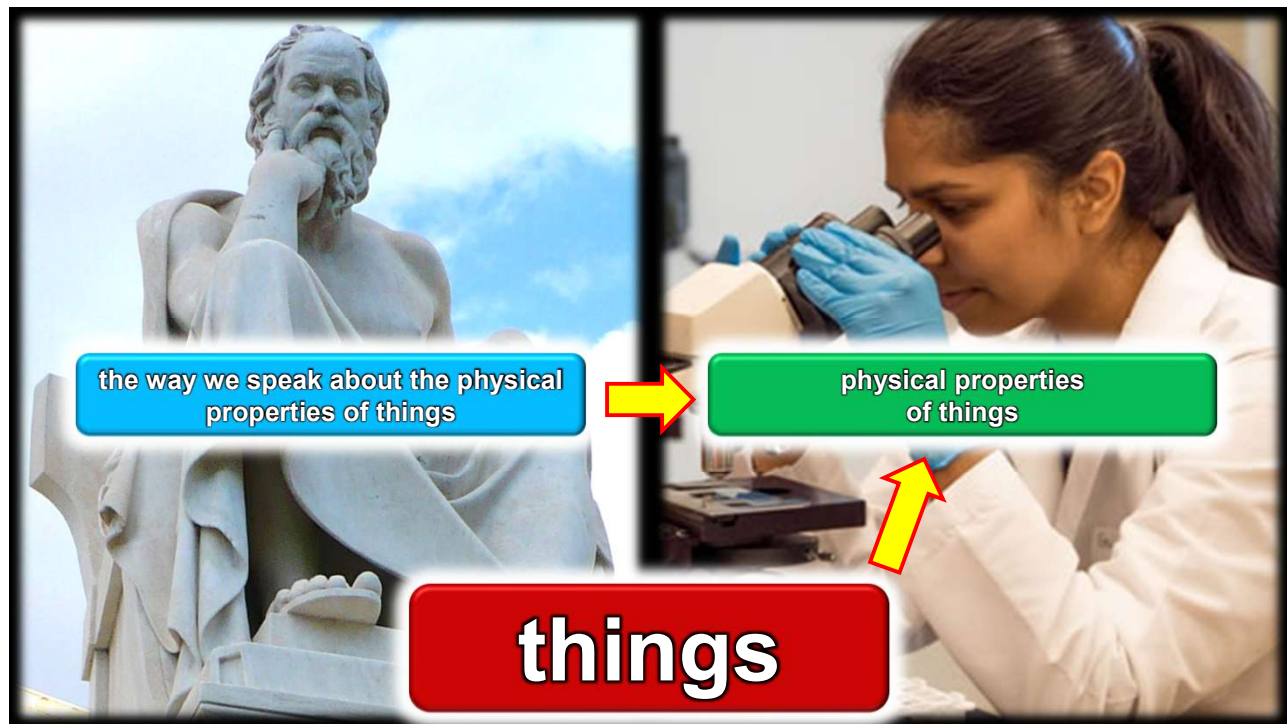


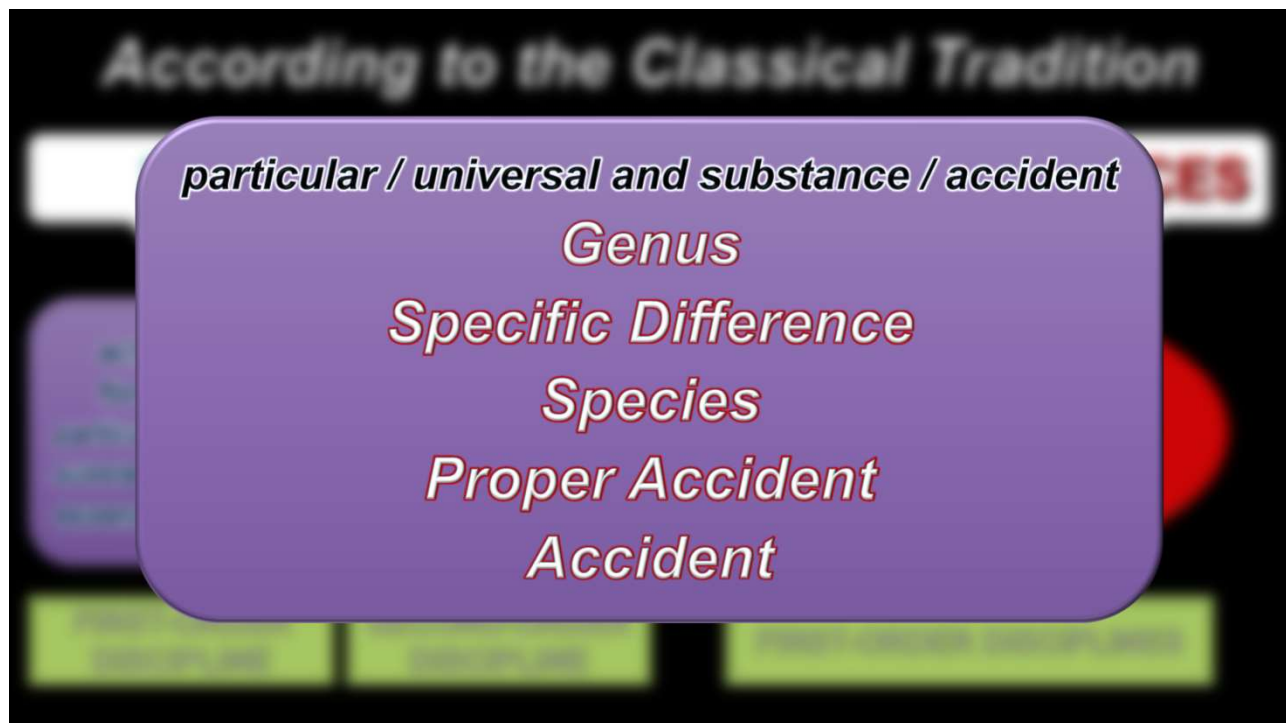
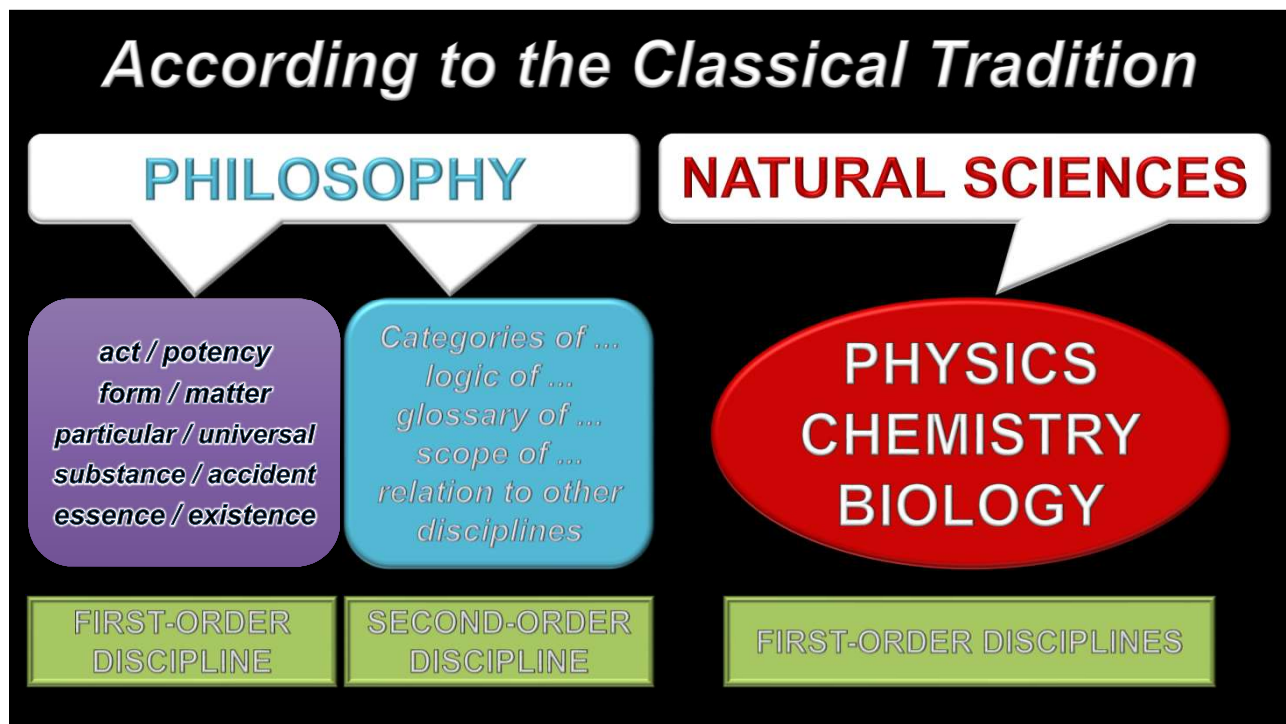
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"The philosopher, as an analyst, is not directly concerned with the physical properties of things. **He is concerned only with the way in which we speak about them.** In other words, the propositions of philosophy are not factual, but linguistic in character."

[Ayer, *Language*, 57]

For Ayer,
exactly what is
the way we speak
about things
philosopher is
concerned?







The diagram is identical to the one above, showing the philosopher statue, the scientist, the blue box "the way we speak about the physical properties of things", the green box "physical properties of things", the yellow arrow between them, and the red box "things" with a yellow arrow pointing to it. To the right of this diagram, a large red curly bracket groups the text below.

Note that this entire position that Ayer puts forth is neither a physical property of a thing nor is it the way we speak about the physical property of a thing.

Rather, it is speaking about the way we speak about the physical properties of things.

Thus, Ayer's view does not fit the criterion of Ayer's own view!

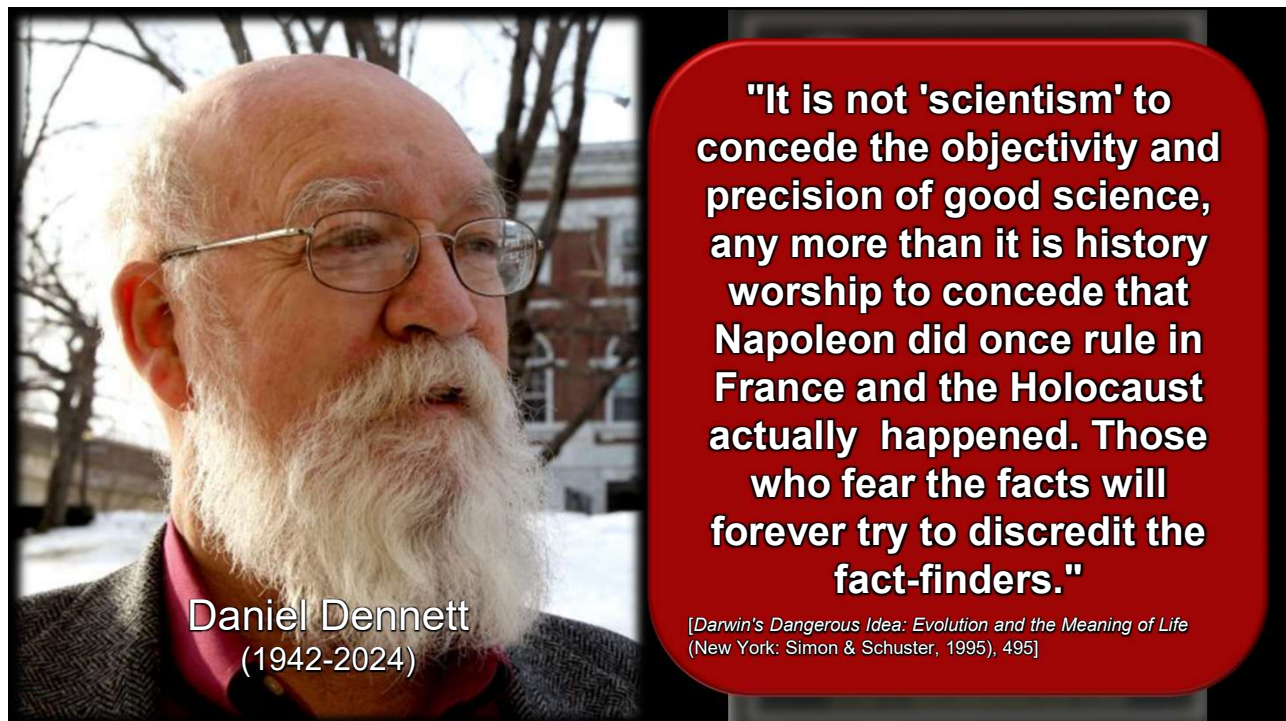
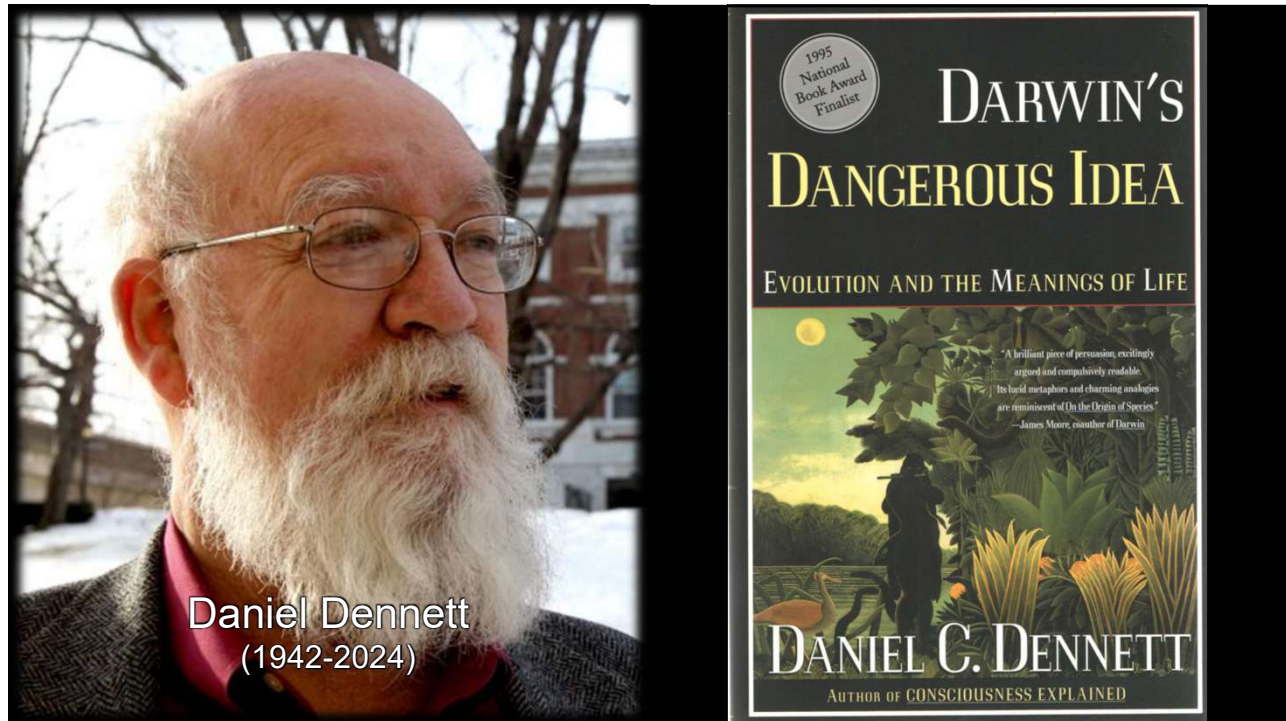


The diagram consists of two side-by-side images. The left image shows a statue of a philosopher (likely Plato) with a blue box overlaid that reads "the way we speak about the physical properties of things". The right image shows a scientist in a lab coat looking through a microscope, with a green box overlaid that reads "physical properties of things". A yellow arrow points from the blue box to the green box. Below these images is a red box with the word "things". A large red curly bracket on the right side of the diagram groups the two images and the "things" box, pointing towards the text on the right.

The reason is because, since his view is a philosophical view, it is about the philosophical aspects of physical things.

This make it just as factual a statement as are statements about the physical properties of things.

Answering the Philosophers: Daniel Dennett



This is a straw man fallacy.

The critics of scientism are not denying the objectivity and precision of good science.

Thus, this ad hominem does nothing to respond to the critics of scientism.

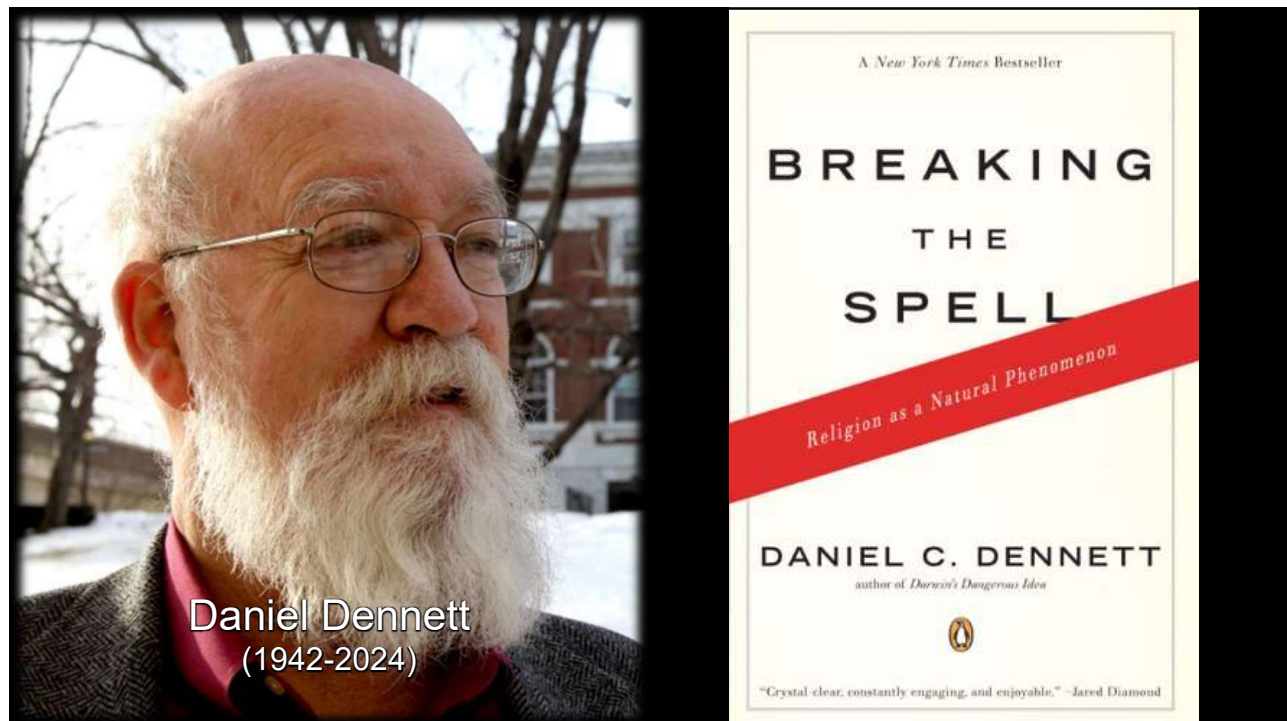
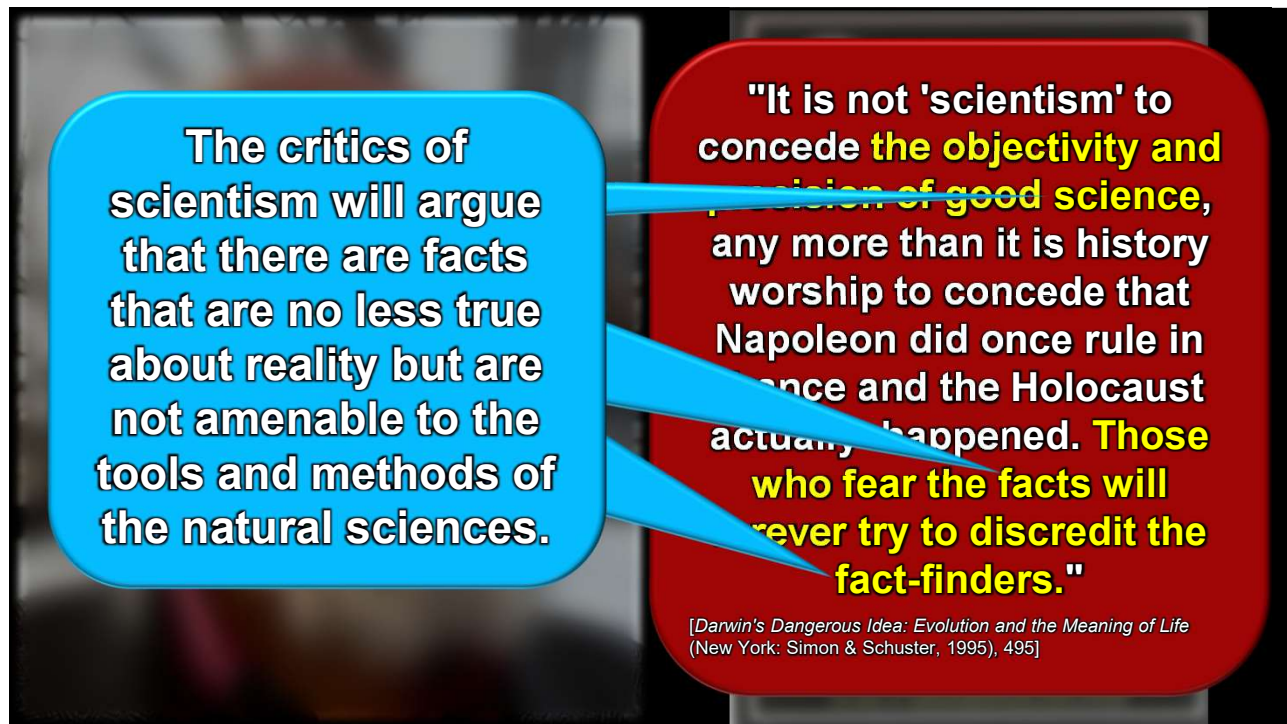
"It is not 'scientism' to concede **the objectivity and precision of good science**, any more than it is history worship to concede that Napoleon did once rule in France and the Holocaust ~~actually happened~~. **Those who fear the facts will forever try to discredit the fact-finders.**"

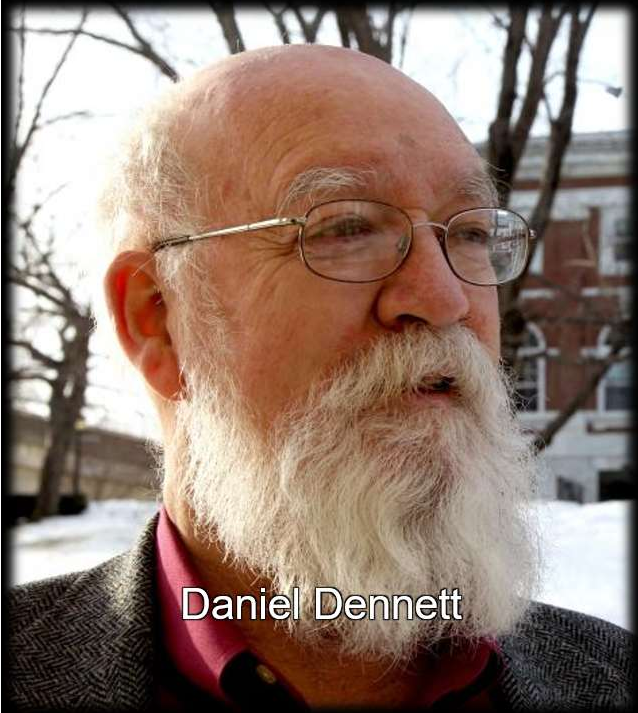
[Darwin's Dangerous Idea: Evolution and the Meaning of Life (New York: Simon & Schuster, 1995), 495]

Instead, the critic of scientism is disputing whether science alone is the arbiter of what constitutes facts in the first place and whether scientists are the only fact-finders.

"It is not 'scientism' to concede **the objectivity and precision of good science**, any more than it is history worship to concede that Napoleon did once rule in France and the Holocaust ~~actually happened~~. **Those who fear the facts will forever try to discredit the fact-finders.**"

[Darwin's Dangerous Idea: Evolution and the Meaning of Life (New York: Simon & Schuster, 1995), 495]

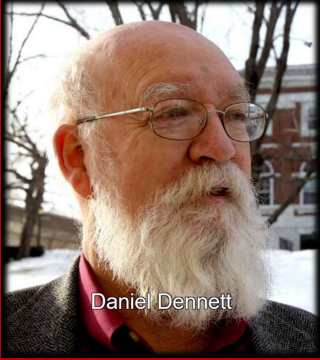




Daniel Dennett

"Perhaps some cancer cures are miracles. If so, **the only hope of ever demonstrating this** to a doubting world would be by **adopting the scientific method**, with its assumption of no miracles, and showing that science was utterly unable to account for the phenomena."

[*Breaking the Spell*, 26]



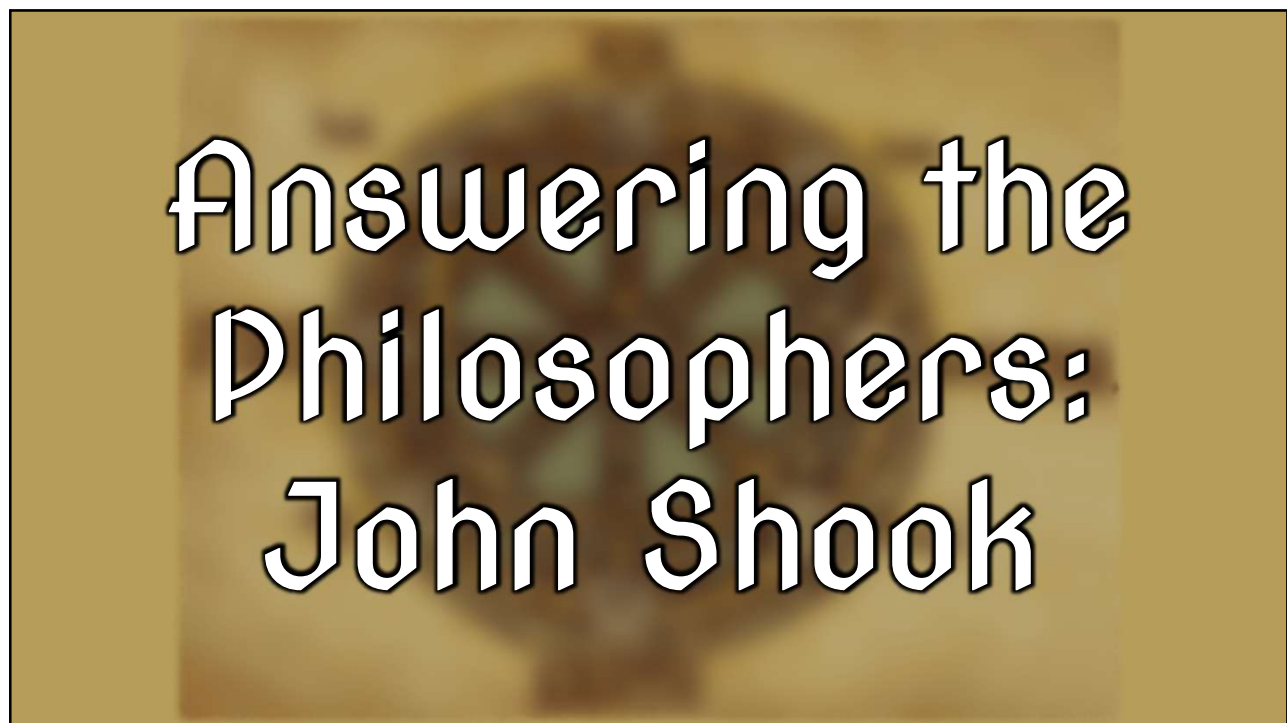
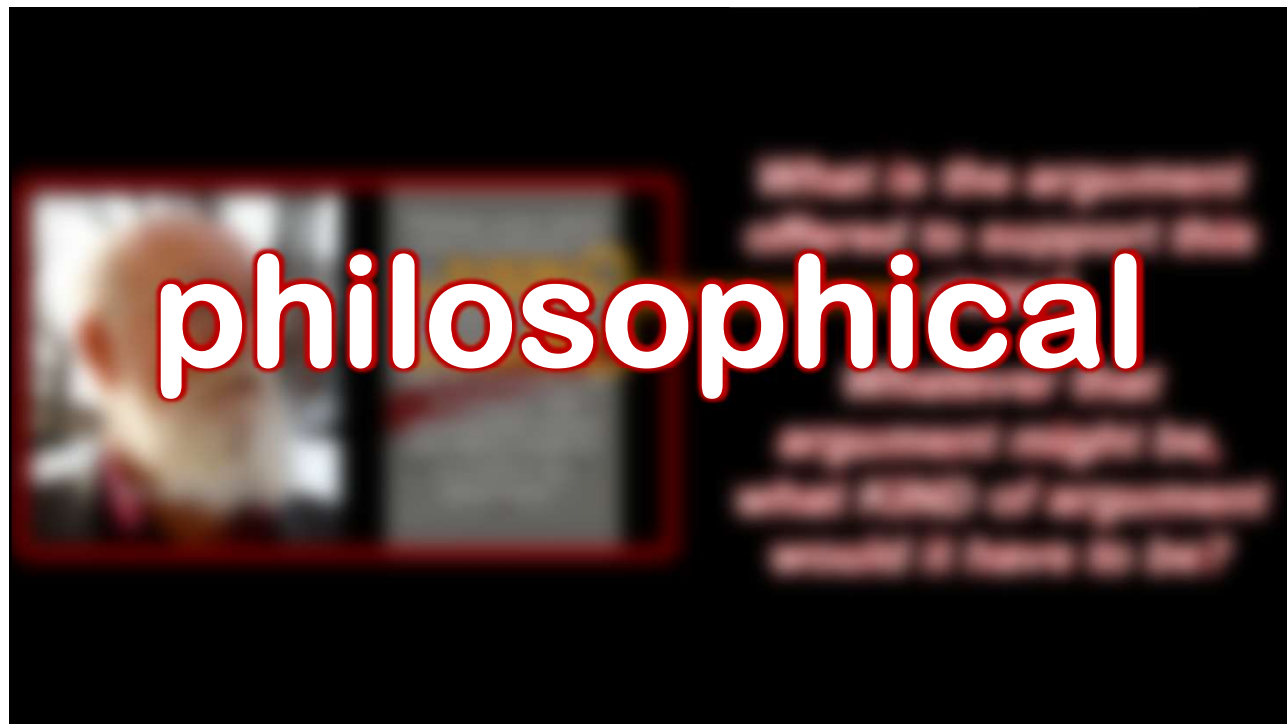
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"Perhaps some cancer cures are miracles. If so, **the only hope of ever demonstrating this** to a doubting world would be by **adopting the scientific method**, with its assumption of no miracles, and showing that science was utterly unable to account for the phenomena."

[*Breaking the Spell*, 26]

What is the argument offered to support this claim?

Whatever that argument might be, what KIND of argument would it have to be?





John Shook

"Philosophical naturalism undertakes the responsibility for elaborating a comprehensive and coherent worldview based on experience, reason, and science, and for defending science's exclusive right to explore and theorize about all of reality."

["The Need for Naturalism in a Scientific Age" https://centerforinquiry.org/blog/the_need_for_naturalism_in_a_scientific_age/, accessed 06/22/22, emphasis added]



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Is Shook's statement a part of reality?

Then, what scientific method could possibly be used to prove that this statement is true?



John Shook

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The fact is, there is no scientific method that could possibly prove Shook's statement.

The reason is because it is a philosophical statement.



John Shook

"Philosophical naturalism undertakes the responsibility for elaborating a comprehensive and coherent worldview based on experience, reason, and science, and for defending science's exclusive right to explore and theorize about all of reality."

[The Need for Naturalism in a Scientific Age" https://centerforinquiry.org/blog/the_need_for_naturalism_in_a_scientific_age/, accessed 06/22/22, emphasis added]

Thus, Shook is making a philosophical statement to the effect that philosophy has no right to explore any aspect of reality!

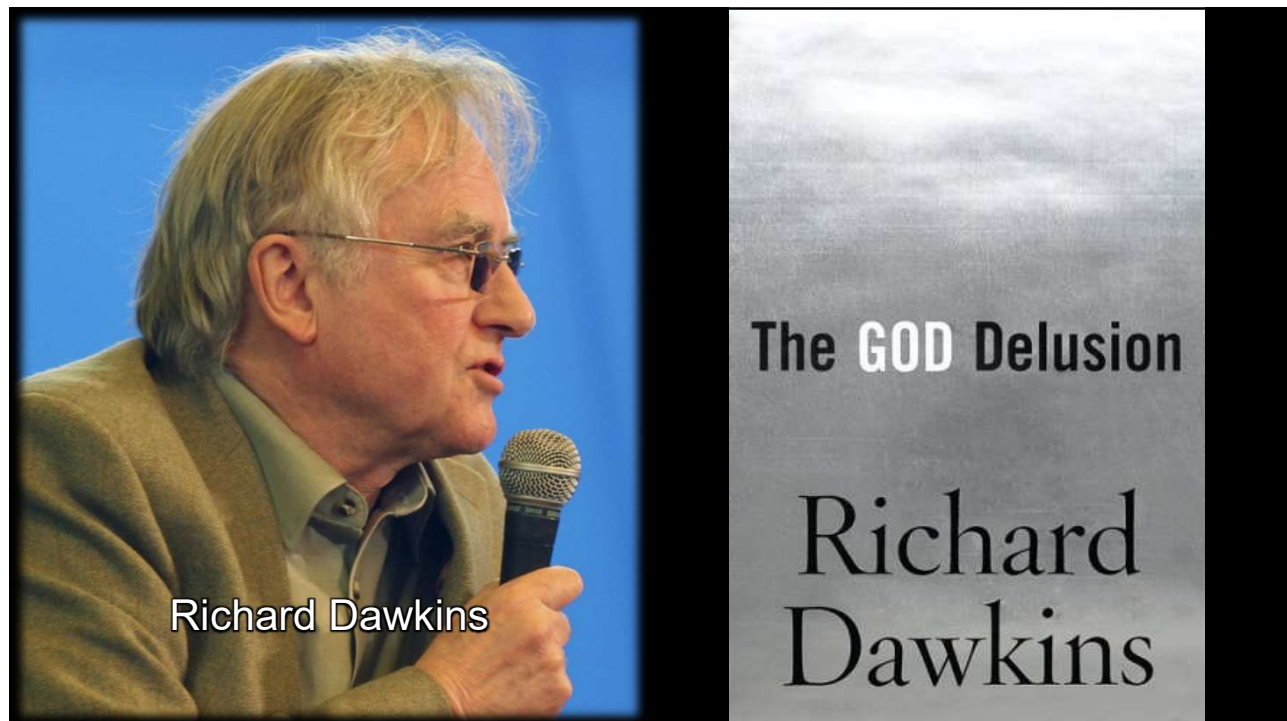
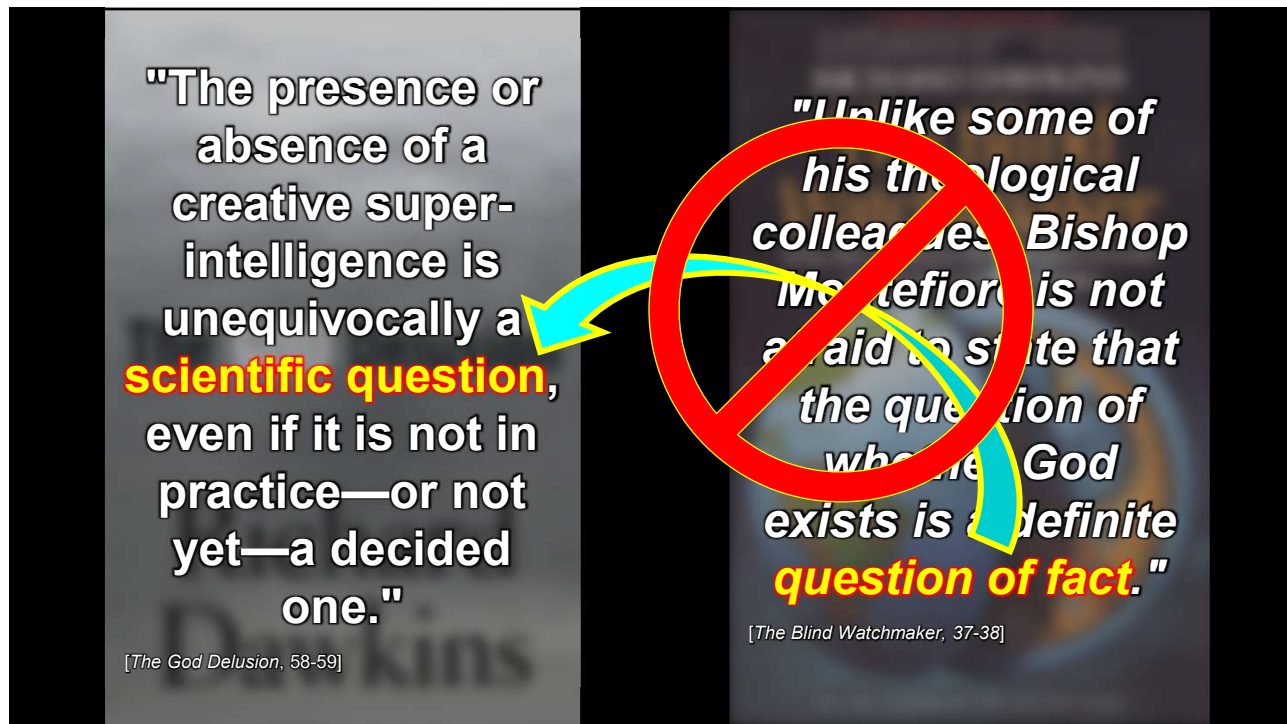
Answering the Scientists: Richard Dawkins

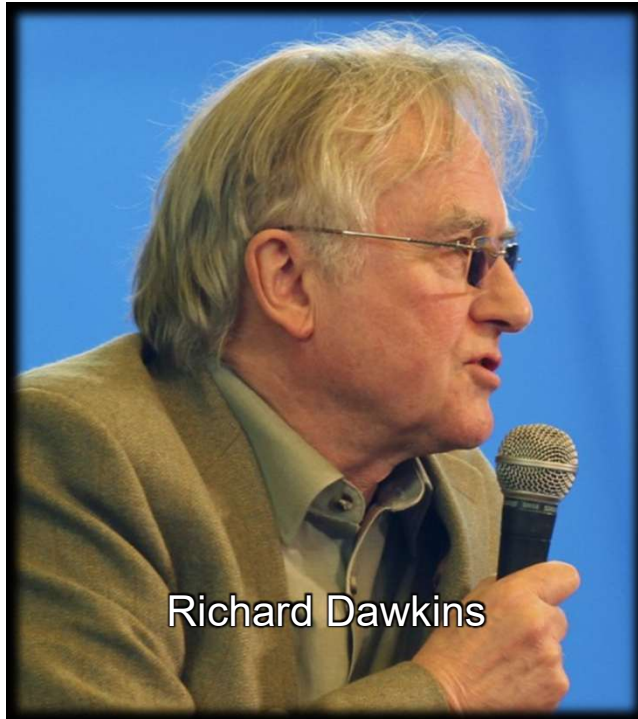
"The presence or absence of a creative super-intelligence is unequivocally a **scientific question**, even if it is not in practice—or not yet—a decided one."

[*The God Delusion*, 58-59]

*"Unlike some of his theological colleagues, Bishop Montefiore is not afraid to state that the question of whether God exists is a definite **question of fact**."*

[*The Blind Watchmaker*, 37-38]

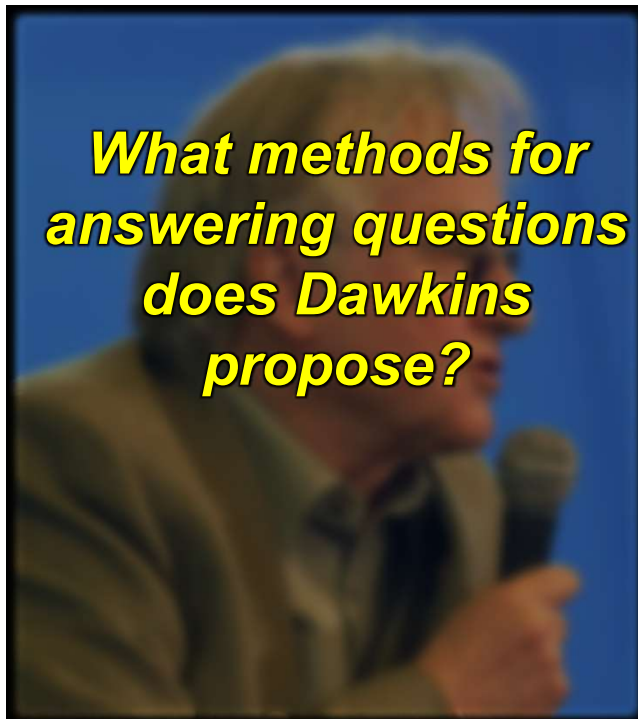




Richard Dawkins

"There is an answer to every such question [about God and miracles], whether or not we can discover it in practice, and it is a strictly scientific answer. The methods we should use to settle the matter, in the unlikely event that relevant evidence ever became available, would be purely and entirely scientific methods."

[Richard Dawkins, *The God Delusion*, 59.]



What methods for answering questions does Dawkins propose?

"There is an answer to every such question [about God and miracles], whether or not we can discover it in practice, and it is a strictly scientific answer. The methods we should use to settle the matter, in the unlikely event that relevant evidence ever became available, would be **purely and entirely scientific methods.**"

[Richard Dawkins, *The God Delusion*, 59.]

According to Dawkins, should scientific methods be used only for certain kinds of questions or for every kind of question?

"There is an answer to **every such question** [about God and miracles], whether or not we can discover it in practice, and it is a strictly scientific answer. The methods we should use to settle the matter, in the unlikely event that relevant evidence ever became available, would be purely and entirely scientific methods."

[Richard Dawkins, *The God Delusion*, 59.]

Is this statement here provable by "purely and entirely scientific methods"?

"There is an answer to every such question [about God and miracles], whether or not we can discover it in practice, and it is a strictly scientific answer. The methods we should use to settle the matter, in the unlikely event that relevant evidence ever became available, would be purely and entirely scientific methods."

[Richard Dawkins, *The God Delusion*, 59.]

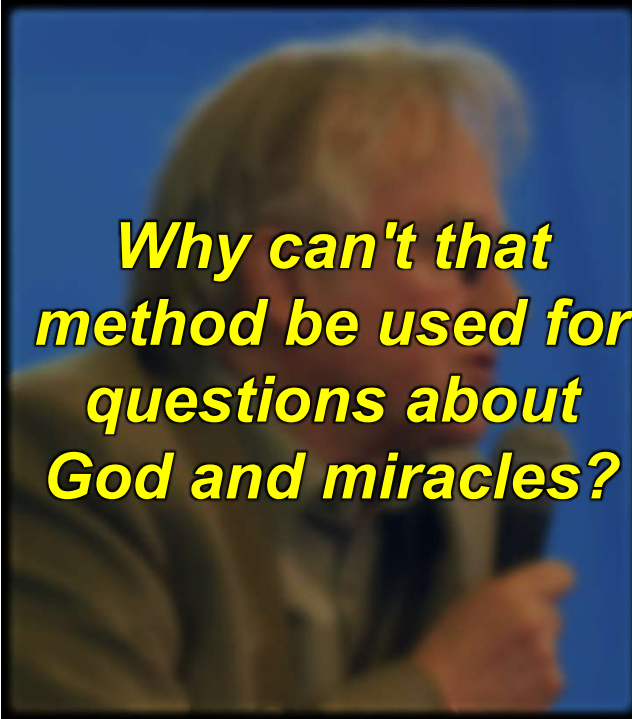
Absolutely Not!

Since Dawkins' statement is not provable by "purely and entirely scientific methods," what kind of method must be used?

"There is an answer to every such question [about God and miracles], whether or not we can discover it in practice, and it is a strictly scientific answer. The methods we should use to settle the matter, in the unlikely event that relevant evidence ever became available, would be purely and entirely scientific methods."

[Richard Dawkins, *The God Delusion*, 59.]

Philosophical Method!



***Why can't that
method be used for
questions about
God and miracles?***

"There is an answer to every such question [about God and miracles], whether or not we can discover it in practice, and it is a strictly scientific answer. The methods we should use to settle the matter, in the unlikely event that relevant evidence ever became available, would be purely and entirely scientific methods."

[Richard Dawkins, *The God Delusion*, 59.]



**Answering the
Scientists:
Marcia McNutt**

"Science is a method for deciding whether what we choose to believe has a basis in the laws of nature or not."

[in Joel Achenbach, "The Age of Disbelief," *National Geographic* (March 2015): 40]



Marcia McNutt

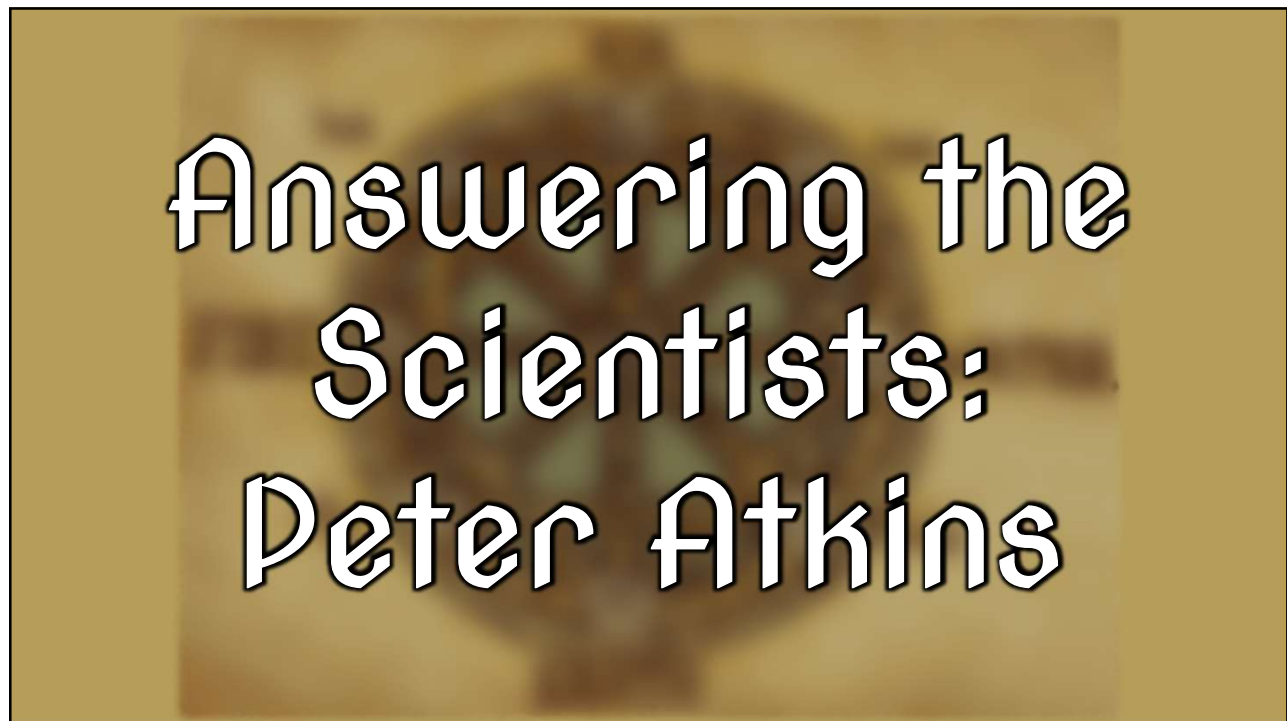
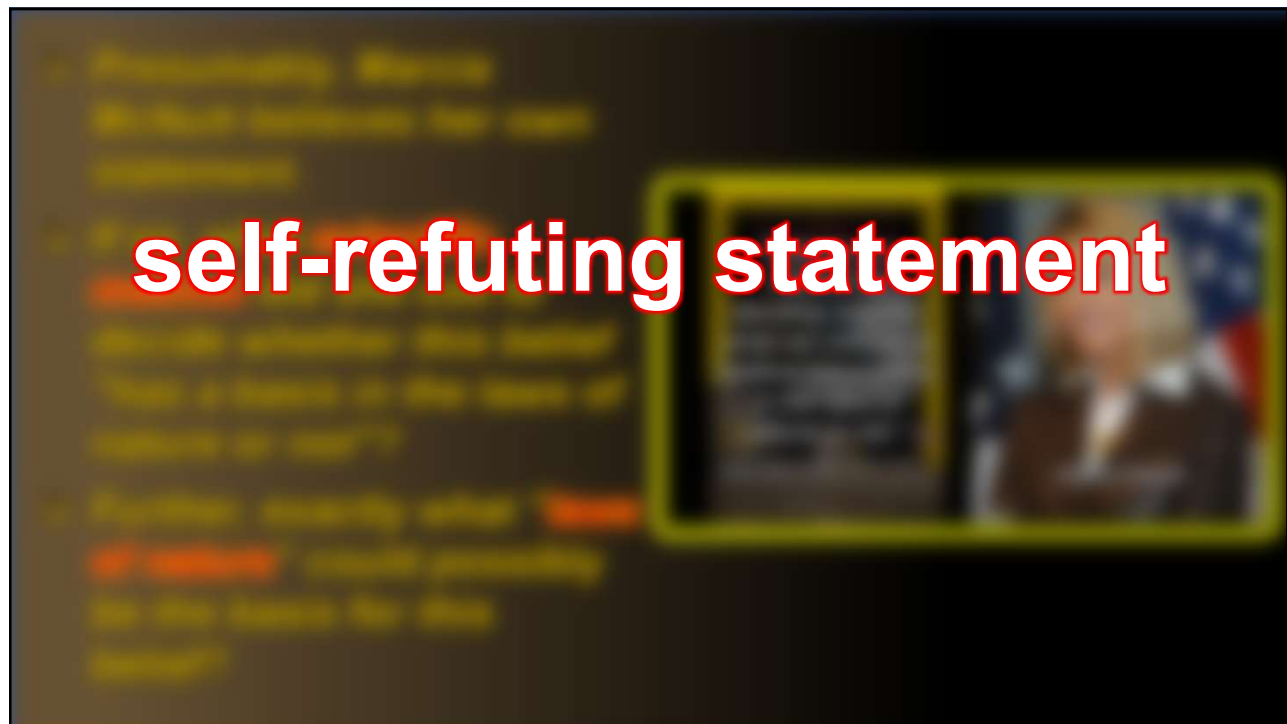
- Presumably, Marcia McNutt believes her own statement.
- If so, what **scientific method** did she use to decide whether this belief "has a basis in the laws of nature or not"?
- Further, exactly what "**laws of nature**" could possibly be the basis for this belief?

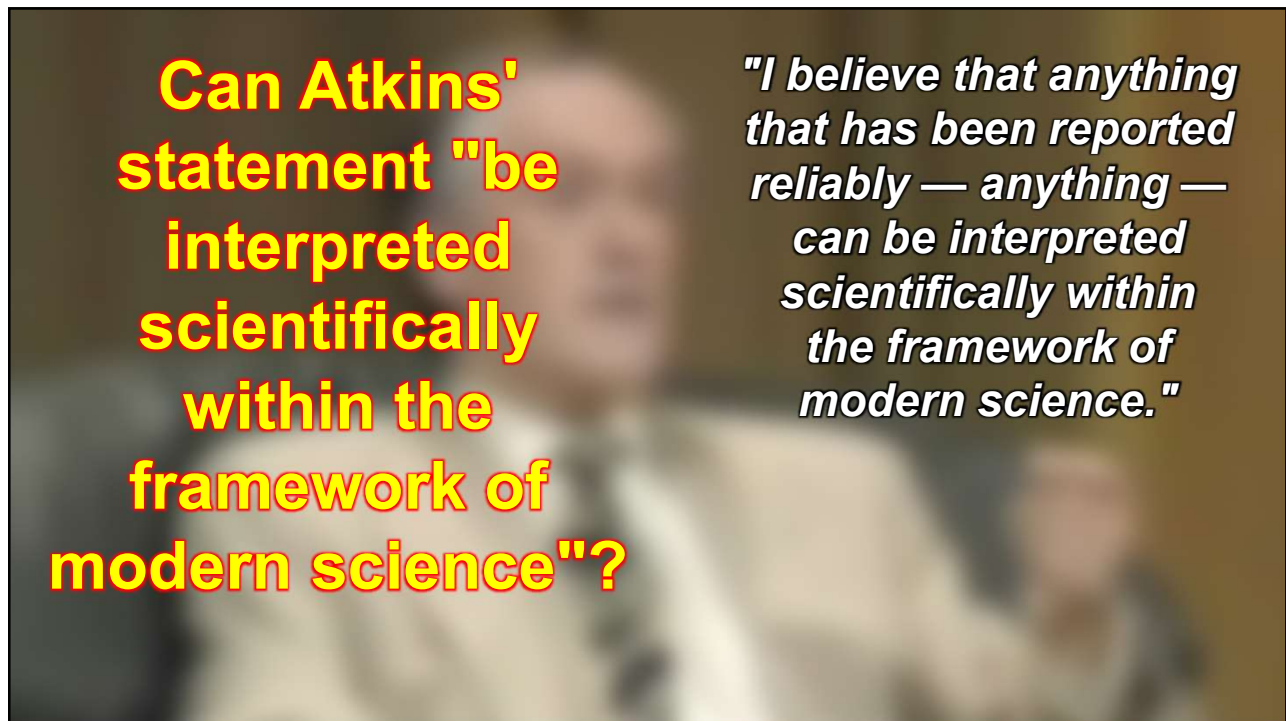
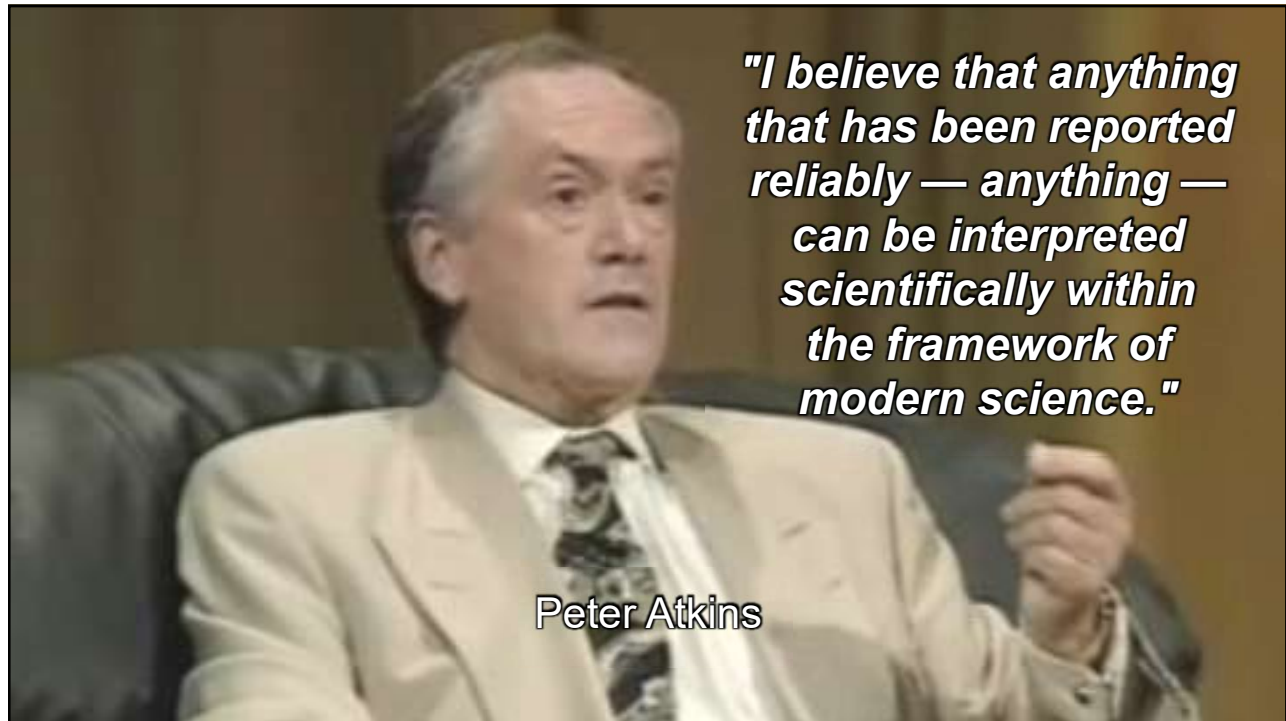
"Science is a method for deciding whether what we choose to believe has a basis in the laws of nature or not."

[in Joel Achenbach, "The Age of Disbelief," *National Geographic* (March 2015): 40]



Marcia McNutt





**It would seem one
could interpret any
statement within
any framework.**

*"I believe that anything
that has been reported
reliably — anything —
can be interpreted
scientifically within
the framework of
modern science."*

**Can Atkins'
statement "be
CORRECTLY
interpreted
scientifically
within the
framework of
modern science"?**

*"I believe that anything
that has been reported
reliably — anything —
can be interpreted
scientifically within
the framework of
modern science."*

Answering the Scientists: Hawking and Mlodinow

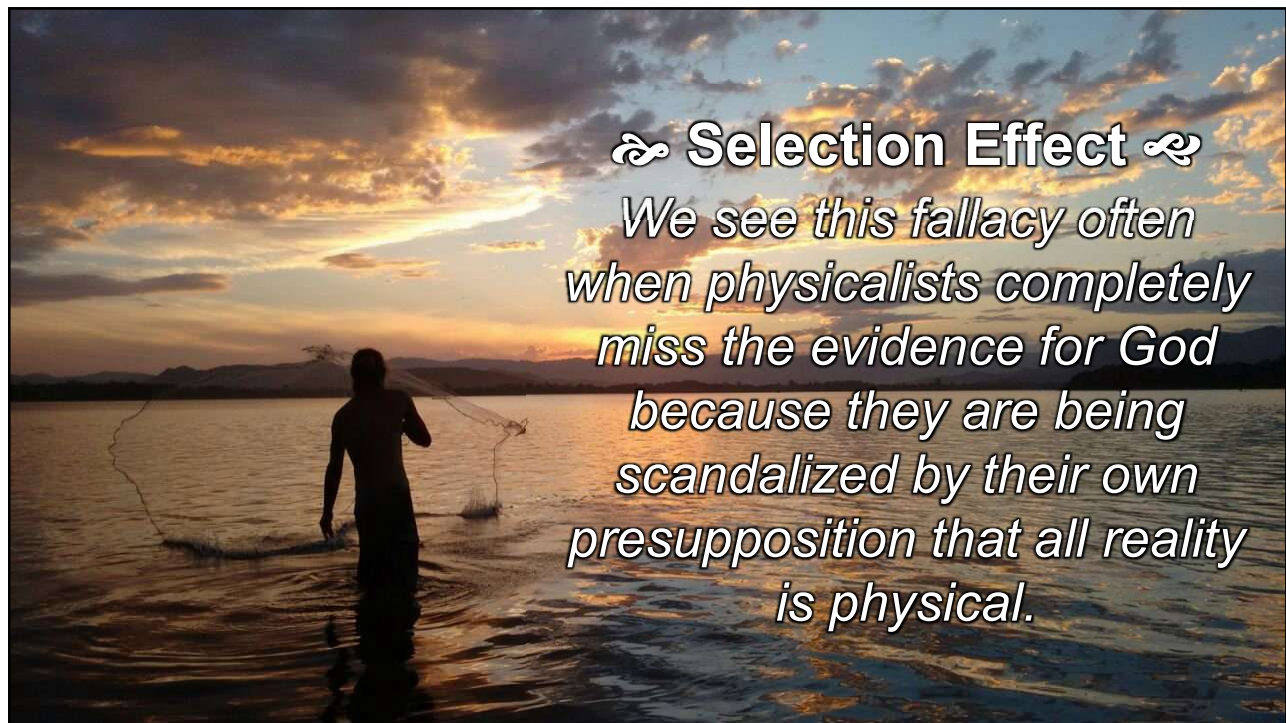
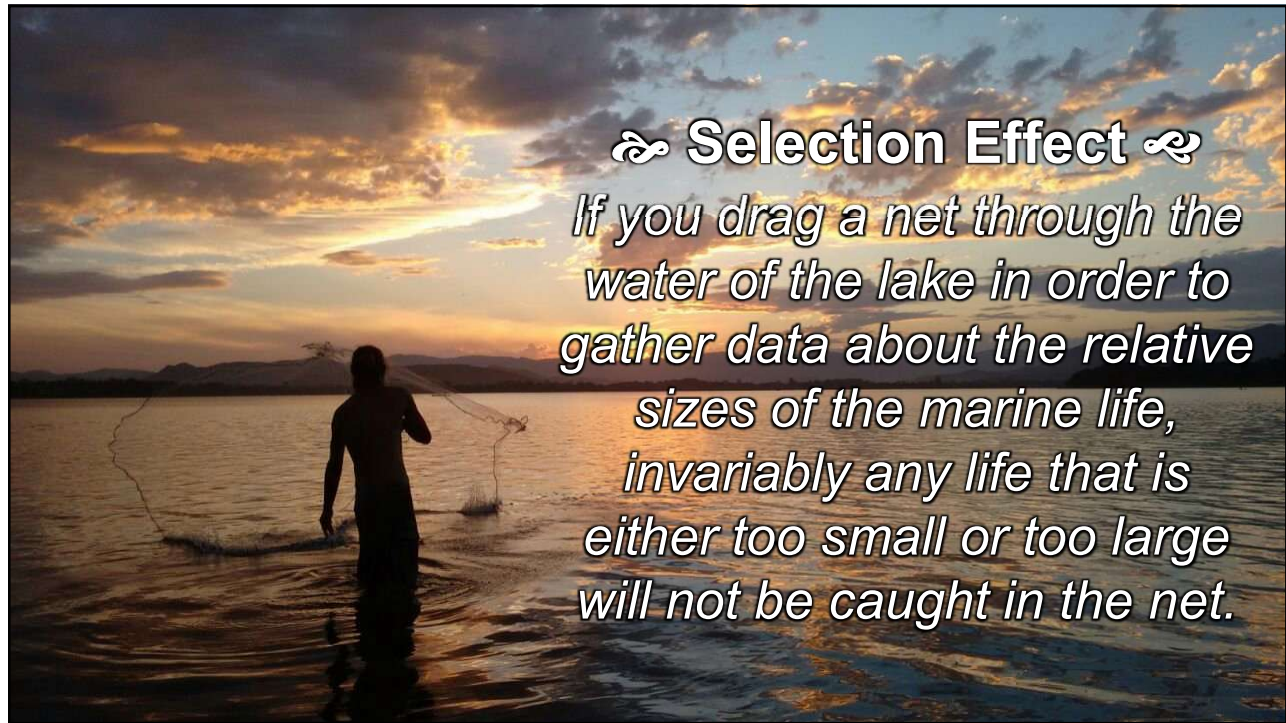


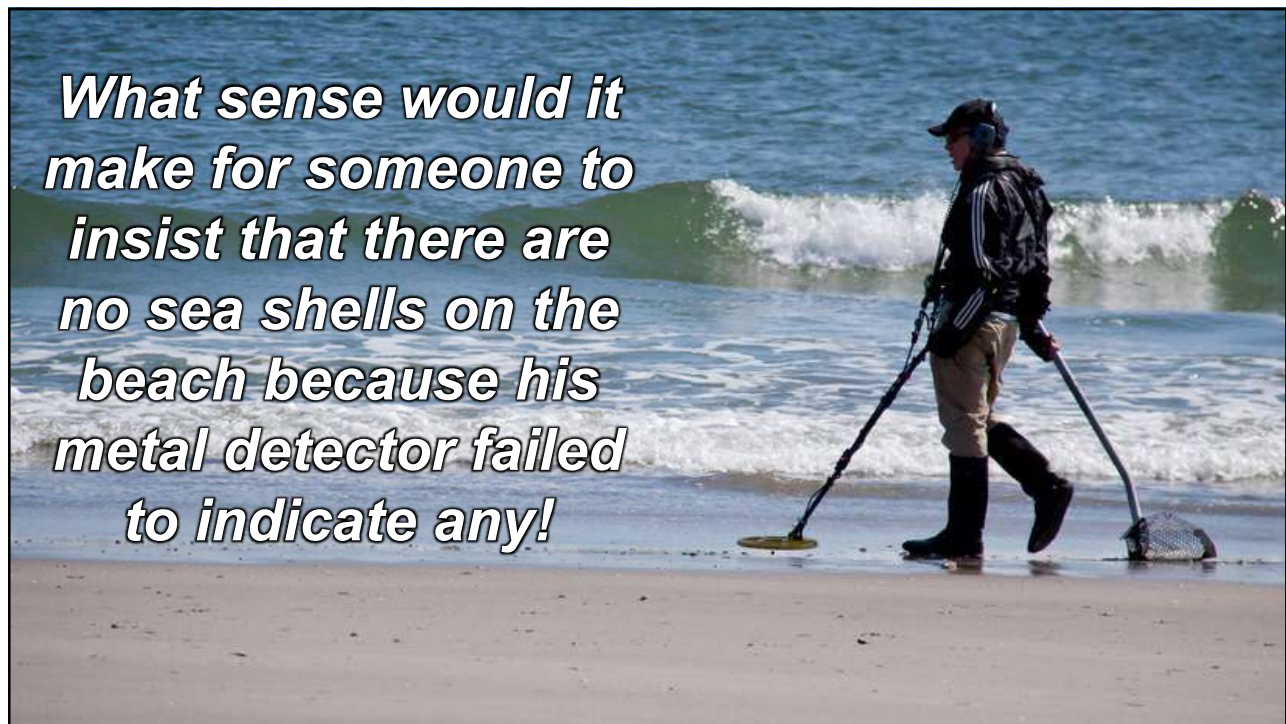
*"How can we understand the world in which we find ourselves? How does the universe behave? What is the nature of reality? Where did all this come from? Did the universe need a creator? ... Traditionally these are questions for philosophy, but **philosophy is dead**. Philosophy has not kept up with modern developments in science, particularly physics."*

[Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam Books, 2010), 5]

⌘ Selection Effect ⌘

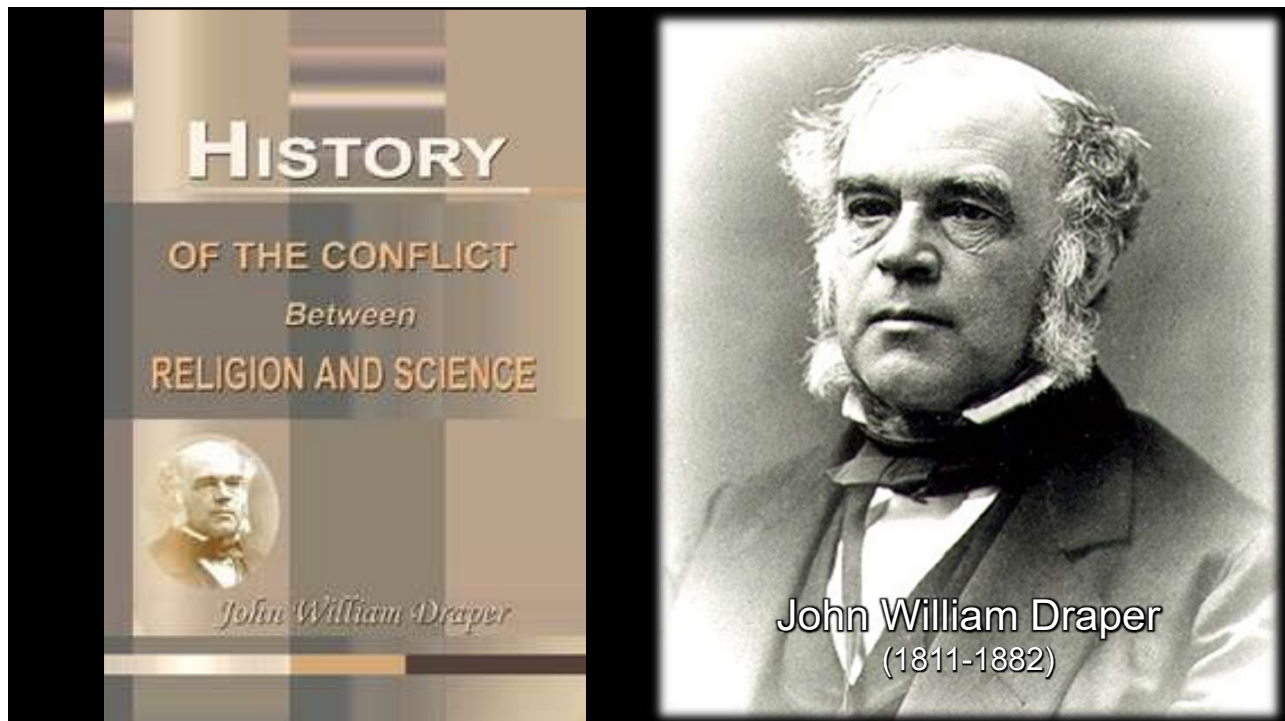
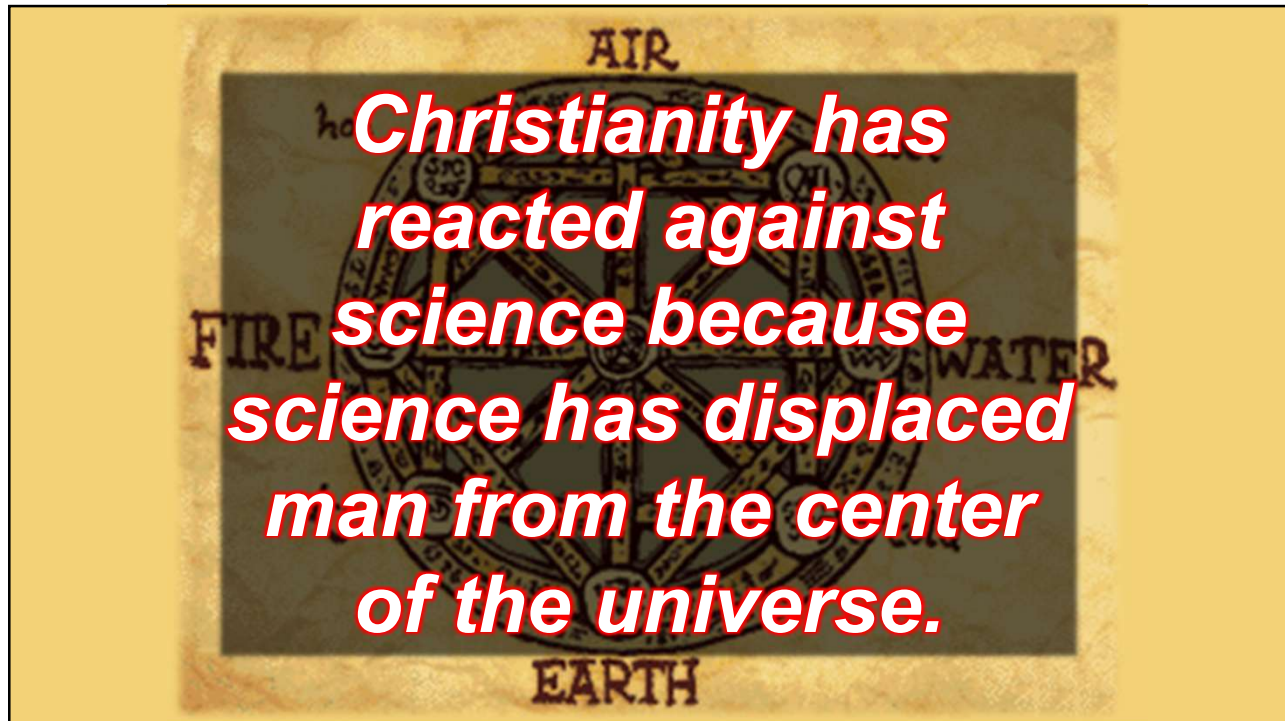
You commit this fallacy when you argue for your own position (or against your opponent's position) based upon an illicit selection (often unknowingly) of the evidence.

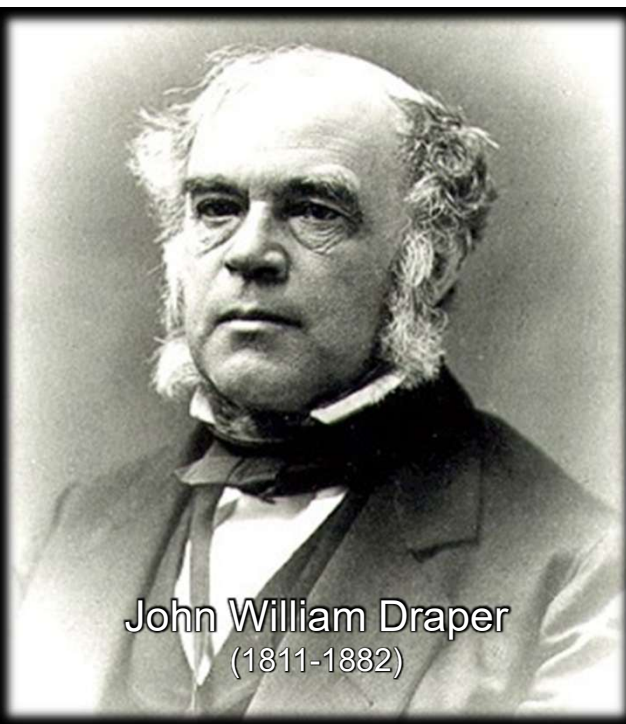
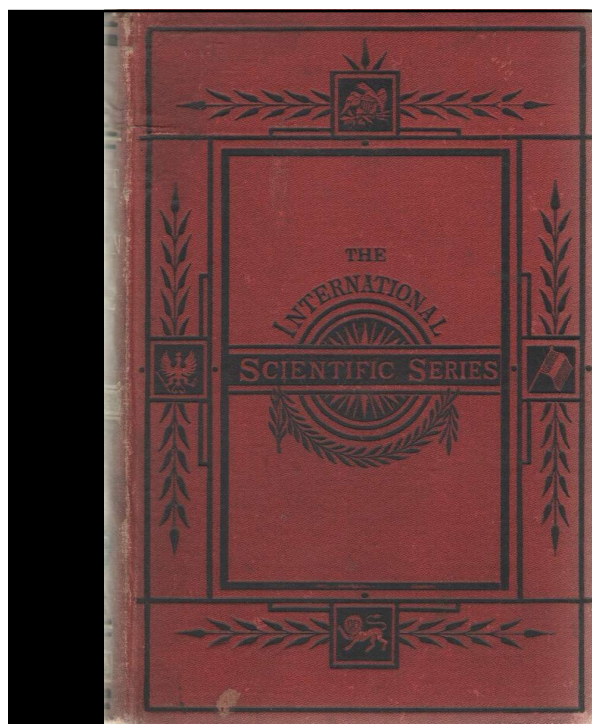












Born in England, but settled in
Virginia

1st President of the American
Chemical Society

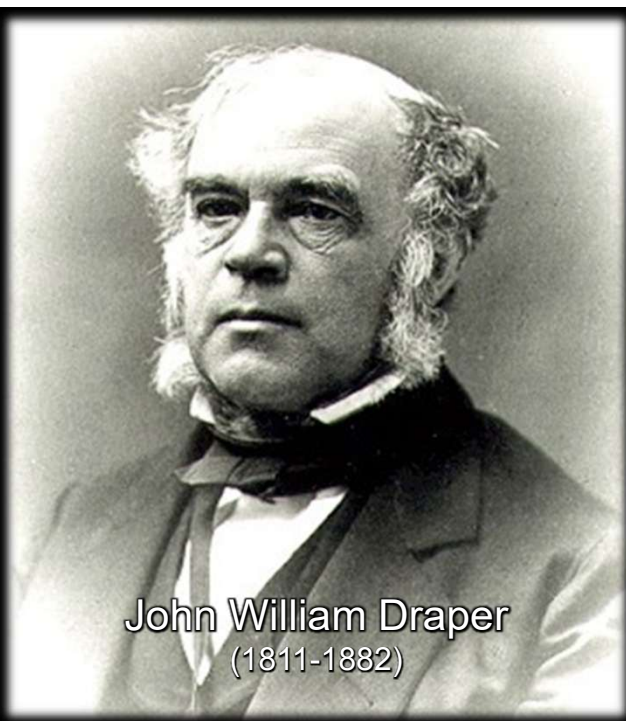
A founder of the New York
University School of Medicine

Taught chemistry at New York
University from 1840-1850

Made significant advances in
photochemistry

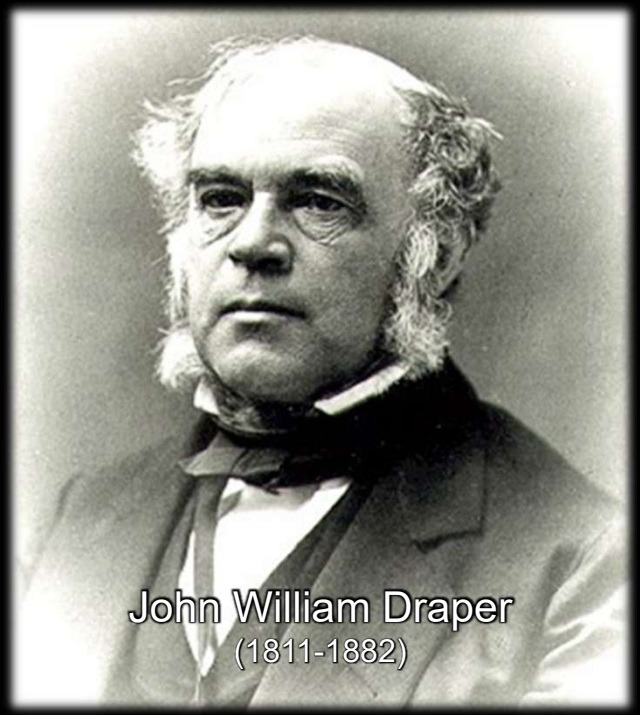
1st person to photograph an
astronomical object (Moon)

Also authored "The History of the
Intellectual Development of Europe"



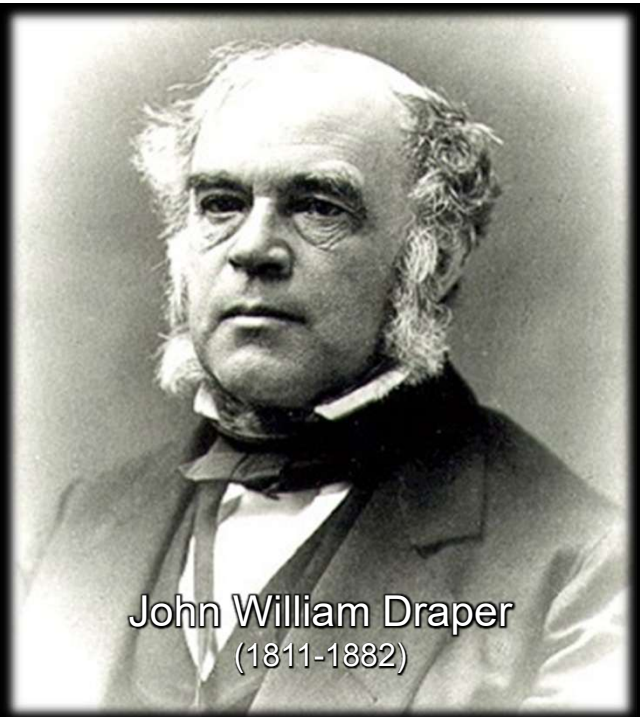
"In thus denouncing the Copernican system as being in contradiction to revelation, the ecclesiastical authorities were doubtless deeply moved by inferential considerations. To dethrone the earth from her central dominating position, to give her many equals and not a few superious, seem to diminish her claims upon the Divine regard."

[Draper, *History*, 168-169]



John William Draper
(1811-1882)

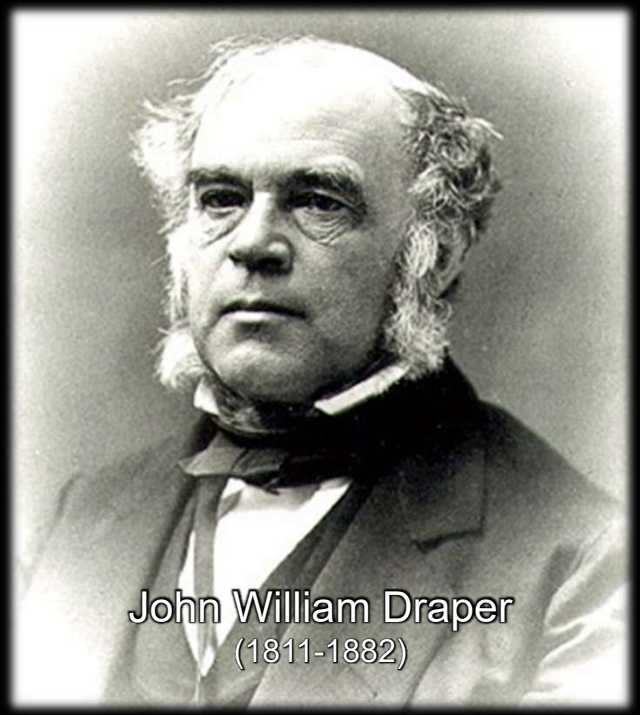
"The point here contested was one which is for mankind of the highest interest, because of the rank it assigns to the globe that we inhabit. If the earth be immovable in the midst of the universe, man has a right to regard himself as the principle object of the card of Nature."



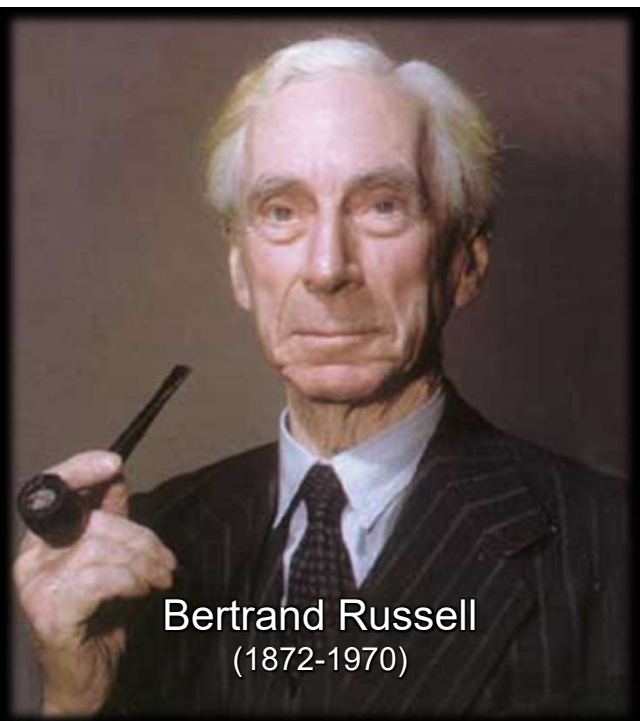
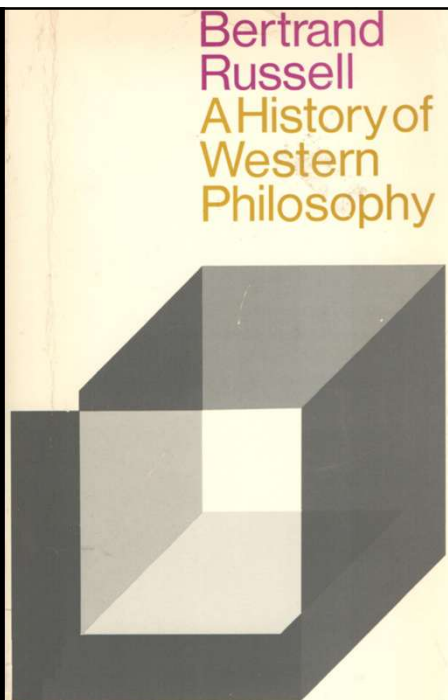
John William Draper
(1811-1882)

"But if the earth be only one of the planets revolving round the sun, an insignificant body in the solar system, she will disappear entirely in the immensity of the heavens, in which this system, vast as it may appear to us, is nothing but an insensible point."

[Draper, *History*, 172]



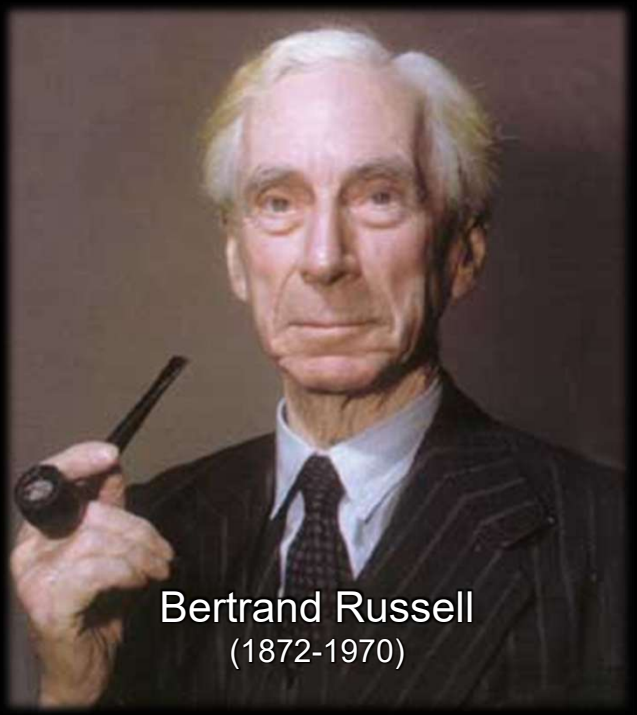
John William Draper
(1811-1882)



Bertrand Russell
(1872-1970)

"Although most of the men of science were models of piety, the outlook suggested by their work was disturbing to orthodoxy, and the theologians were quite justified in feeling uneasy."

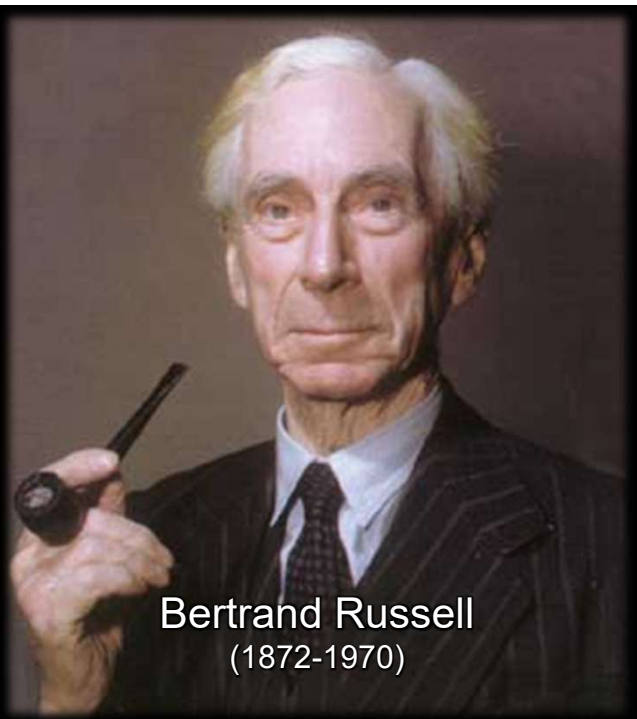
[Bertrand Russell, *A History of Western Philosophy*, 537]



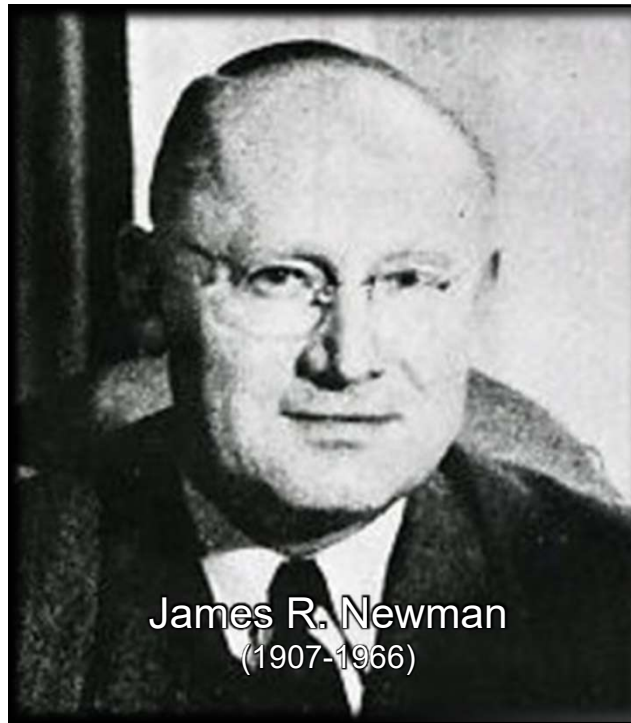
Bertrand Russell
(1872-1970)

"Another thing that resulted from science was a profound change in the conception of man's place in the universe. In the medieval world, the earth was the centre of the heavens, and everything had a purpose concerned with man. In the Newtonian world, the earth was a minor planet of a not specially distinguished star."

[Bertrand Russell, *A History of Western Philosophy*, 537]



Bertrand Russell
(1872-1970)

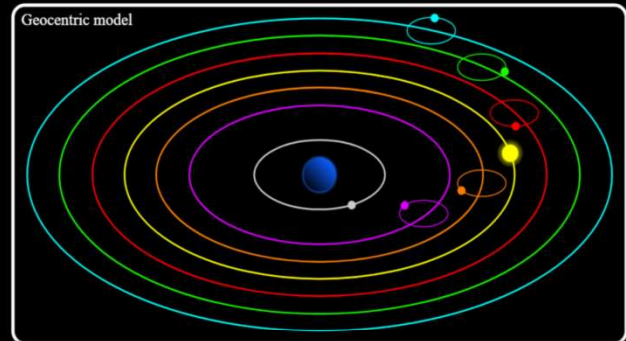


James R. Newman
(1907-1966)

"Looking backward in history, it is easy for us to see that a moving earth and sun-centred universe gravely subverted Christian theology. If man's abode was not at the centre of things, how could he be king?."

[James R. Newman, *Science and Sensibility* (New York: Simon and Schuster, 1961), 1:54, 56, as cited in Philip J. Sampson, *Six Modern Myths about Christianity and Western Civilization* (Downers Grove: InterVarsity, 2001), 33]

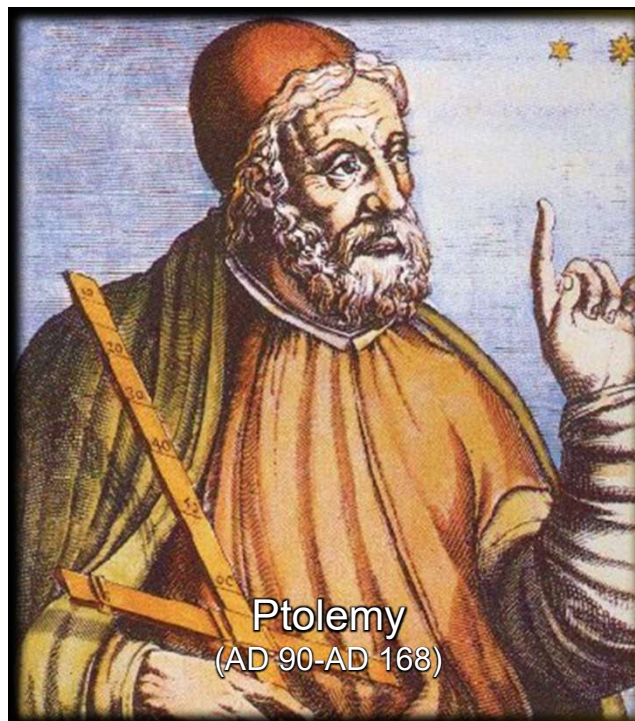
The old system, known as geocentrism (from the Greek γῆ (gē), Earth), taught that the Earth was immobile and the Sun was moving.





Ptolemy
(AD 90-AD 168)

**It was pioneered
by the Greek
astronomer
Ptolemy.**

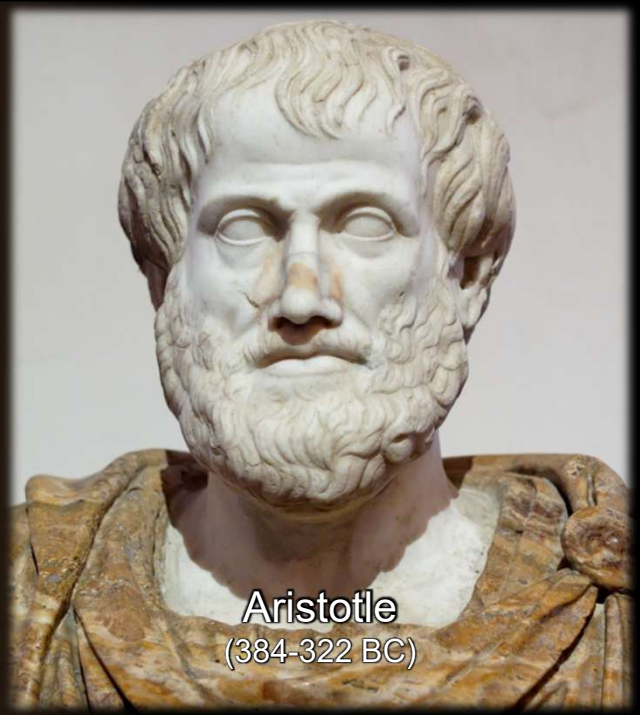


Ptolemy
(AD 90-AD 168)

"Now with this done, if one should next take up the question of the earth's position, the observed appearances with respect to it could only be understood if we put it in the middle of the heavens as the center of the sphere [of the heavens]."

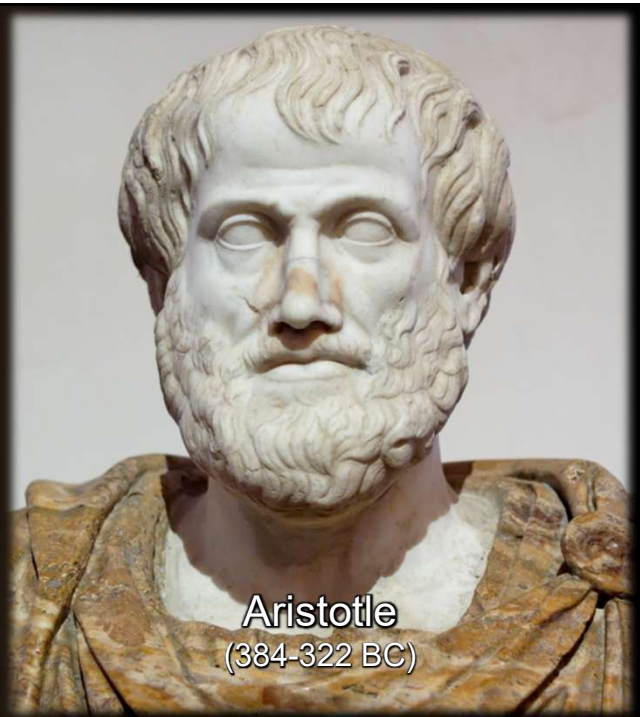
[The Almagest, I, 5, transl. R. Catesby Taliaferro in *Great Books of the Western World*, ed. in chief Robert Maynard Hutchins (Chicago: Encyclopedia Britannica, 1952), vol. 16, 9]

**This old system
was based
primarily on the
thinking of
Aristotle.**

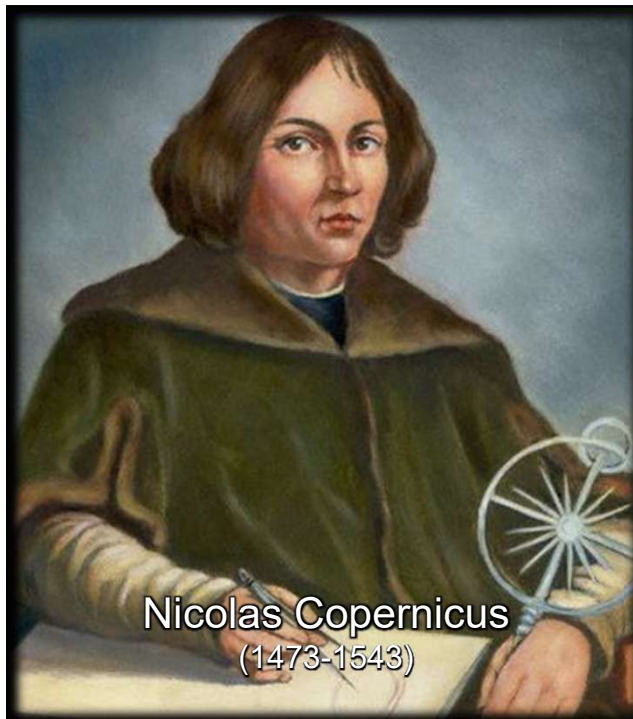
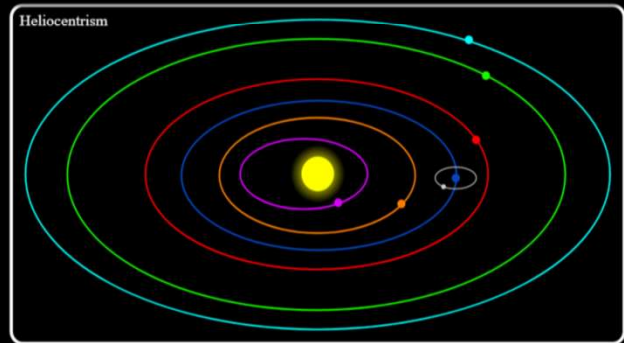


***"From these
considerations then
it is clear that the
earth does not move
and does not lie
elsewhere than at
the center."***

[The Basic Works of Aristotle, ed. Richard McKeon, On the Heavens, II, 14, 296^b26, transl. J. L. Stocks]

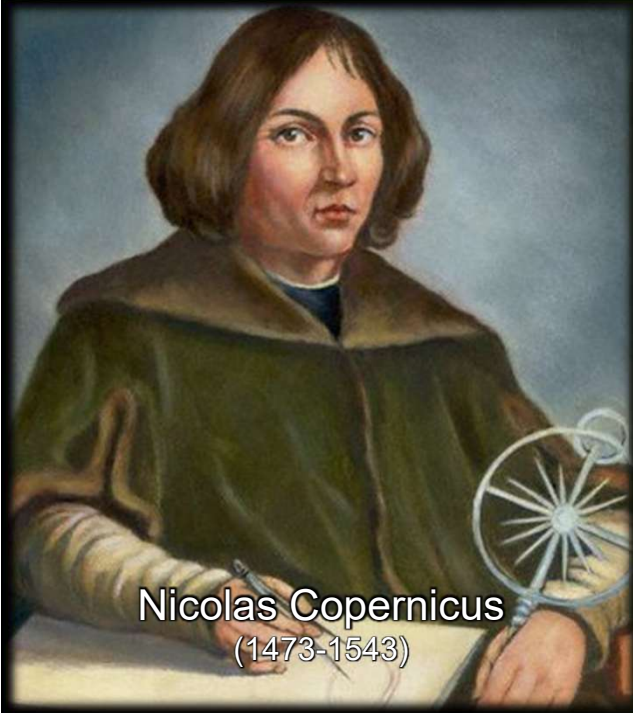


**The new system,
known as
heliocentrism (from
ἥλιός (helios), Sun)
taught that the Sun
was immobile and
that Earth was
moving.**



Nicolas Copernicus
(1473-1543)

**It was pioneered
by the Polish
astronomer
Nicolas
Copernicus.**

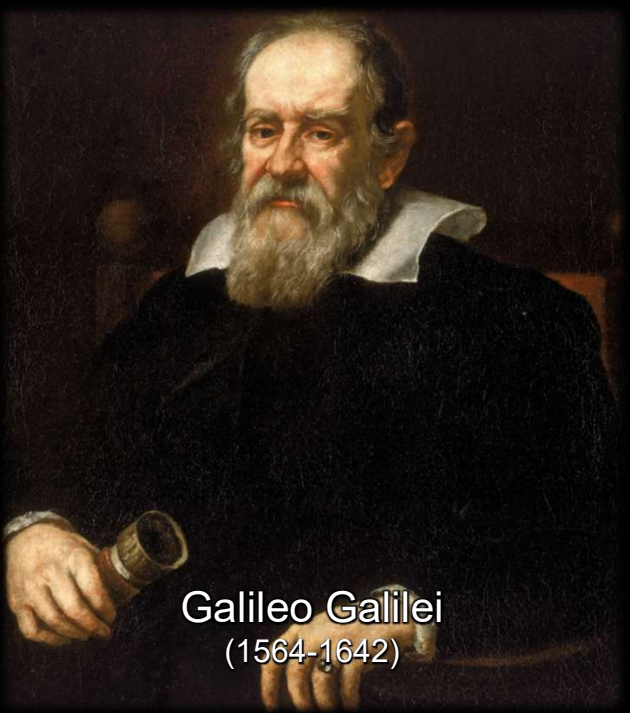
A portrait of Nicolas Copernicus, a Polish astronomer, depicted from the chest up. He is wearing a dark green robe with a fur collar and a blue shirt underneath. He has short, wavy brown hair and is looking slightly to the right. He is holding a quill pen in his right hand and a model of a planetary system with a central sun and planets in circular orbits in his left hand.

Nicolas Copernicus
(1473-1543)

"The hypothesis of this work ... sets the earth in motion and puts an immovable sun at the center of the universe."

[On the Revolutions of the Heavenly Spheres, I, transl. Charles Glenn Wallis in *Great Books of the Western World*, ed. in chief Robert Maynard Hutchins (Chicago: Encyclopedia Britannica, 1952), vol. 16, p. 505]

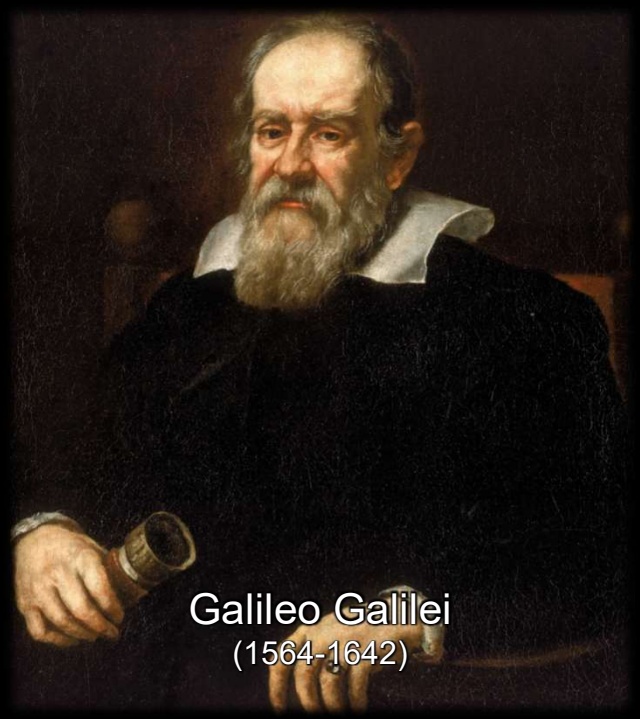
This new system was championed by the scientist Galileo Galilei.

A portrait of Galileo Galilei, an Italian astronomer, physicist, and engineer. He is depicted from the chest up, wearing a dark, high-collared garment. He has a long, white beard and mustache and is looking slightly to the left. He is holding a telescope in his right hand.

Galileo Galilei
(1564-1642)

"Now if it is true that the center of the universe is that point around which all the orbs and world bodies (that is, the planets) move, it is quite certain that not the earth, but the sun, is to be found at the center of the universe."

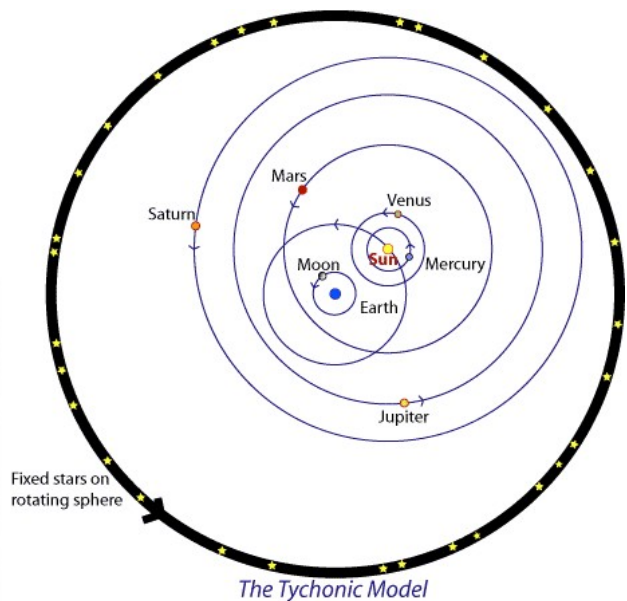
["Dialogue Concerning the Two Chief World Systems," in *The World of Physics: A Small Library of the Literature of Physics from Antiquity to the Present*, 3. vols. (New York: Simon and Schuster, 1987), vol. 1, p. 457]

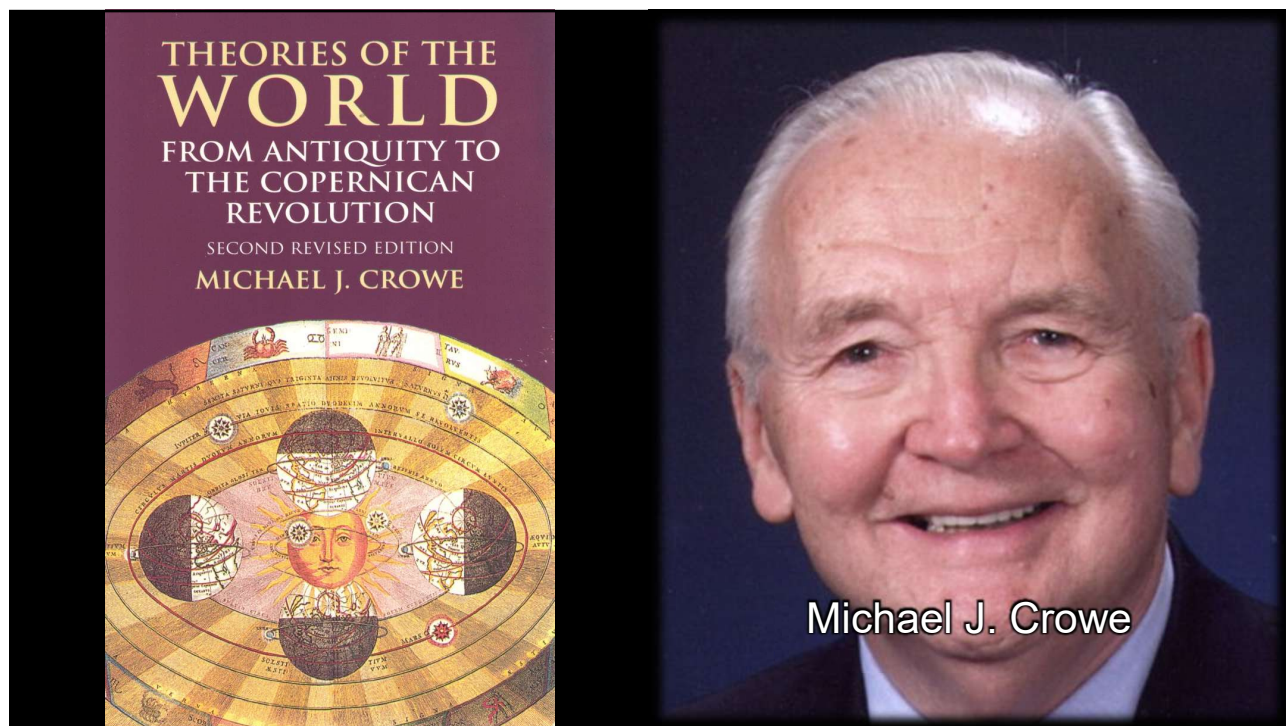


Galileo Galilei
(1564-1642)



Tycho Brahe
(1546-1601)





***"In the case of the universe
... the nearer the parts are to
the center, the greater is their
turbidness, their solidity,
their inertness, their dimness
and darkness, because they
are further away from the
loftiest element, from the
source of light and
brightness."***

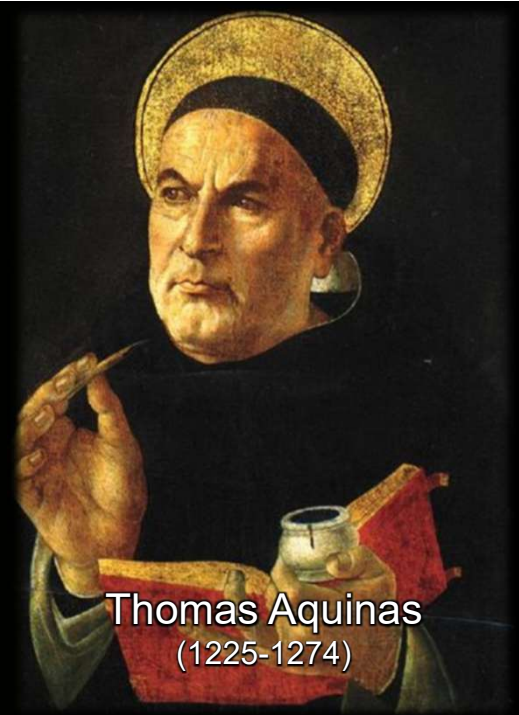
The Guide for the Perplexed, trans. M. Friedländer, 2nd ed. (New York: Dutton, 1919), 116-119 cited in "That Copernicanism Demoted Humans from the Center of the Cosmos" in Ronald L. Numbers, ed. *Galileo Goes to Jail and Other Myths about Science and Religion* (Cambridge: Harvard University Press, 2009), 53.



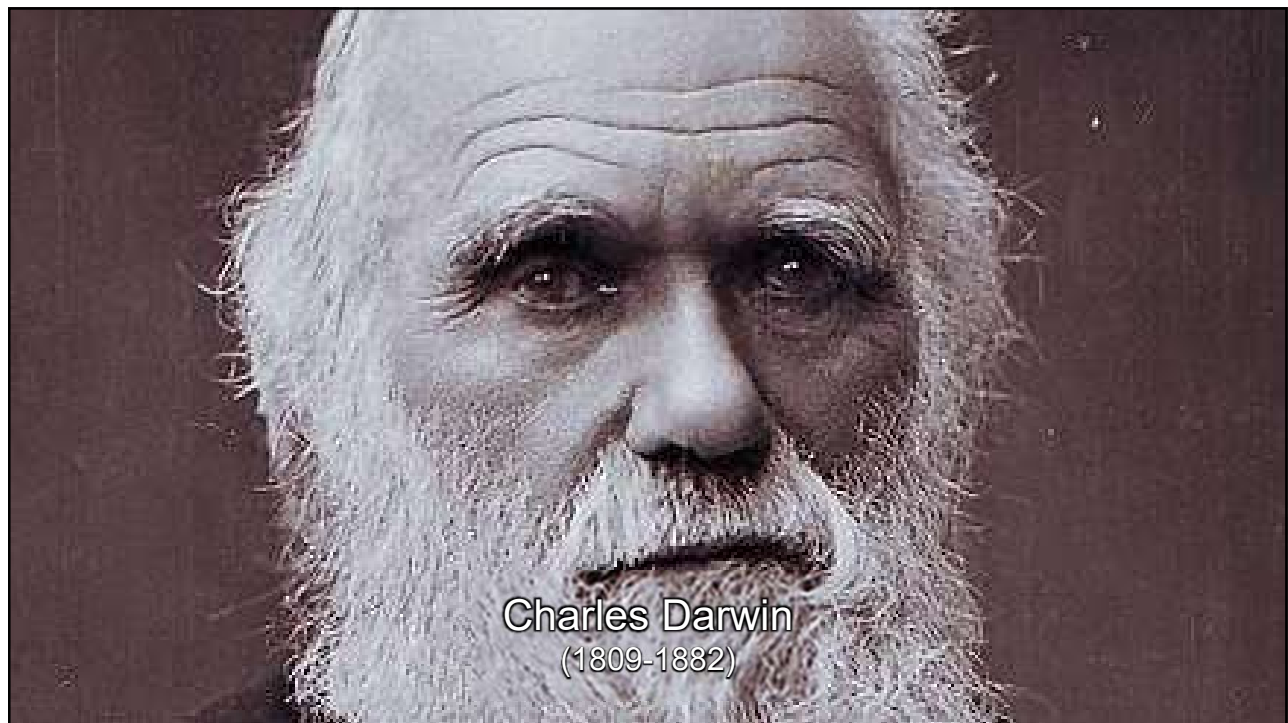
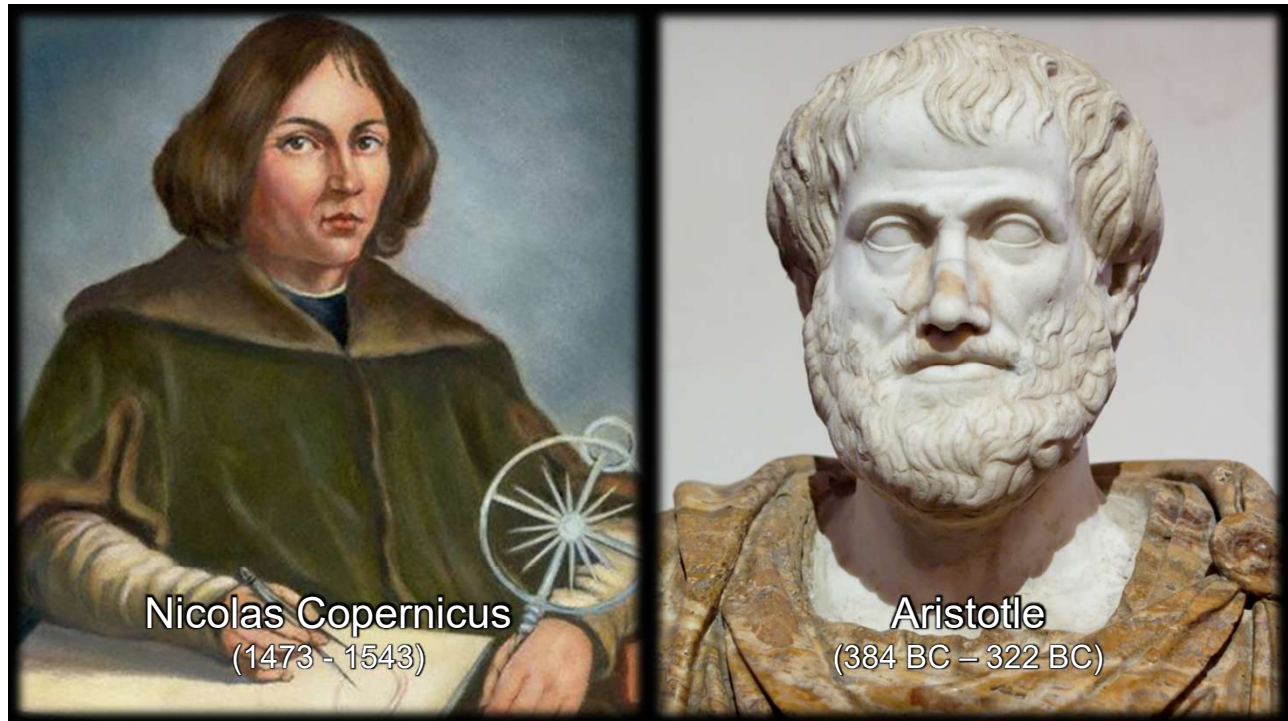
Moses Maimonides
(1138-1204)

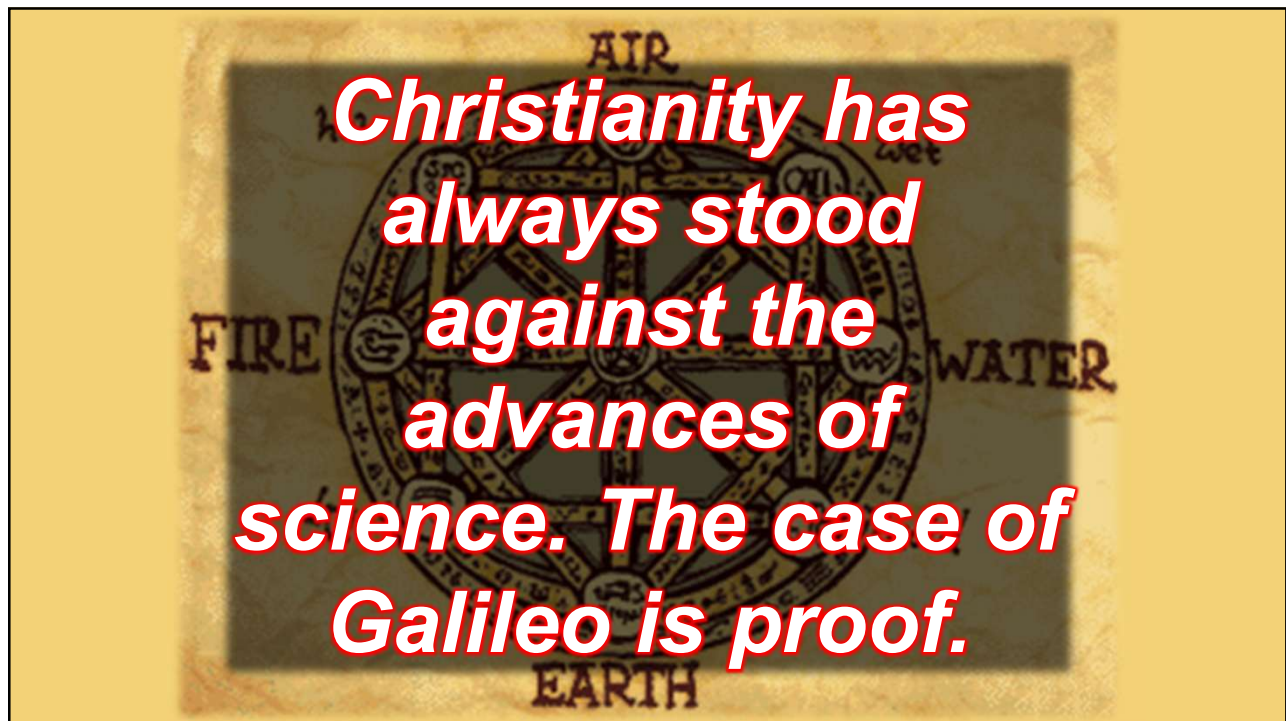
***"In the universe, earth—
that all the spheres
encircle and that, as for
place, lies in the
center—is the most
material and coarsest
(ignobilissima) of all
bodies."***

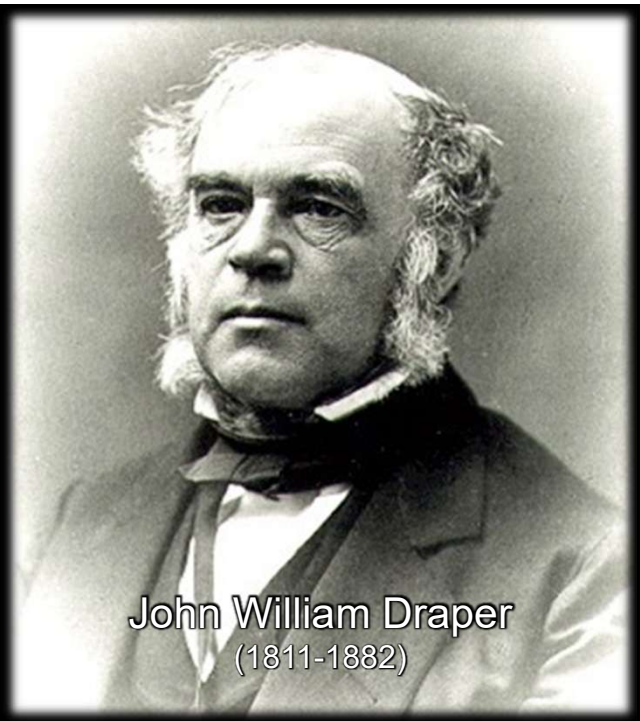
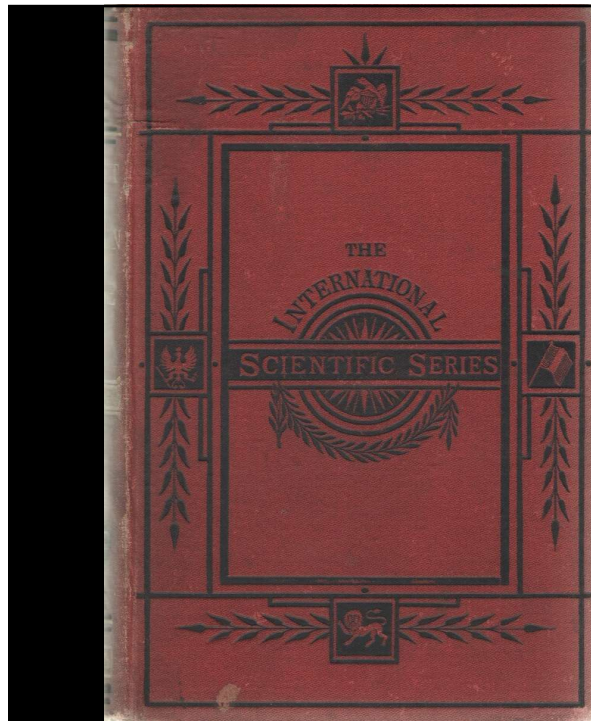
Commentary on Aristotle's De Caelo, II, xiii, 1 & xx, n. 7, in vol. 3, 202b of the Leonia ed.; trans. and quoted by René Brague, "Geocentrism as a Humiliation for Man," *Medieval Encounters* 3 (1997): 187-210 (202) cited in "That Copernicanism Demoted Humans from the Center of the Cosmos" in Ronald L. Numbers, ed. *Galileo Goes to Jail and Other Myths about Science and Religion* (Cambridge: Harvard University Press, 2009), 53.



Thomas Aquinas
(1225-1274)



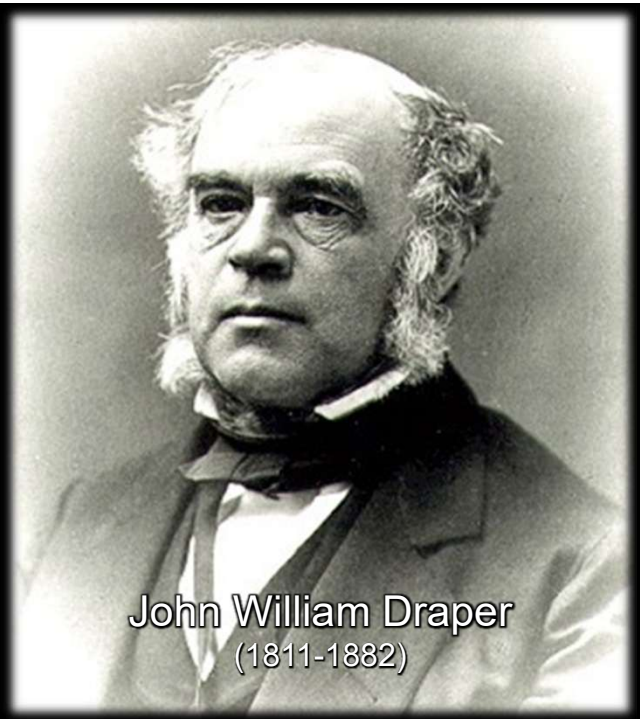




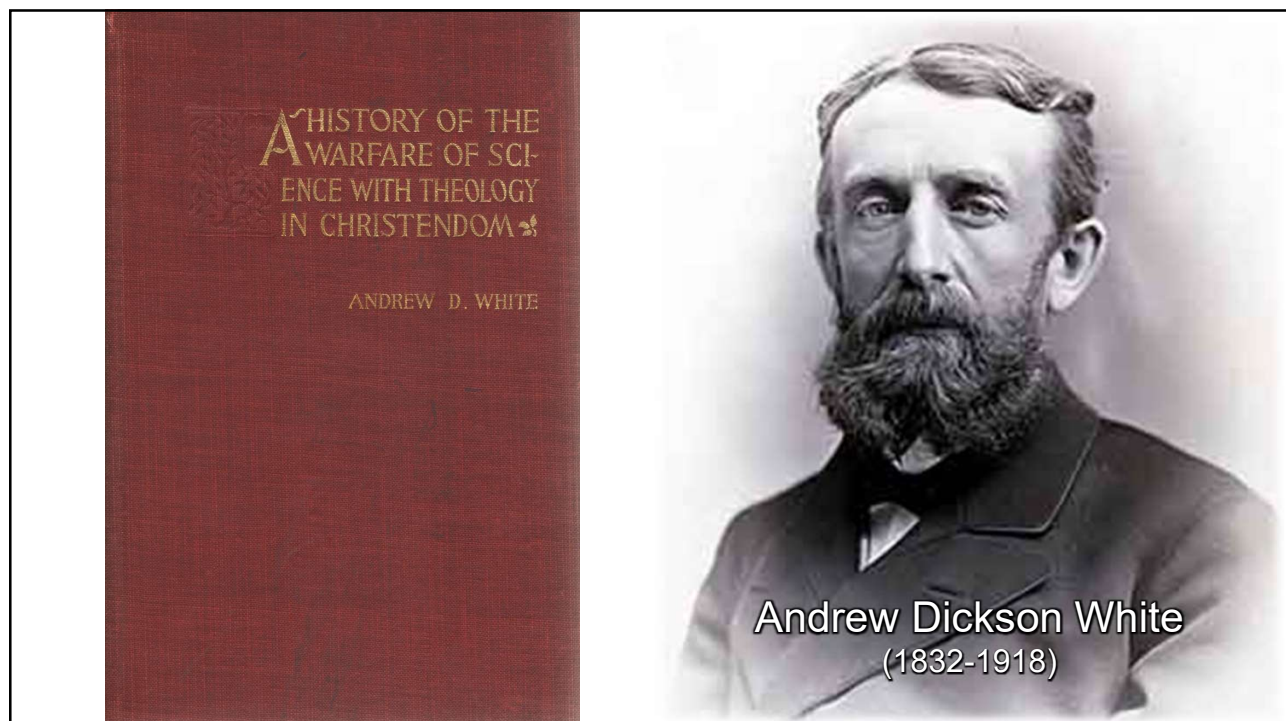
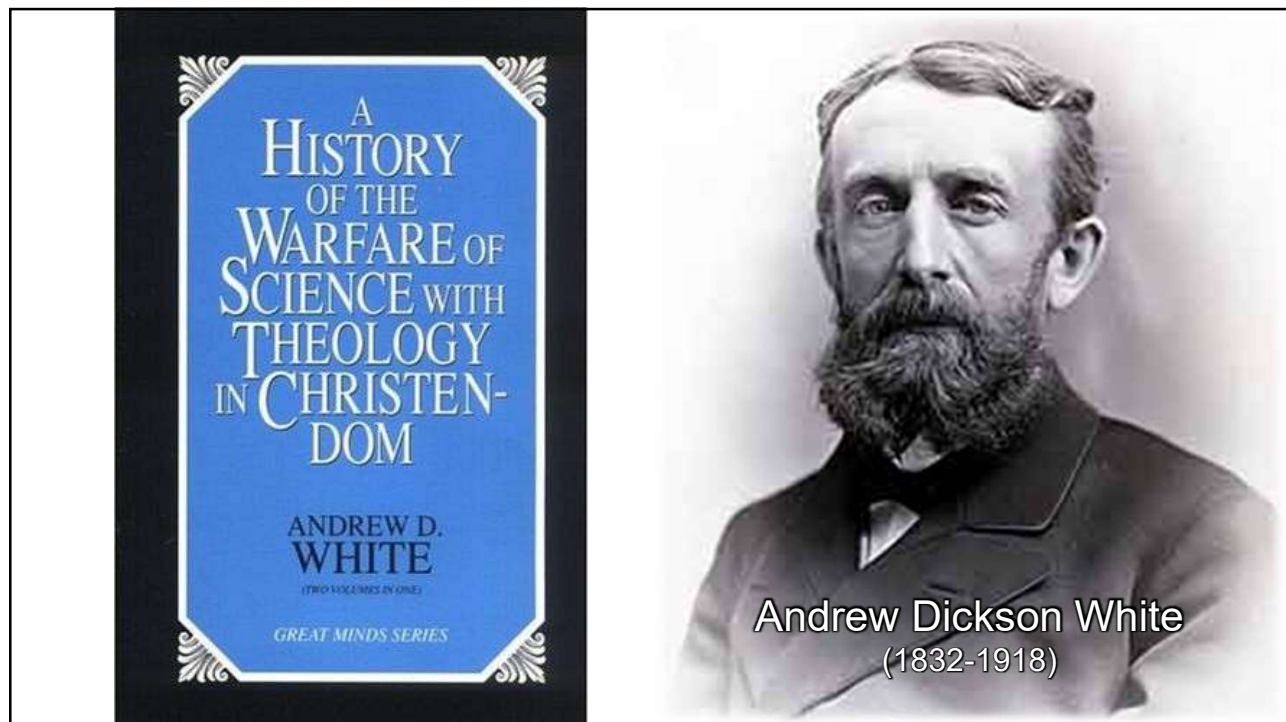
John William Draper
(1811-1882)

"The history of Science is not a mere record of isolated discoveries; it is a narrative of the conflict of two contending powers, the expansive force of the human intellect on the one side, and the compression arising from traditional faith and human interest on the other."

[John William Draper, *The International Scientific Series*, Vol. 12: *History of the Conflict between Religion and Science* (New York: D. Appleton and Co. 1879), vi]



John William Draper
(1811-1882)

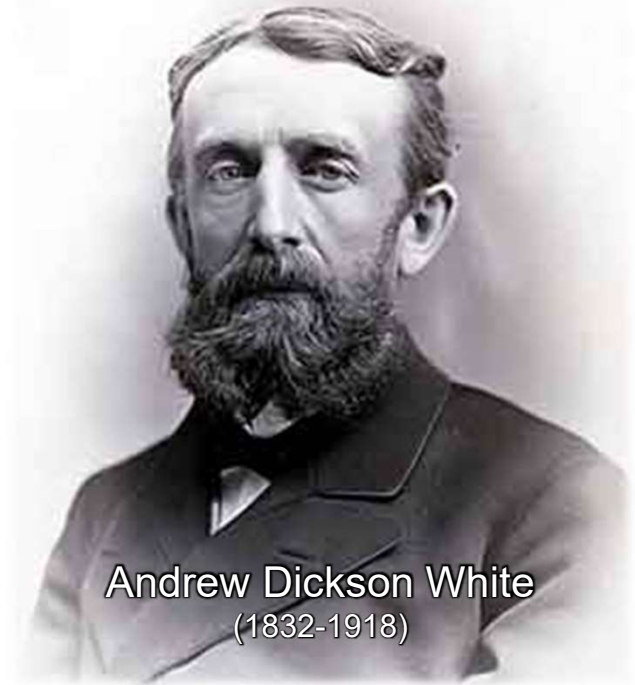


1st President of Cornell University

1st President of the American
Historical Association

US Ambassador to Germany and
Russia

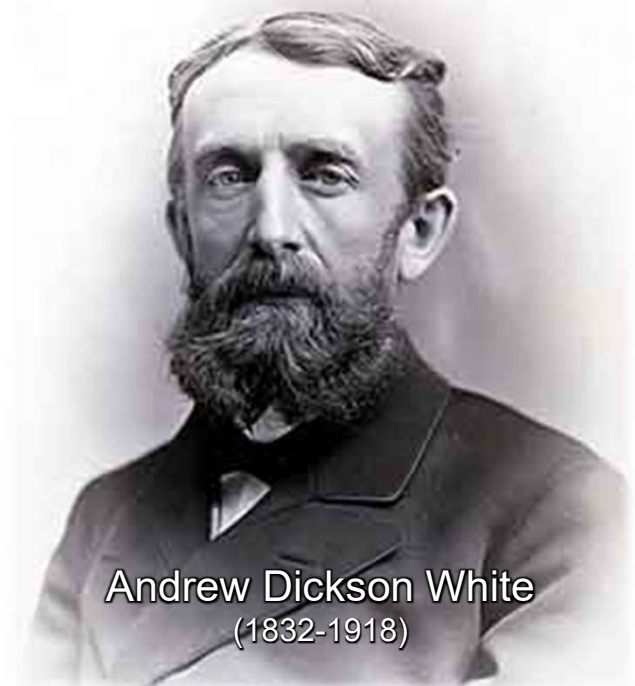
His second wife (White was a
widower), Helen Magill, was the
first woman to earn a Ph.D. in the
United States



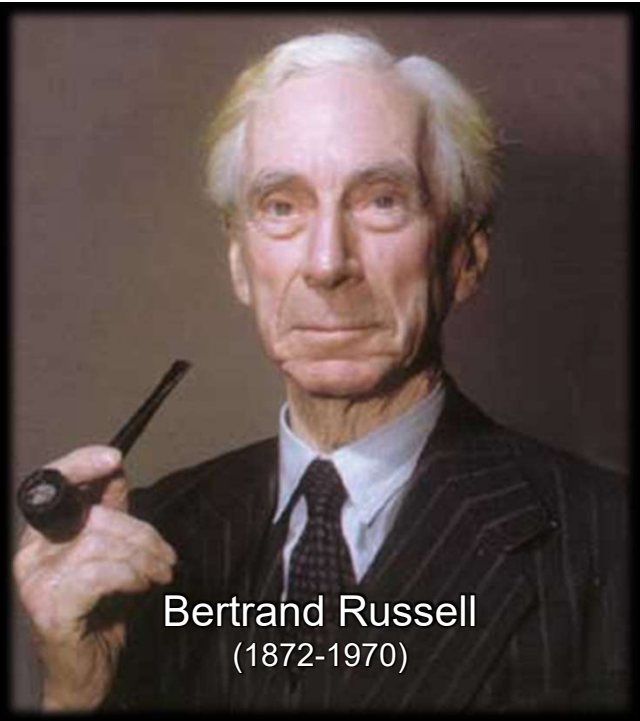
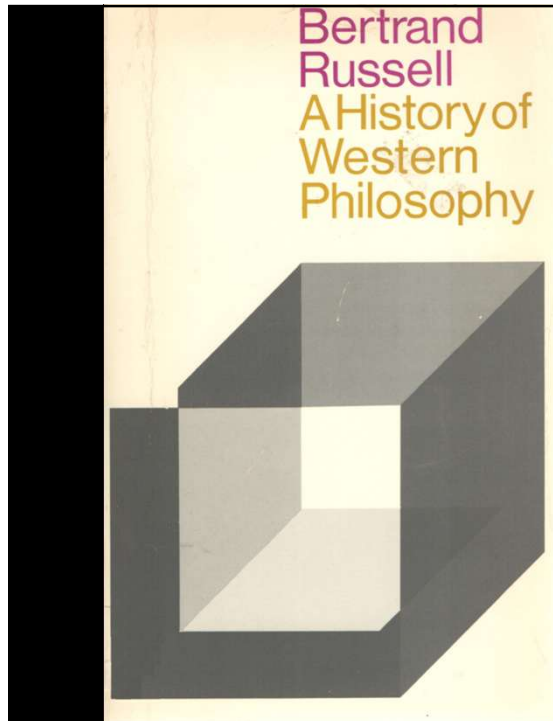
Andrew Dickson White
(1832-1918)

*"Much as I admired
Draper's treatment of the
questions involved, his
point of view and mode of
looking at history were
different from mine. He
regarded the struggle as
one between Science and
Religion. I believed then,
and am convinced now,
that it was a struggle
between Science and
Dogmatic Theology"*

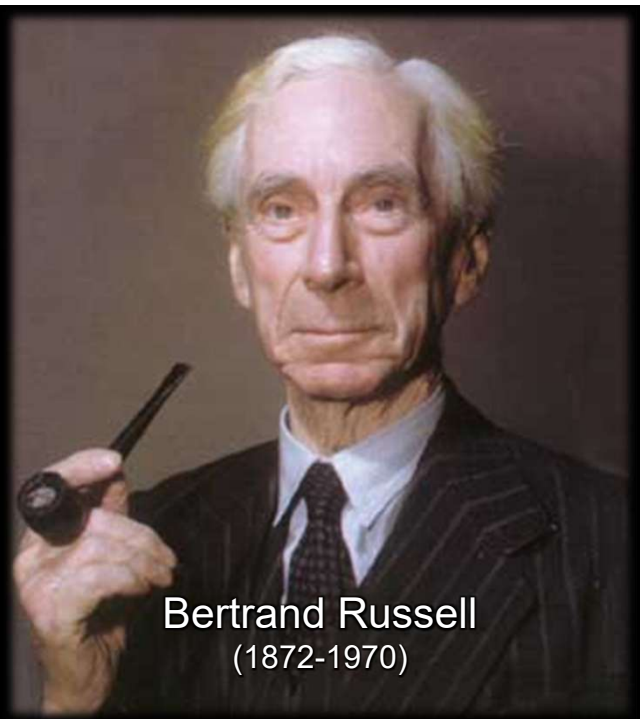
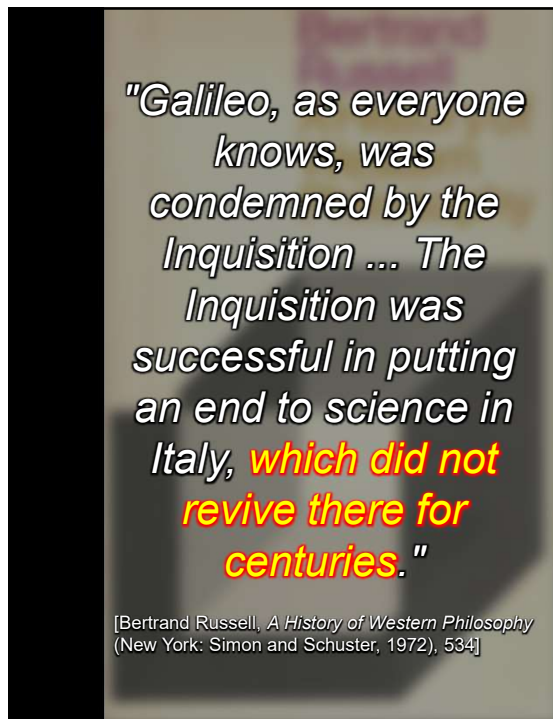
[Andrew D. White, *A History of the Warfare of
Science with Theology in Christendom* (New York: D.
Appelton and Co., 1896), ix]



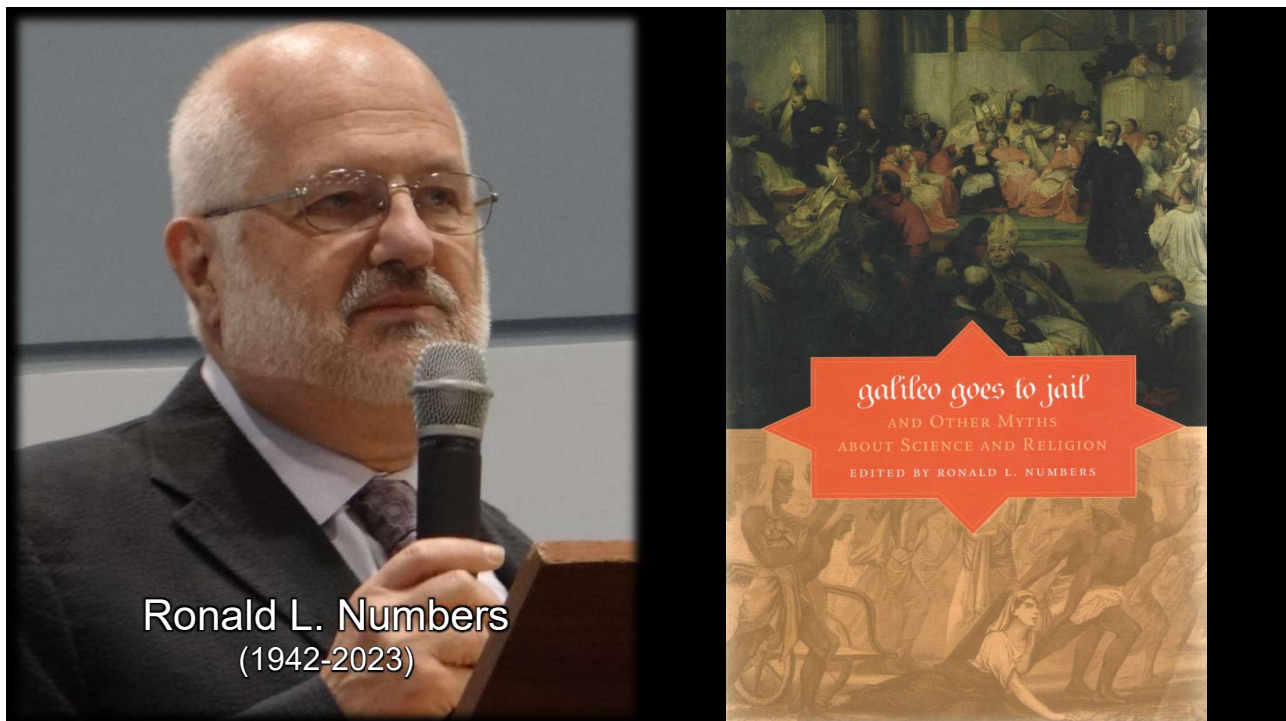
Andrew Dickson White
(1832-1918)




Bertrand Russell
(1872-1970)



Bertrand Russell
(1872-1970)



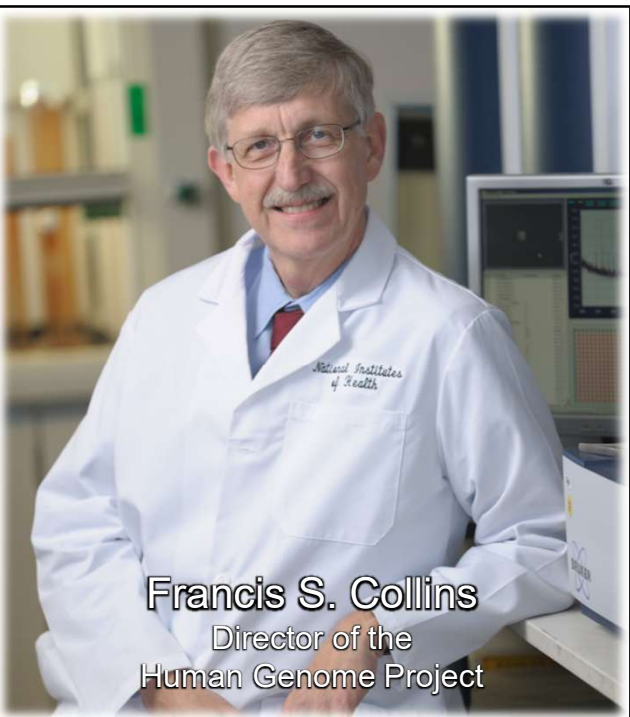


Ronald L. Numbers
(1942-2023)

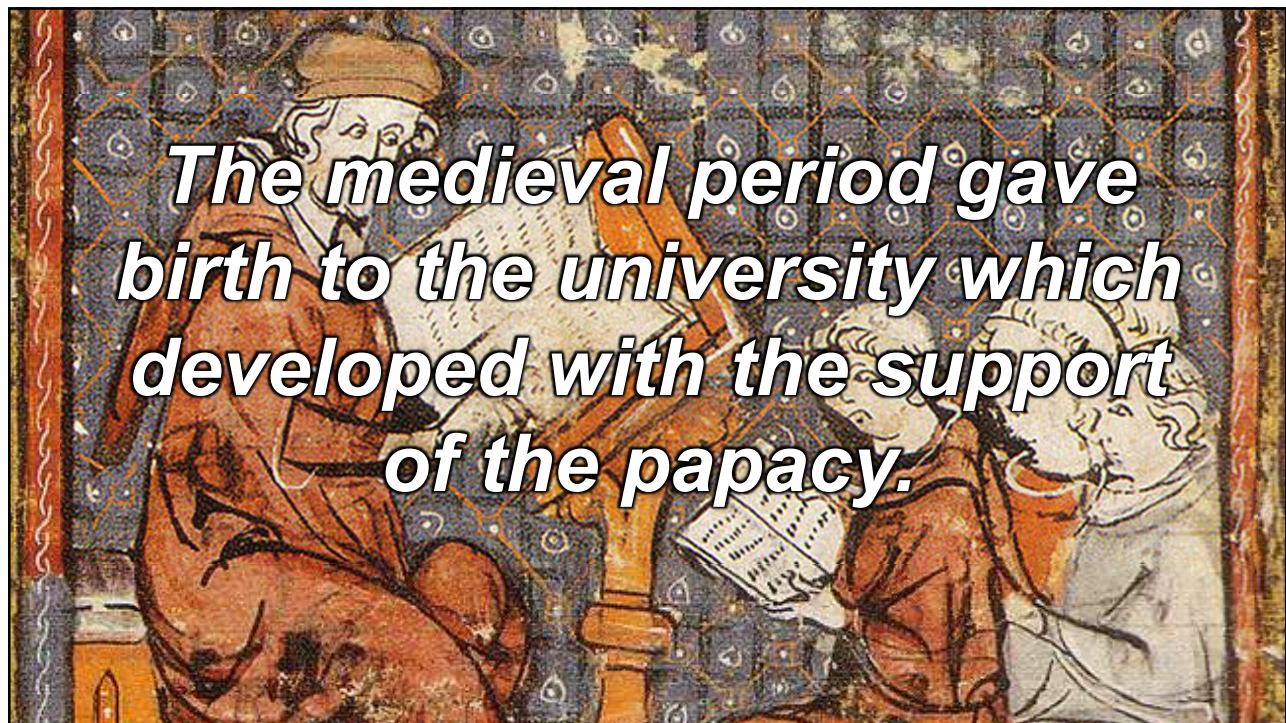
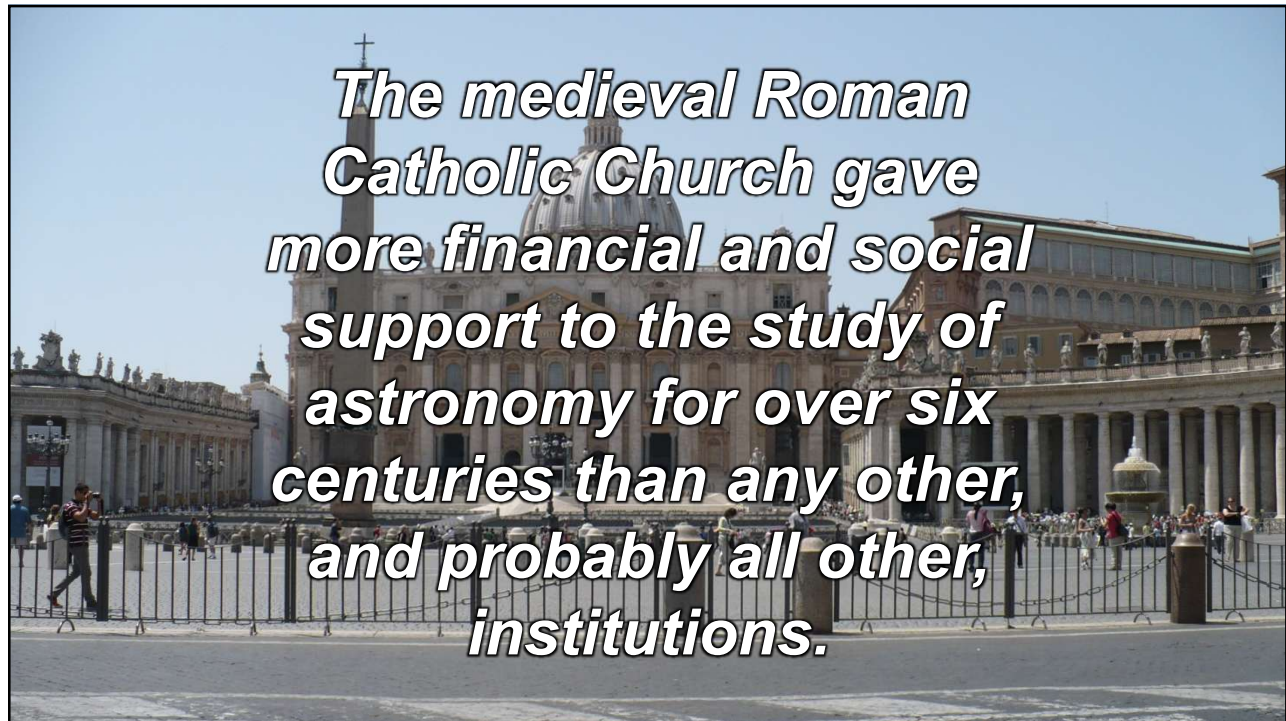
"The greatest myth in the history of science and religion holds that they have been in a state of constant conflict. No one bears more responsibility for promoting this notion than two nineteenth-century American polemicists: Andrew Dickson White (1832-1918) and John William Draper (1811-1882)."

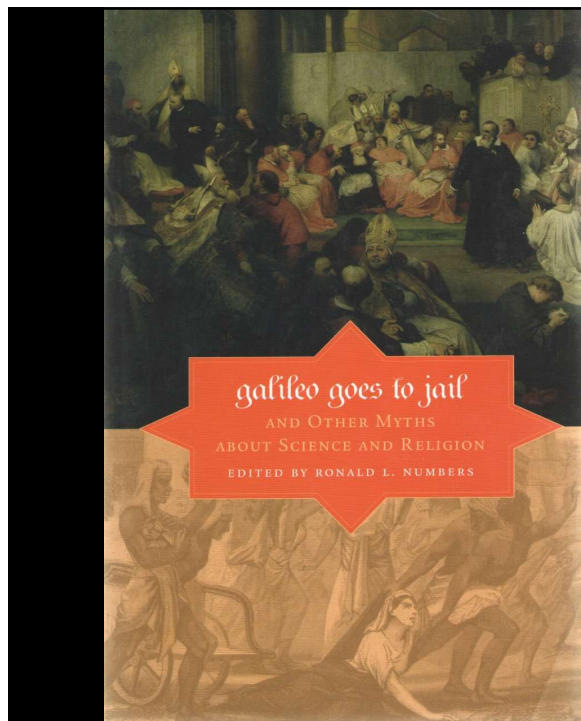
[Galileo Goes to Jail and Other Myths about Science and Religion (Cambridge: Harvard University Press, 2009), 1-2]

"One of the greatest tragedies of our time is this impression that has been created that science and religion have to be at war."



Francis S. Collins
Director of the
Human Genome Project





"Between 1150 and 1500, more literate Europeans had had access to scientific materials than any of their predecessors in earlier cultures, thanks largely to the emergence, rapid growth, and naturalistic arts curricula of medieval universities."

[Michael H. Shank, "Myth 2: That the Medieval Christian Church Suppressed the Growth of Science," in Ronald L. Numbers, ed. *Galileo Goes to Jail and Other Myths about Science and Religion* (Cambridge: Harvard University Press, 2009), 26-27.]



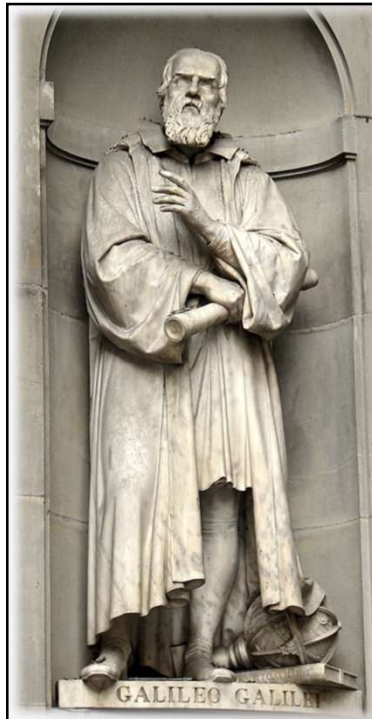
Michael H. Shank

"If the medieval church had intended to suppress the inquiry into nature, it must have been completely powerless, for it utterly failed to reach its goal."

[Michael H. Shank, "Myth 2: That the Medieval Christian Church Suppressed the Growth of Science," in Ronald L. Numbers, ed. *Galileo Goes to Jail and Other Myths about Science and Religion* (Cambridge: Harvard University Press, 2009), 26-27.]



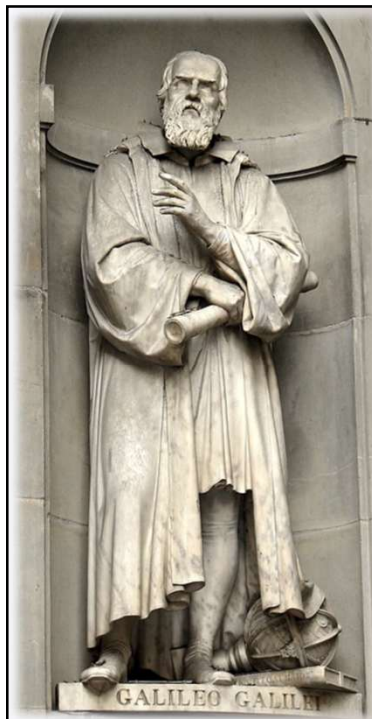
Michael H. Shank



Two things got Galileo into trouble.

1. *His attempts to interpret the Bible to render it consistent with his scientific views*

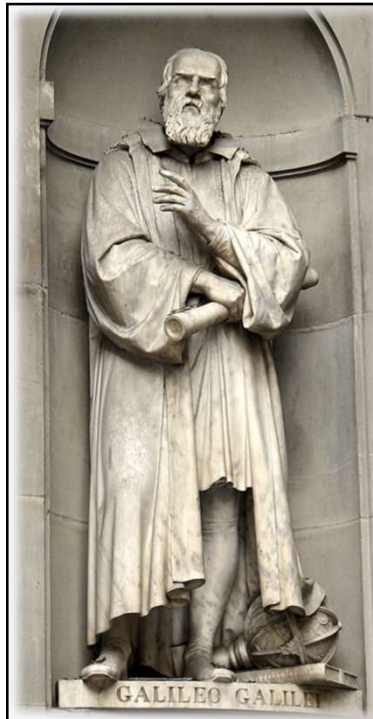
This got him in trouble primarily with the Church officials.



Two things got Galileo into trouble.

2. *His rejection of the Aristotelian model of the cosmos*

This got him in trouble with both the church officials and the scientific community.



Summation

While there can be no doubt that Galileo's embracing the Copernican system got him into serious trouble with the Church officials . . .



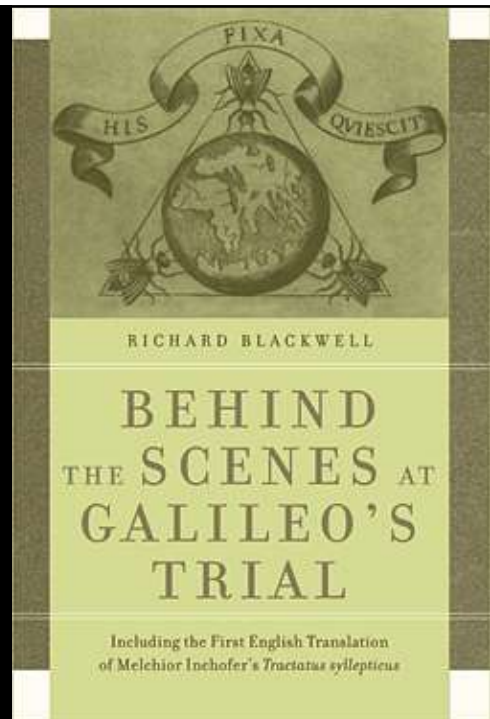
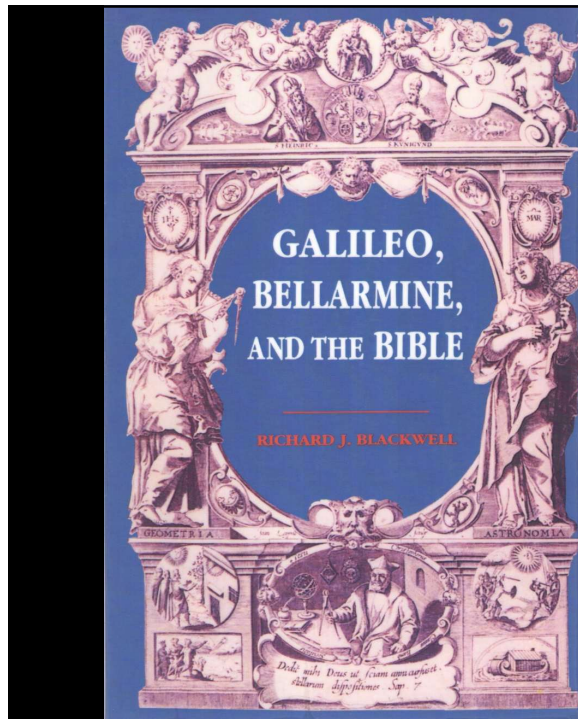
Summation

. . . it must be remembered that his views were just as much in conflict with the reigning scientific views of the universities as they were with the reigning theological views of the Church.




Summation

Thus, the Galileo affair is just as much a commentary on the conflict between science and science as it is a commentary on any conflict between science and religion.



THE GALILEO AFFAIR



A Documentary
History
Maurice A. Finocchiaro

Galileo's Misstatements about Copernicus

By Edward Rosen *

A RECENT English translation¹ of selections from the writings of Galileo (1564-1642) will doubtless bring to the attention of many readers the statements about Copernicus (1473-1543) in the great Italian scientist's *Letter to the Grand Duchess Christina*. These statements by Galileo contain five serious historical errors. To impede their further spread is the aim of the present article.

The first of the five errors occurs in Galileo's remark that "Nicholas Copernicus . . . was not only a Catholic, but a priest and a canon."² In a preliminary formulation³ he had said: "Nicholas Copernicus was not only a Catholic, but a member of the regular clergy and a canon."⁴ In both these versions,

* Massachusetts Institute of Technology. This paper was read on 17 July 1977 to Professor Willy Hartner's Seminar, Institut für Geschichte der Naturwissenschaften, Johann-Wolfgang-Goethe Universität, Frankfurt-am-Main.

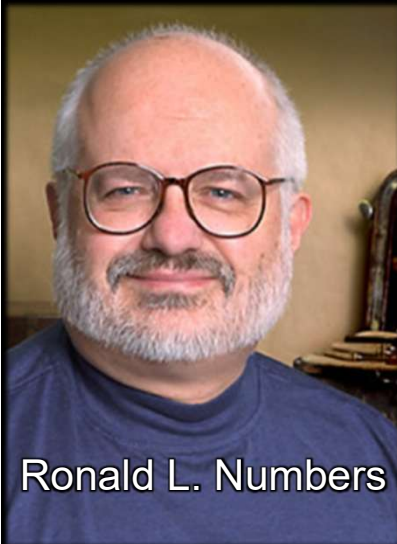
¹ *Discoveries and opinions of Galileo*, translated by Stillman Drake (New York: Doubleday, 1957); reviewed in the *Journal of the History of Ideas*, 1957, 18: 419-424, by Edward Rosen, and in *Isis*, 1957, 48: 378-379, by Giorgio de Santillana.

² Drake, p. 171. *Le opere di Galileo Galilei*, national edition (Florence, 1969-1990), reprinted 1993-1994 cited hereafter as "NE". V, 112-4-6: "Nicholas Copernicus fu . . . uomo non solamente cattolico, ma sacerdote e canonico."

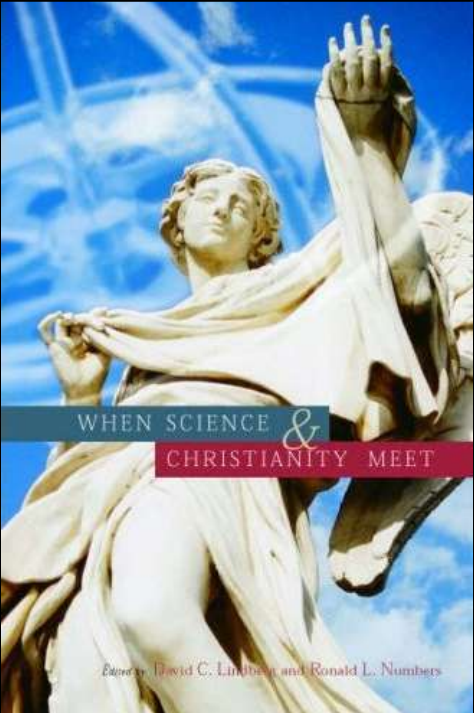
³ Galileo's letter of 18 February 1616 to his good friend Piero Dini, who was then an official at the papal court, and a few years later became an archbishop. Demetrio Marini (1886-1940). *La questione della riforma del calendario nel quinto concilio lateranense (1512-1517)*, *Pubblicazioni del r. Istituto di studi superiori in Firenze*, vol. 41, Florence, 1926, 27-28, said that in Galileo's *Letter to the Grand Duchess* and in his letter to Dini there were "some minor errors" (*qualche piccola inesattezza*), without specifying what these minor errors were. Marini himself (p. 177) committed the minor error of misquoting Galileo's letter to Dini of 18 February 1616, even though he cited NE, which gives the date of the letter correctly as 18 February 1616. The minor error of the letter to Marini, like a major error concerning the chronological relationship between the letter to Dini and the *Letter to the Grand Duchess* according to Marini (p. 177-187). Galileo wrote the *Letter to the Grand Duchess* the year following ("l'anno seguente") his letter to Dini. Yet in the letter to Dini Galileo explained "what a perception among it would be to proclaim as doctrine settled by Holy Scripture any proposition whose contrary may some day be demonstrated; with regard to these matters I have written a very extensive discussion, which is not yet in good enough condition for me to send you a copy, although I shall do so as soon as possible" (NE, V, 112-13-14). Hence, despite Marini, Galileo did not write the *Letter to the Grand Duchess* in the year following his letter to Dini. In that letter Galileo described the *Letter to the Grand Duchess* as already written, lacking only the final touches ("l'ultima mano" NE, XII, 182-3). Evidently Marini forgot that "Cil. Fecim, 8 14 Febbraio 1616" (NE, V, 112-13), the date of Galileo's letter to Dini, followed "the Florentine style" which, as is known, from January to 31 March was a year behind the present modern style" (Marini, p. 26, n. 1). Marini himself (p. 112, n. 4) pointed out that a book dated as January 1616 by its Florentine publisher was actually issued, according to the modern style, in 1615 (cf. Marini, p. 141, n. 1).

⁴ NE, V, 112-13-14: "Nicholas Copernicus fu uomo non pur cattolico, ma religioso e canonico." If the word "e" is omitted from this sentence, "religious" is transformed from a substantive into an adjective. As a substantive, "religious" refers to a member of a monastic order, but as an adjective it merely means "pious". Hence the misstatement of "e" would cancel Galileo's description of Copernicus as a member of the regular clergy. The description is found, missing in Galileo's original, in the *Letter to the Grand Duchess* (NE, 112-13-14), and in *Il Dialogo* (NE, 112-13-14), where Wobbelius paraphrased Galileo's letter to Dini as Galileo said "Copernicus was not only a Catholic, but also a priest and canon" (cf. Francesco Zanotti), without any mention of his misquoting in a religious sense. Although Wobbelius always cited NE in the published edition of his book, he may actually have read Galileo's letter to Dini in an earlier edition which omitted the "e" (*Le opere di Galileo Galilei*, Florence, 1842-1845, ed. Eugenio Albani, 1: 113). Albani took the text of the letter (with "e" omitted) from Giambattista Venturi. *Memorie d'opere letterarie* (Modena, 1848-1851, I, 209).

⁵ Venturi's text here had obtained the text from Jacopo Morelli, who printed the letter for the first time (I edited a manuscript of the letter, Silvio Nardone, Venice, 1736, p. 191). Morelli had found a copy of the letter (the original in Galileo's own handwriting has not survived) in the collection of manuscripts he was describing for publication; twenty years later the

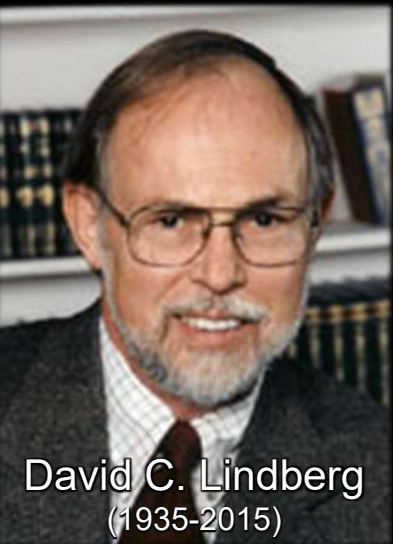


Ronald L. Numbers

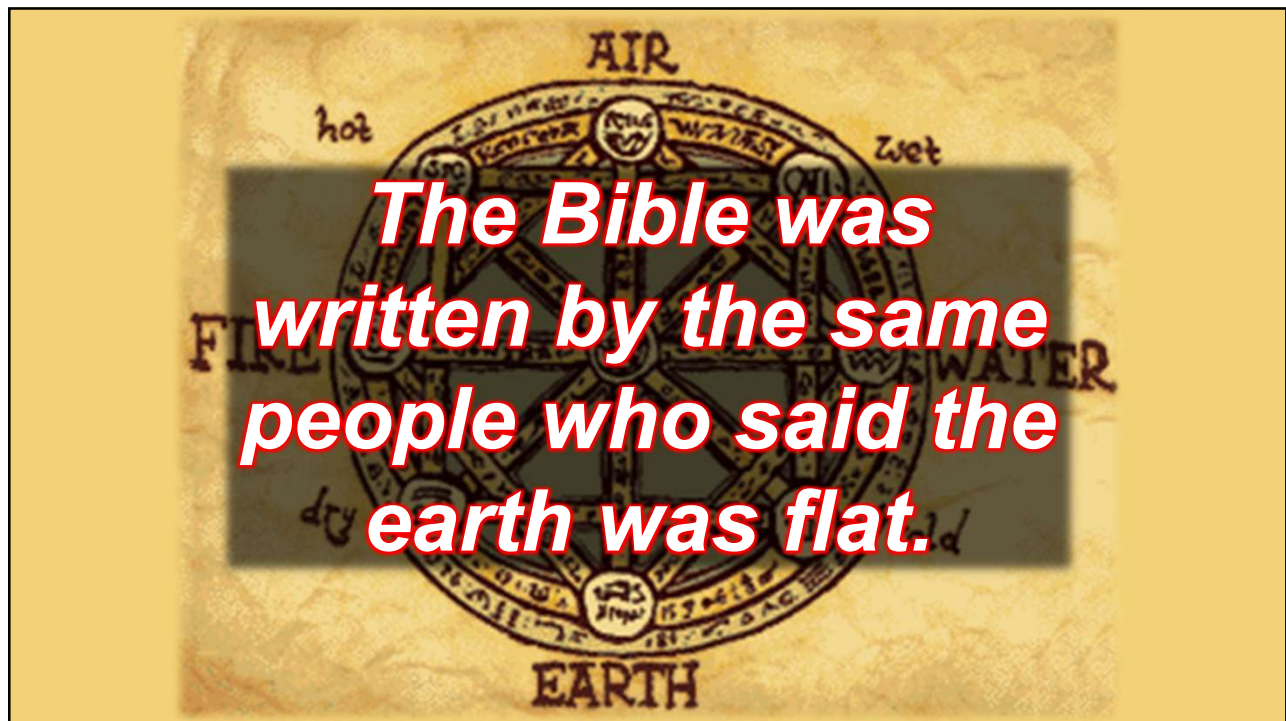


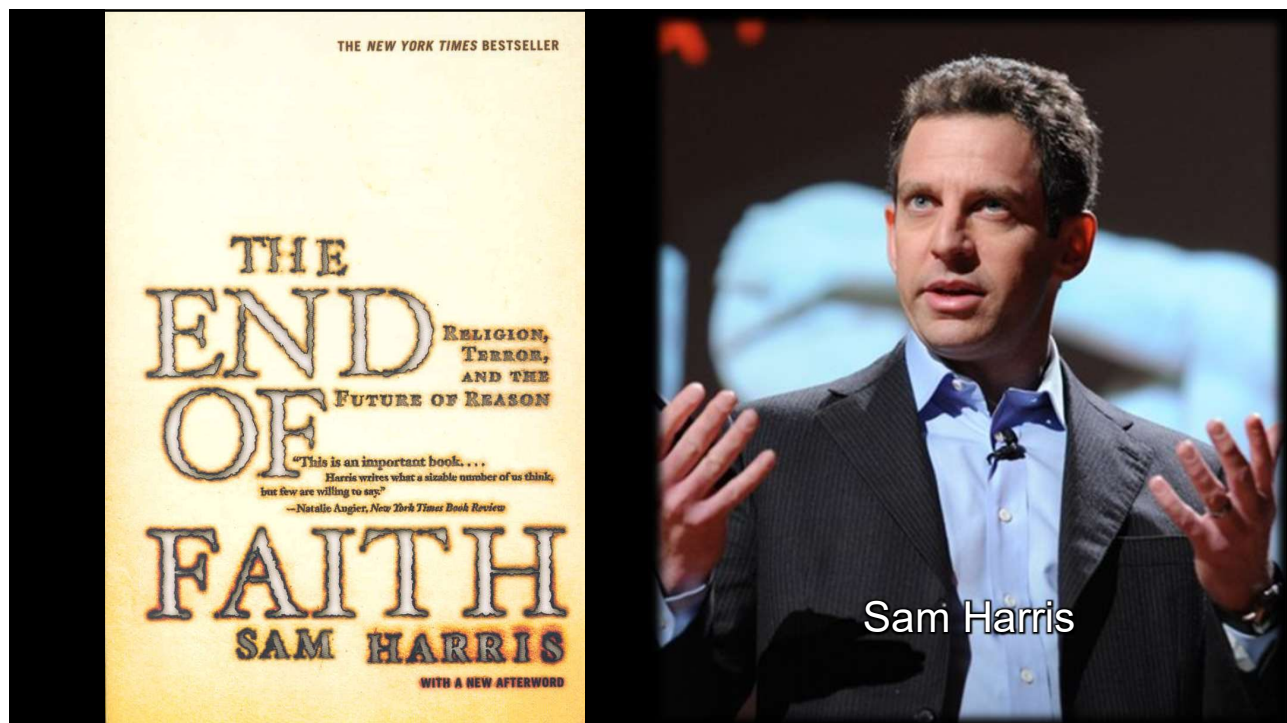
WHEN SCIENCE &
CHRISTIANITY MEET

Edited by David C. Lindberg and Ronald L. Numbers



David C. Lindberg
(1935-2015)





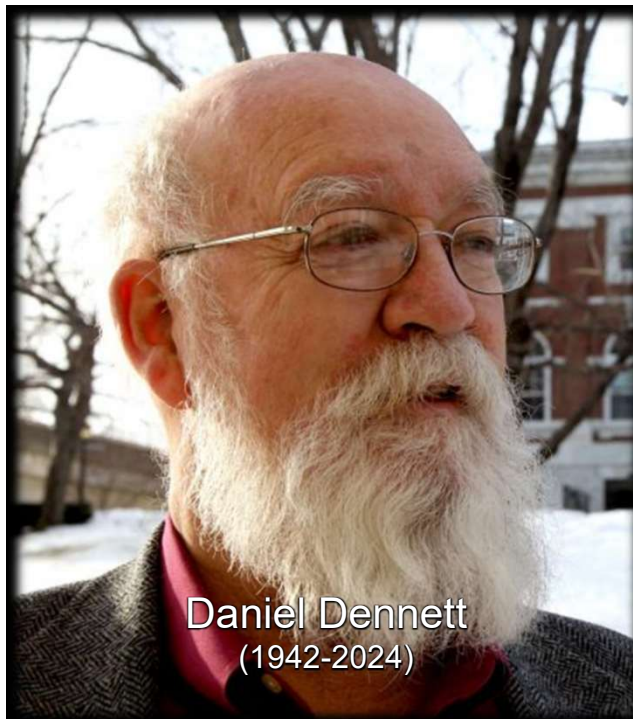
Sam Harris

"The Bible, it seems certain, was the work of sand-strewn men and women who thought the earth was flat"

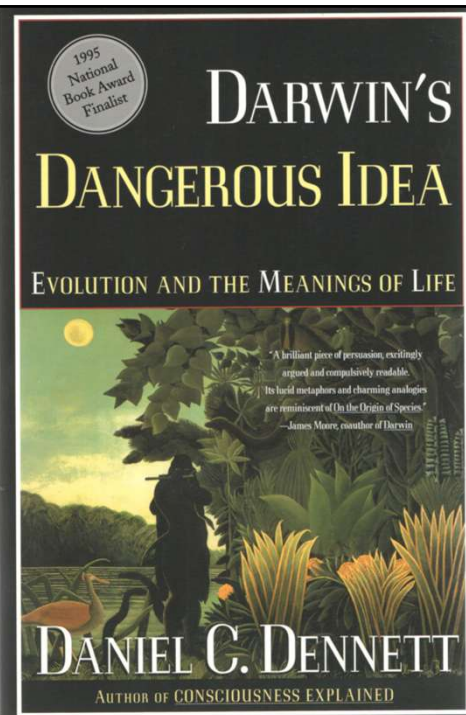
[Sam Harris, *The End of Faith: Religion, Terror, and the Future of Reason* (New York: W. W. Norton, 2004), 45]

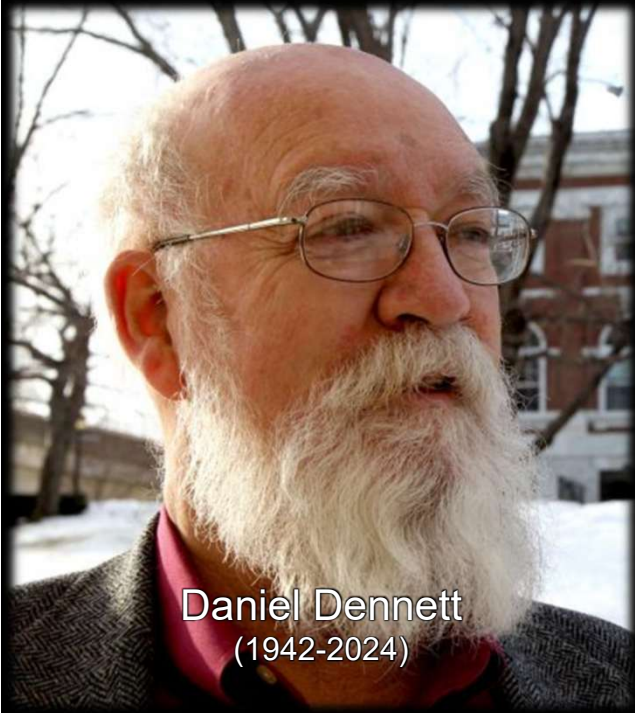


Sam Harris



Daniel Dennett
(1942-2024)






Daniel Dennett
(1942-2024)

*"If you insist on teaching your children falsehoods—that the **Earth is flat**, that '**Man**' is **not a product of evolution** by natural selection—then ... we will ... describe your teachings as the spreading of falsehoods, and will attempt to demonstrate this to your children at our earliest opportunity."*

[Daniel Dennett, *Darwin's Dangerous Idea: Evolution and the Meaning of Life* (New York: Simon & Schuster, 1995), 519]

"The Church says the earth is flat, but I know that it is round, for I have seen the shadow on the moon, and I have more faith even in a shadow than in the church."

Ferdinand Magellan
(1480-1521)



*"Here's the sad thing. Lately we've heard a lot of professional politicians . . . talking down new sources of energy. . . . We've heard this kind of thinking before. Some of these folks were around when **Columbus set sail**—they must have been founding members of **the Flat-Earth Society**. They would not have believed that the world was round."*

[<http://www.whitehouse.gov/the-press-office/2012/03/15/remarks-president-energy>, accessed 06/22/22]

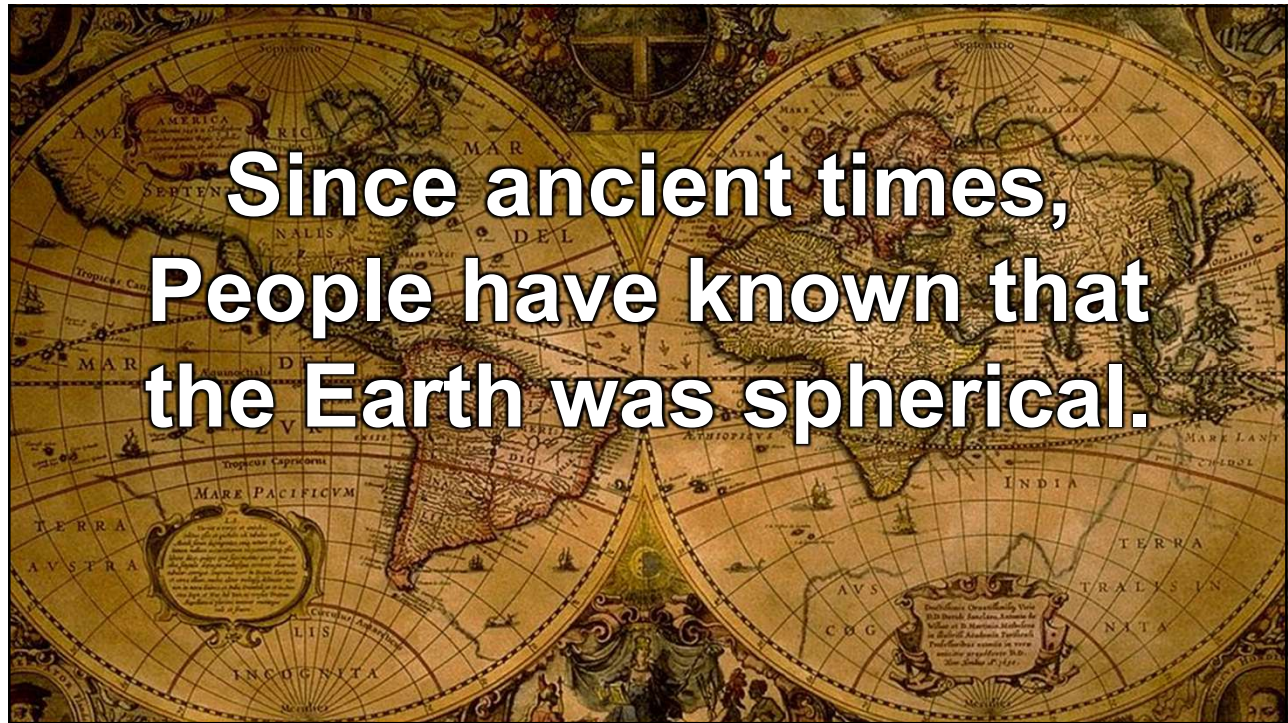


Barack Obama



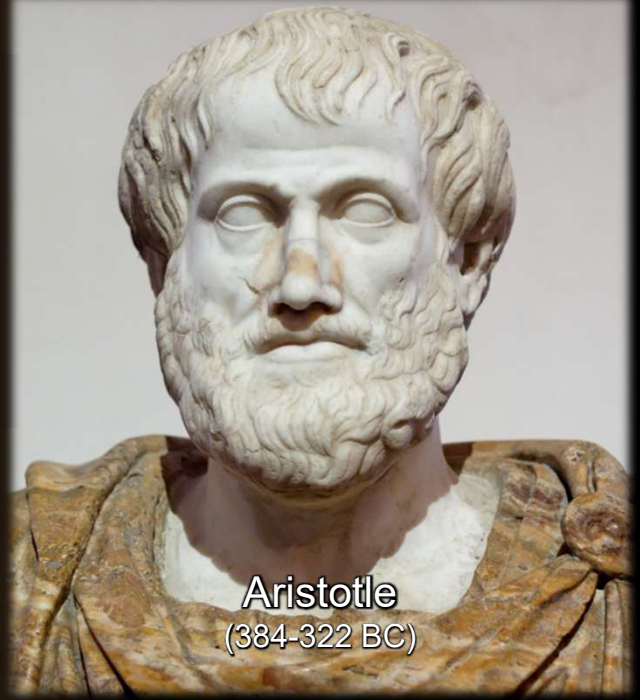


The Old Testament and the Flat Earth

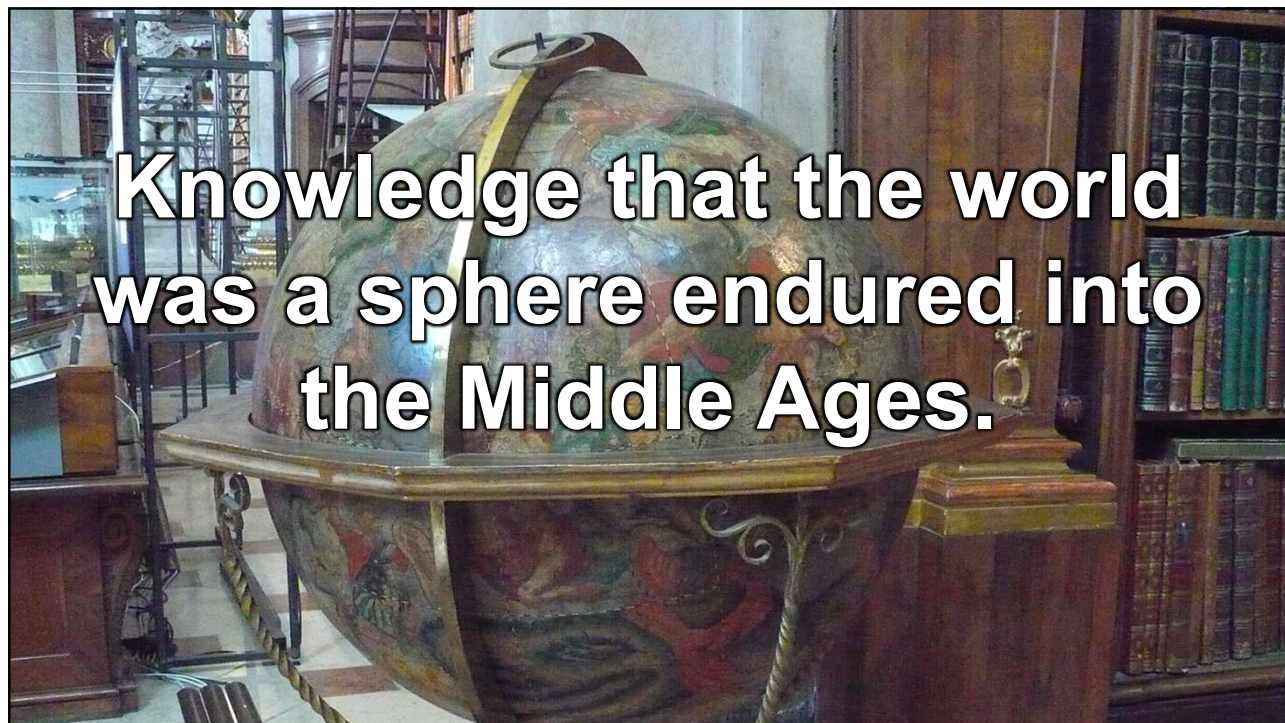
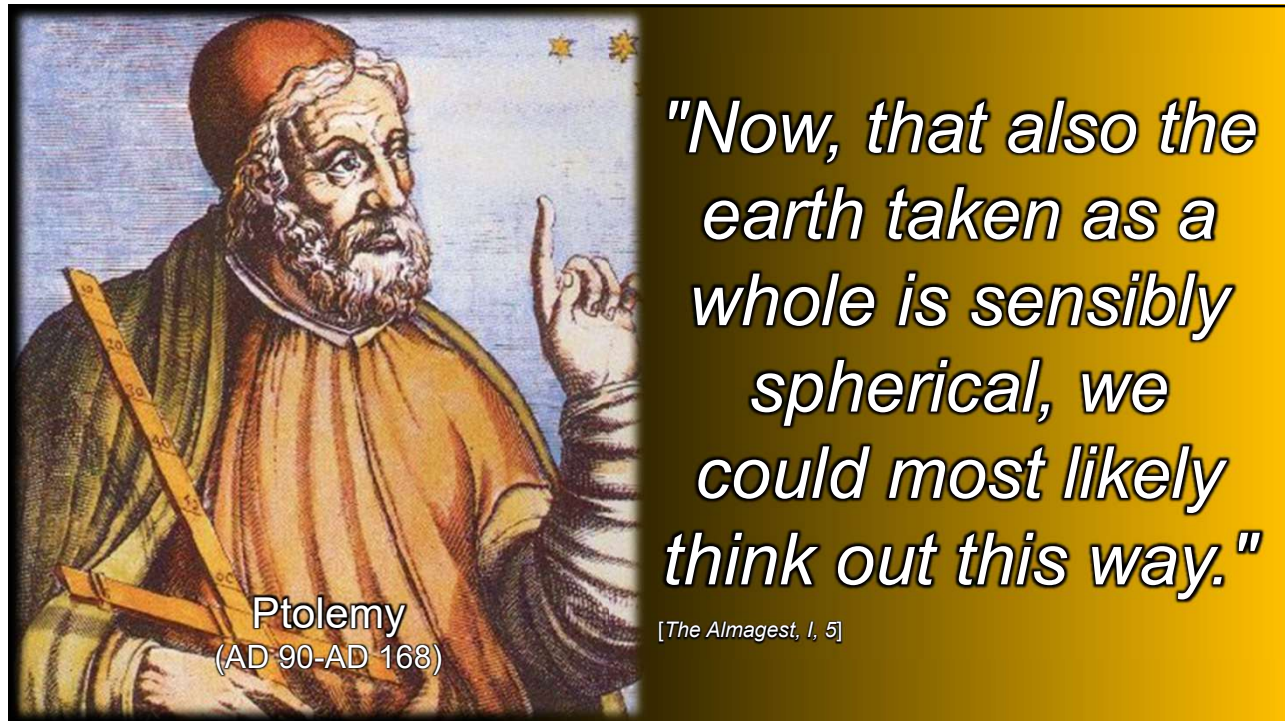


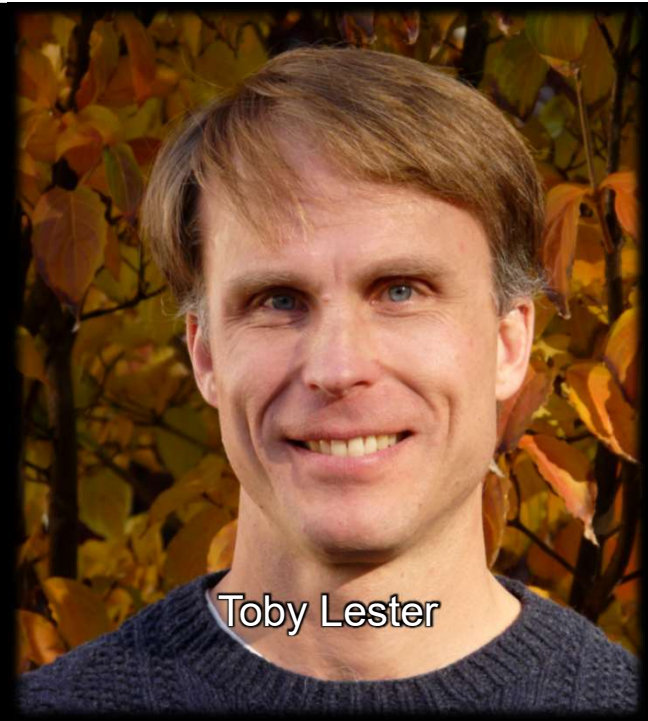
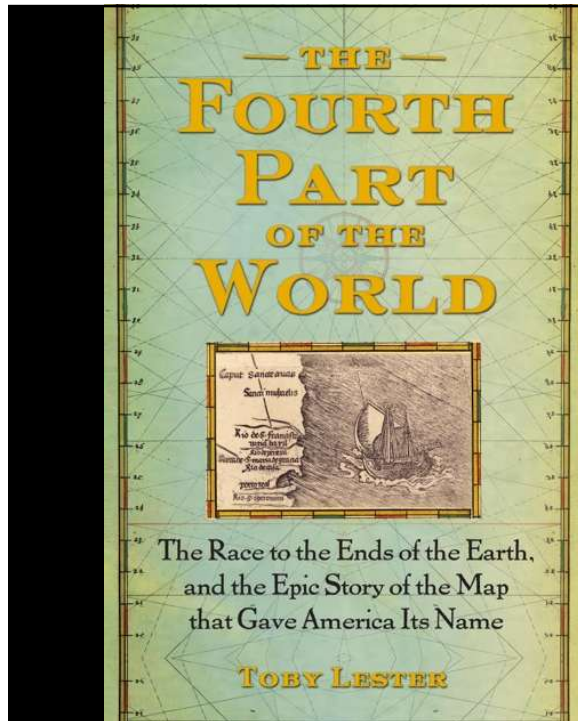
*"[The earth's]
shape must also
be spherical."*

[On the Heavens, II, 14, 297^a9]

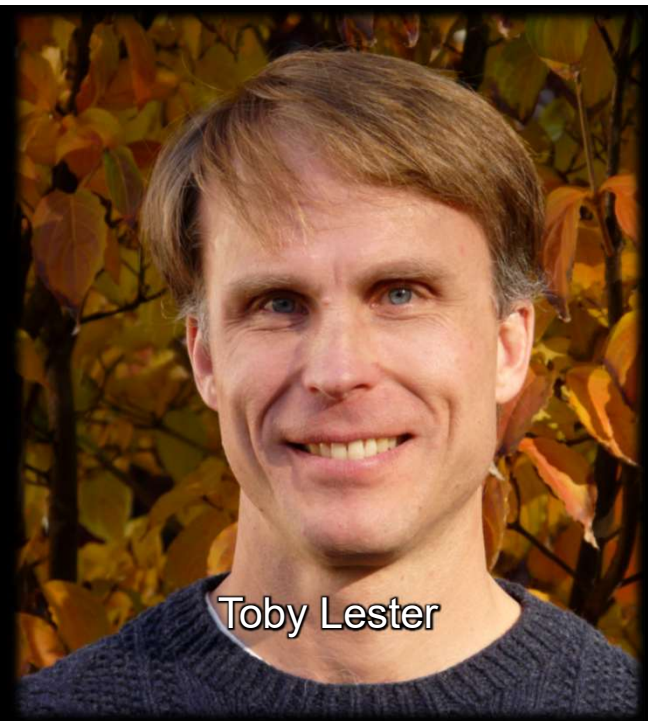
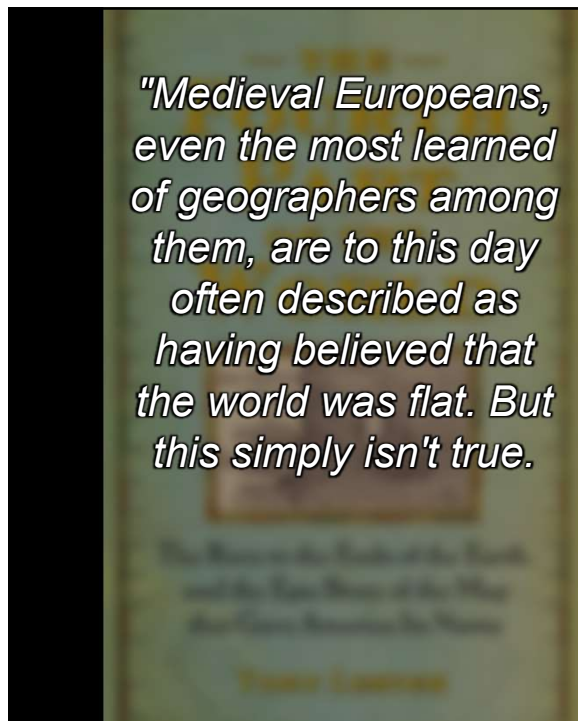


Aristotle
(384-322 BC)





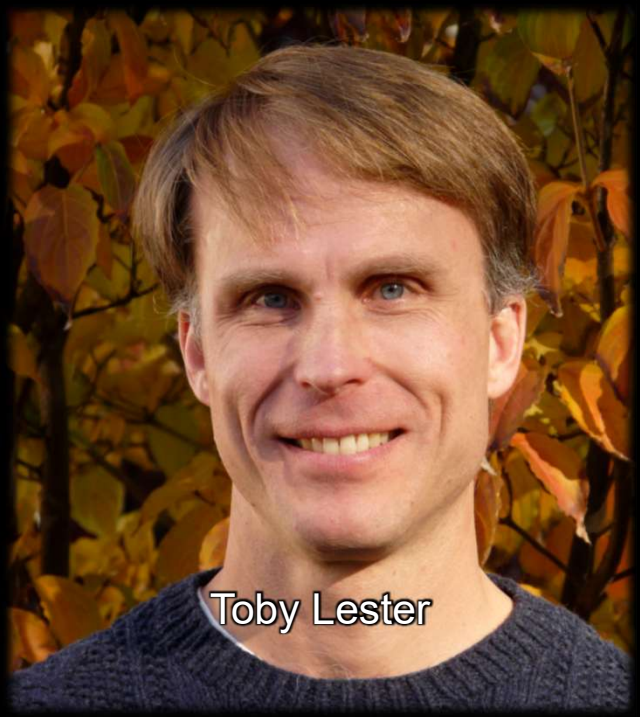
Toby Lester



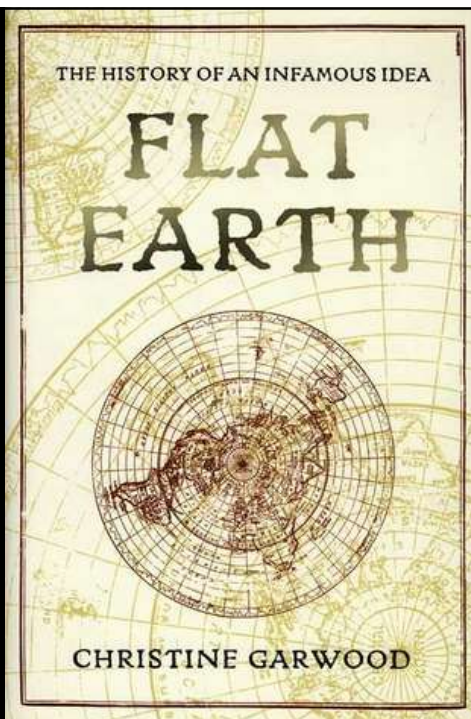
Toby Lester

"Thanks in large part to the labors of Arab astronomers and mathematicians, ancient Greek proofs of the earth as spherical had survived into the Middle Ages and were circulating in Europe."

[Toby Lester, *The Fourth Part of the Earth: The Race to the Ends of the Earth, and the Epic Story of the Map that Gave America Its Name* (New York: Free Press, 2009), 27-28]



Toby Lester



Christine Garwood

"Although very few writers of the patristic period (c. first to eighth centuries) argued in favour of a flat earth, Lactantius [240-320] and Cosmas [Indicopleustes, d. 550] were held up as



Christine Garwood

"typical medieval thinkers by Victorian rationalists writers who ... were set on sidelining religious belief as damaging to the progress of scientific truth."

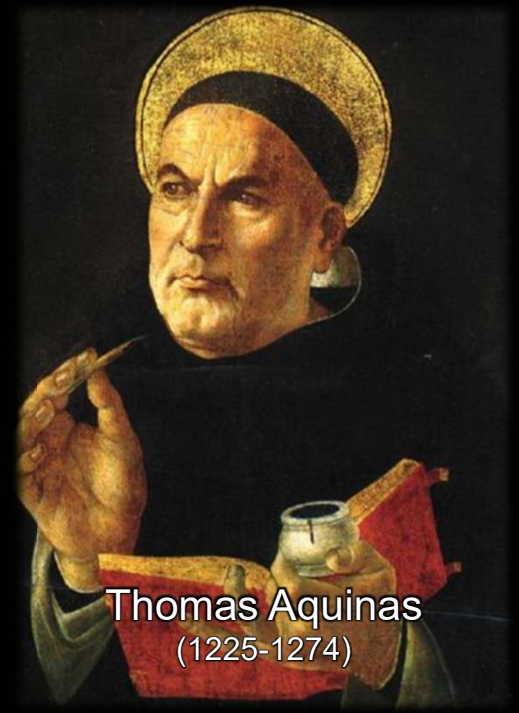
[Flat Earth: The History of an Infamous Idea (New York: Thomas Dunne Books, St. Martin's Press, 2007), 10]



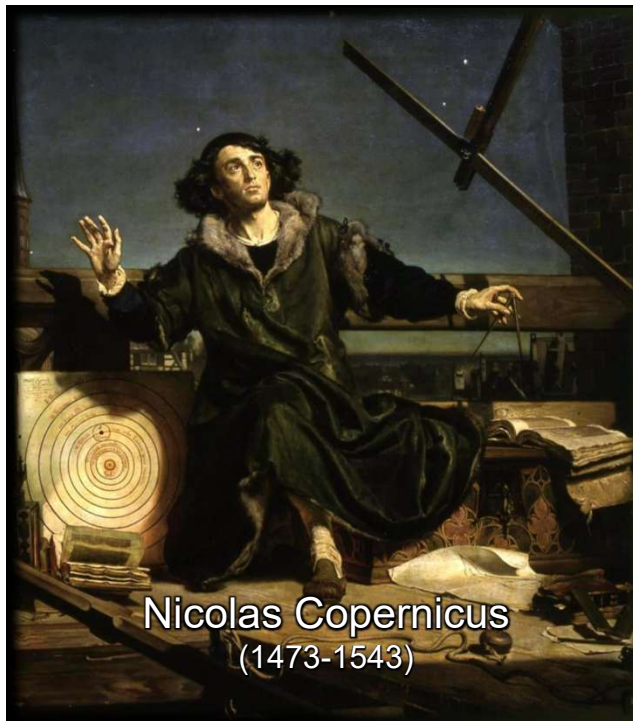
Christine Garwood

"The physicist proves the earth to be round by one means, the astronomer by another: for the latter proves this by means of mathematics, e.g., by the shapes of eclipses, or something of the sort; while the former proves it by means of physics, e.g., by the movement of heavy bodies towards the center, and so forth."

[*Summa Theologiae*, Ia IIae, 54, art. 2, ad. 2, transl. Fathers of the English Dominican Province (Westminster: Christian Classics, 1948)]



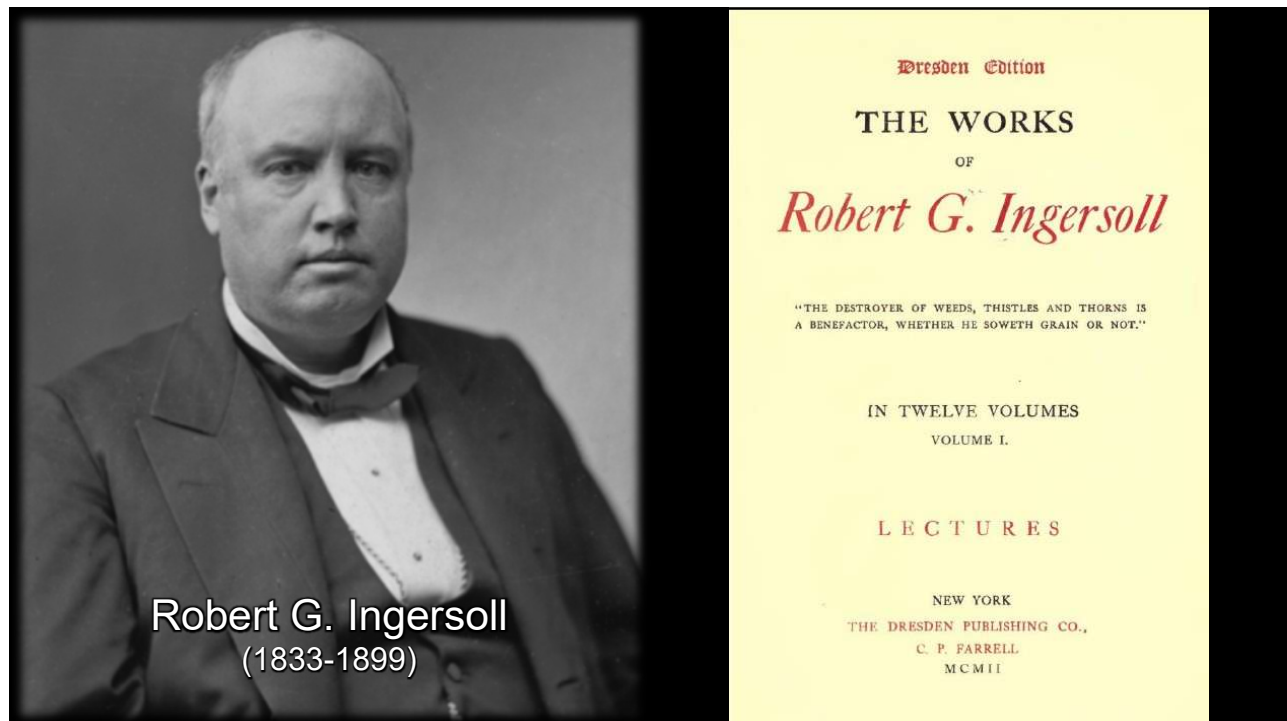
Thomas Aquinas
(1225-1274)

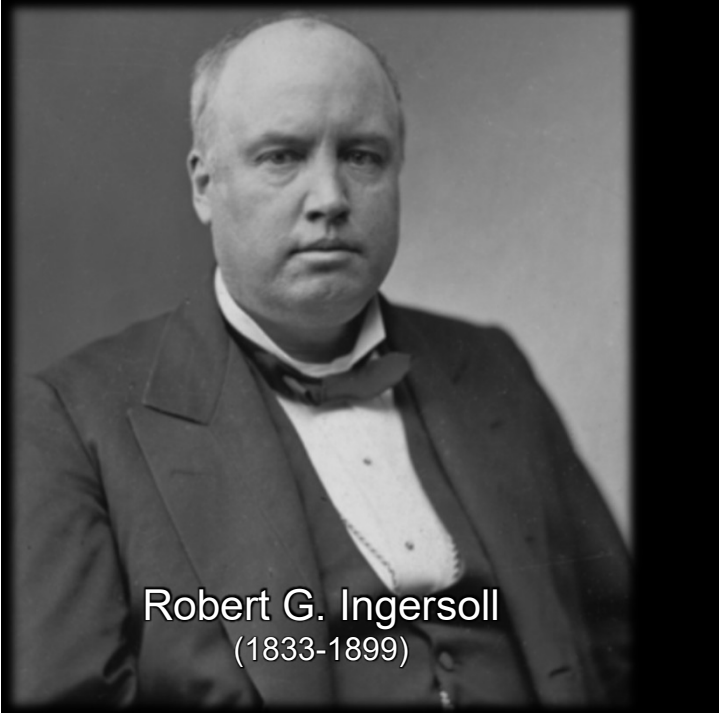


Nicolas Copernicus
(1473-1543)

"The Earth is globe-shaped too, since on every side it rests upon its center."

[*On the Revolutions of the Heavenly Spheres*, I, transl. Charles Glenn Wallis in *Great Books of the Western World*, ed. in chief Robert Maynard Hutchins (Chicago: Encyclopedia Britannica, 1952), vol. 16, p. 505]






Robert G. Ingersoll
(1833-1899)

"It is a blessed thing that in every age some one has had individuality enough and courage enough to stand by his own convictions, — some one who had the grandeur to say his say. I believe it was Magellan who said, 'The church says the earth is flat; but I have seen its shadow on the moon, and I have more confidence even in a shadow than in the church.' On the prow of his ship were disobedience, defiance, scorn, and success."

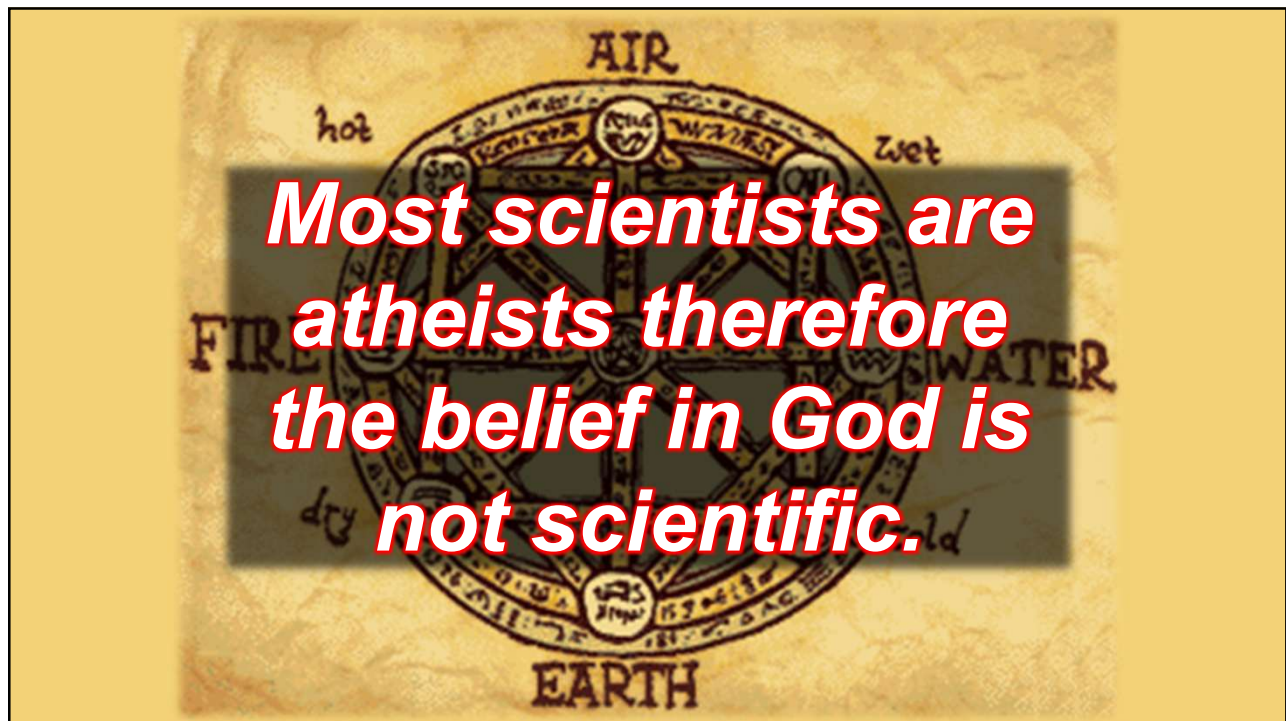
[Robert G. Ingersoll, "Individuality," <https://infidels.org/library/historical/robert-ingersoll-individuality/>, accessed 06/22/22]

*"Here's the sad thing. Lately we've heard a lot of professional politicians . . . talking down new sources of energy. . . . We've heard this kind of thinking before. Some of these folks were around when **Columbus** set sail—they must have been founding members of the **Flat-Earth Society**. They would not have believed that the world was round."*

[<http://www.whitehouse.gov/the-press-office/2012/03/15/remarks-president-energy>, accessed 06/22/22]



Barack Obama



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POLLING AND ANALYSIS

NOVEMBER 5, 2009

RELIGION AND SCIENCE IN THE UNITED STATES

Scientists and Belief

When President Barack Obama announced on July 8, 2009, that he would nominate renowned geneticist Francis Collins to be the new director of the National Institutes of Health, a number of scientists and pundits publicly questioned whether the nominee's devout religious faith should disqualify him from the position. In particular, some worried that an outspoken evangelical Christian who believes in miracles might not be the right person to fill what many consider to be the nation's most visible job in science. Collins was unanimously confirmed by the U.S. Senate on Aug. 7, 2009, but the controversy over his nomination reflects a broader debate within the scientific community between those who believe religion and science each examine legitimate but different realms of knowledge and those who see science as the only true way of understanding the universe.

<http://www.pewforum.org/2009/11/05/scientists-and-belief/>, accessed 11/06/19

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- Religion and Science in the United States
- Public Opinion on Religion and Science in the United States
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Public Praises Science;

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Pew Research Center *Religion & Public Life* SEARCH

Religious Belief Among the General Public and Scientists

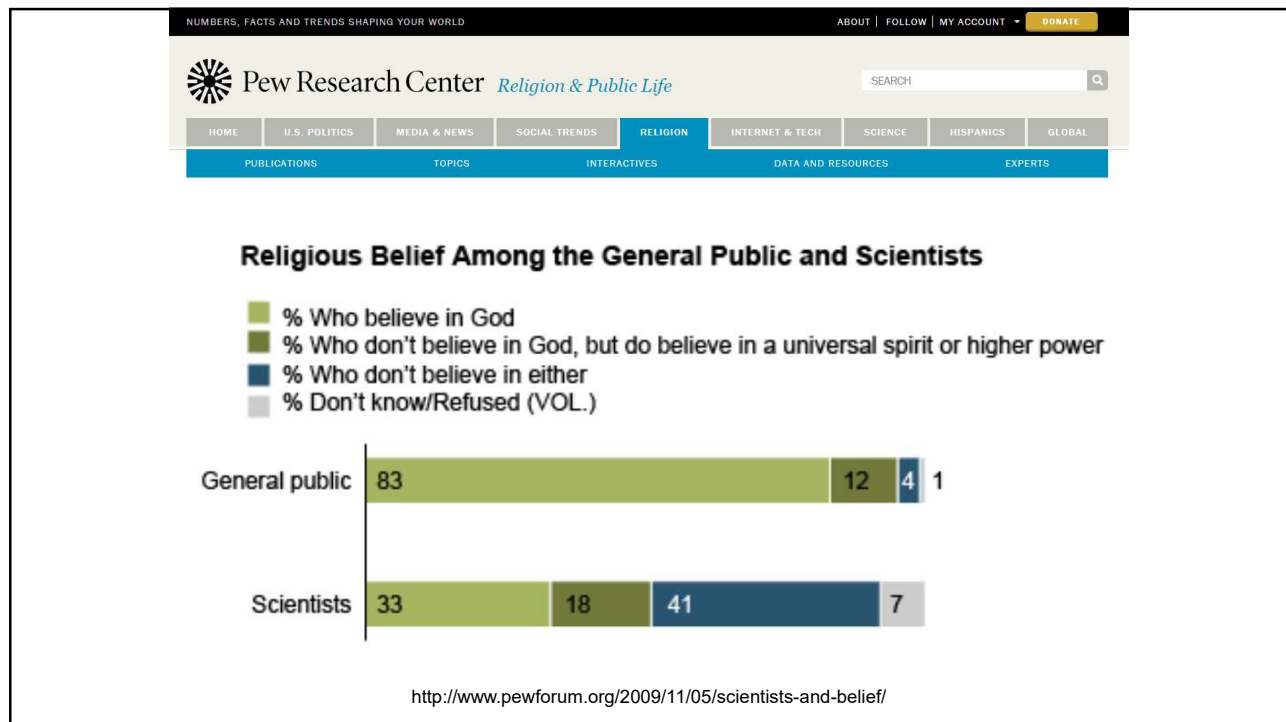
- % Who believe in God
- % Who don't believe in God, but do believe in a universal spirit or higher power
- % Who don't believe in either
- % Don't know/Refused (VOL.)

Group	% Who believe in God	% Who don't believe in God, but do believe in a universal spirit or higher power	% Who don't believe in either	% Don't know/Refused (VOL.)
General public	83	12	4	1
Scientists	33	18	41	7

believe religion and science each examine legitimate but different realms of knowledge and those who see science as the only true way of understanding the universe.

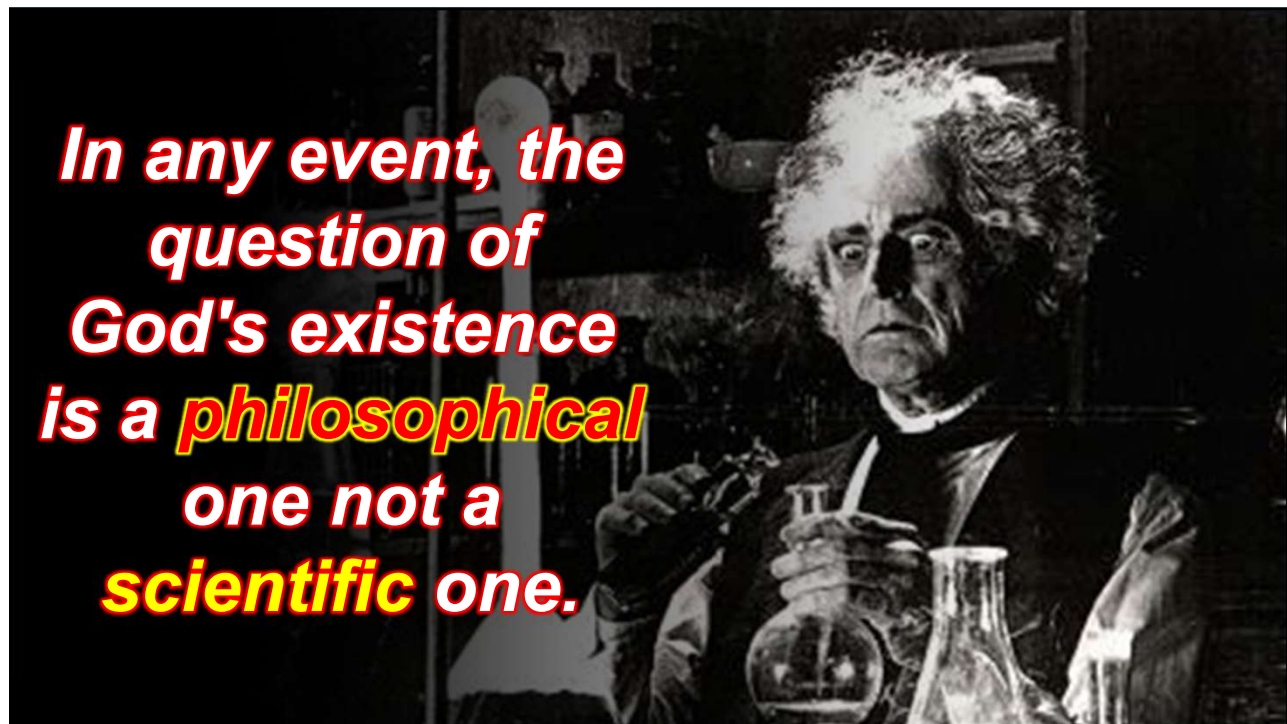
Public Praises Science;

<http://www.pewforum.org/2009/11/05/scientists-and-belief/>, accessed 11/06/19



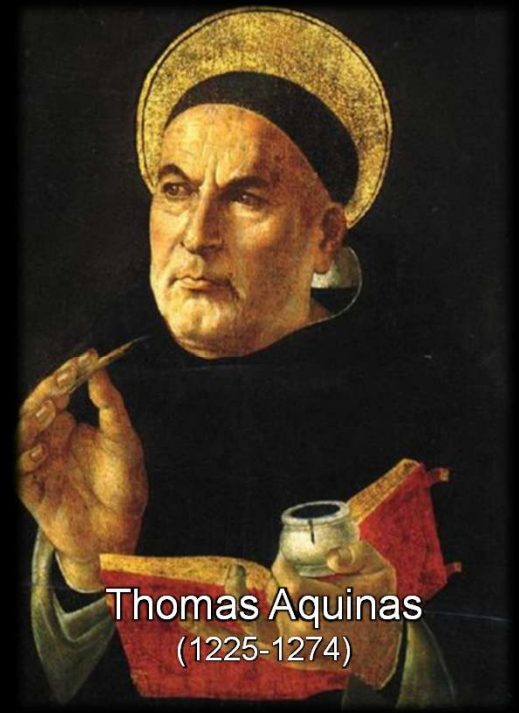
***In the past, most
scientists
believed in the
existence of God.***

***What might
scientists believe
in the future?***



"Sensible things [are that] from which human reason takes the origin of its knowledge."

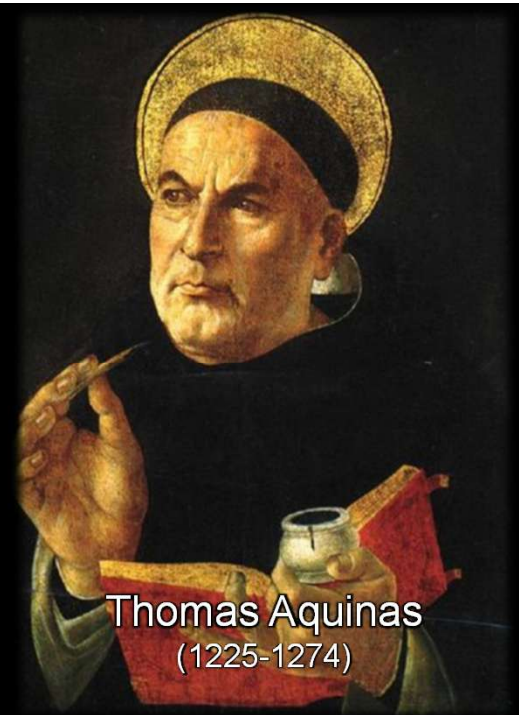
[Thomas Aquinas, *Summa Contra Gentiles*, I, 9, §2. Trans. Anton C. Pegis. (Notre Dame: University of Notre Dame Press, 1975): I, 77]



Thomas Aquinas
(1225-1274)

"Our knowledge, taking its start from things, proceeds in this order. First, it begins in sense; second, it is completed in the intellect."

[Thomas Aquinas, *Truth*, I, 11, trans. Mulligan, 48, in *Truth* (3 vols), vol. 1 trans. Robert W. Mulligan (Chicago: Henry Regnery, 1952); vol. 2 trans. James V. McGlynn (Chicago: Henry Regnery, 1953); vol. 3. trans. Robert W. Schmidt (Chicago: Henry Regnery, 1954). The three volumes were reprinted as *Truth* (Indianapolis: Hackett, 1994)]

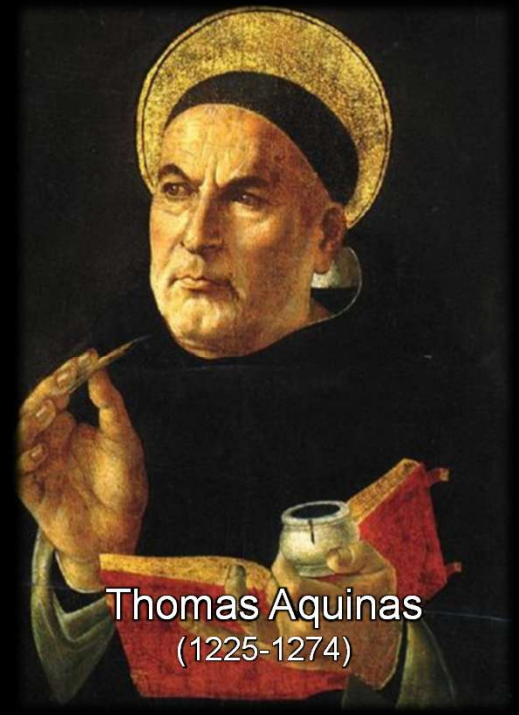


Thomas Aquinas
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"Our knowledge, taking its start from things, proceeds in this order.

First, it **begins in sense**; second, it is completed in the intellect."

[Thomas Aquinas, *Truth*, I, 11, trans. Mulligan, 48, in *Truth* (3 vols), vol. 1 trans. Robert W. Mulligan (Chicago: Henry Regnery, 1952); vol. 2 trans. James V. McGlynn (Chicago: Henry Regnery, 1953); vol. 3, trans. Robert W. Schmidt (Chicago: Henry Regnery, 1954). The three volumes were reprinted as *Truth* (Indianapolis: Hackett, 1994)]

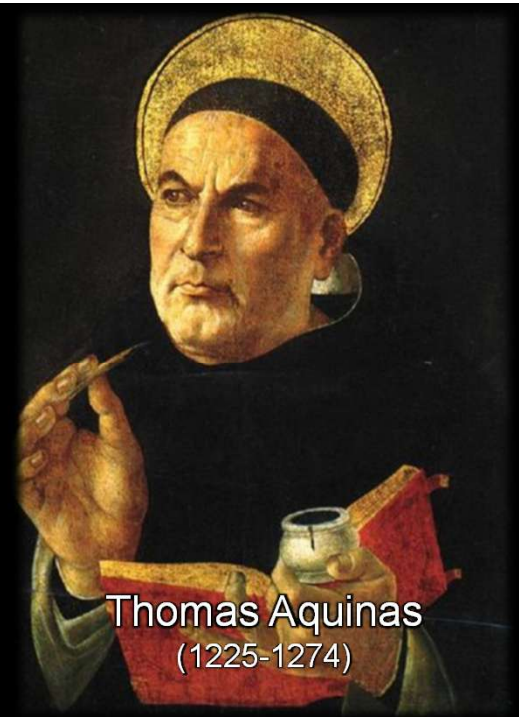


Thomas Aquinas
(1225-1274)

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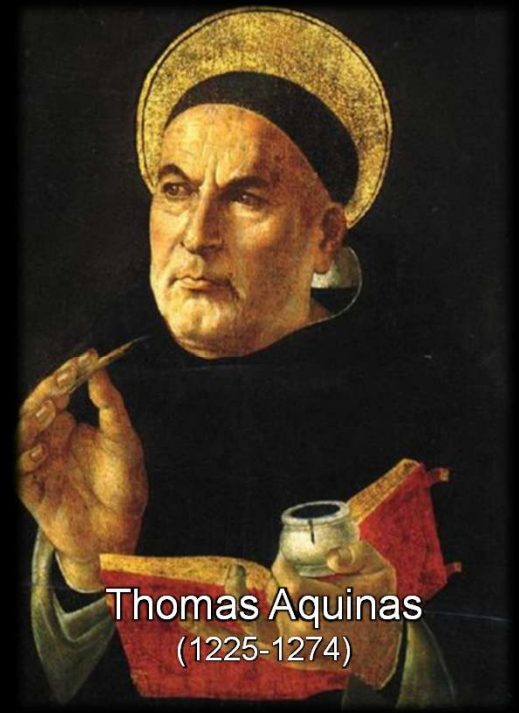
[Thomas Aquinas, *Truth*, I, 11, trans. Mulligan, 48, in *Truth* (3 vols), vol. 1 trans. Robert W. Mulligan (Chicago: Henry Regnery, 1952); vol. 2 trans. James V. McGlynn (Chicago: Henry Regnery, 1953); vol. 3, trans. Robert W. Schmidt (Chicago: Henry Regnery, 1954). The three volumes were reprinted as *Truth* (Indianapolis: Hackett, 1994)]



Thomas Aquinas
(1225-1274)

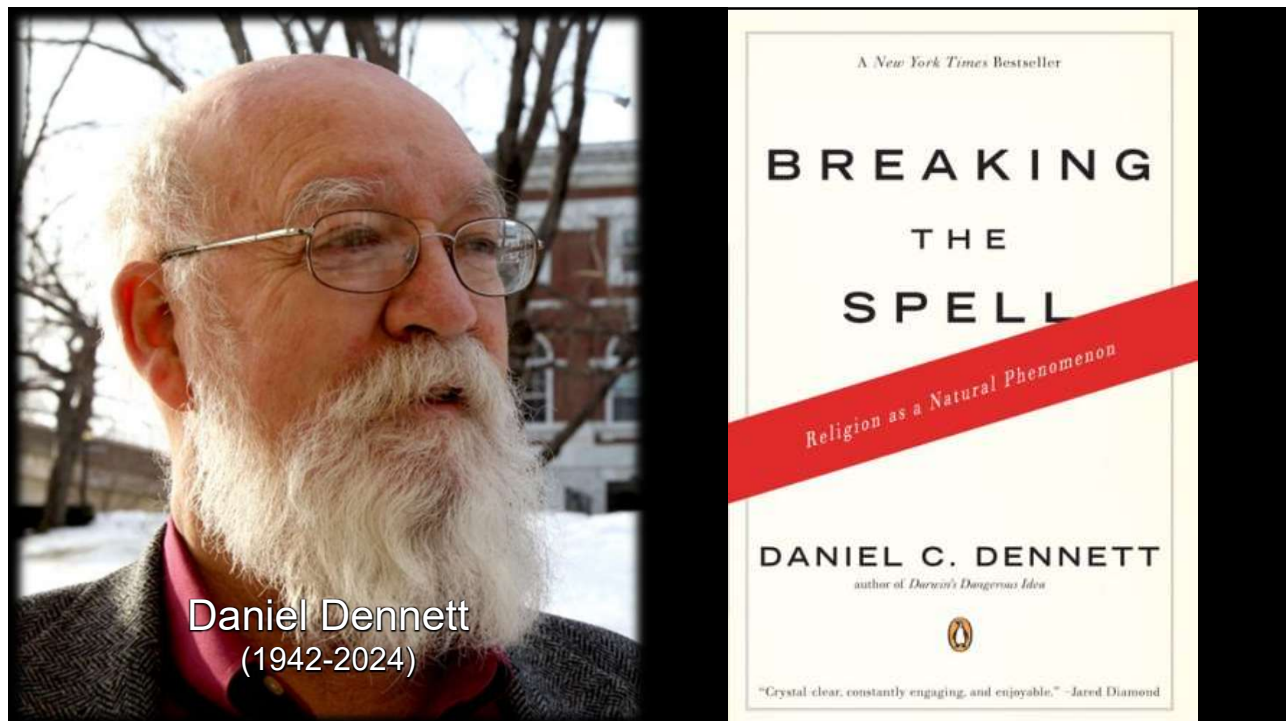
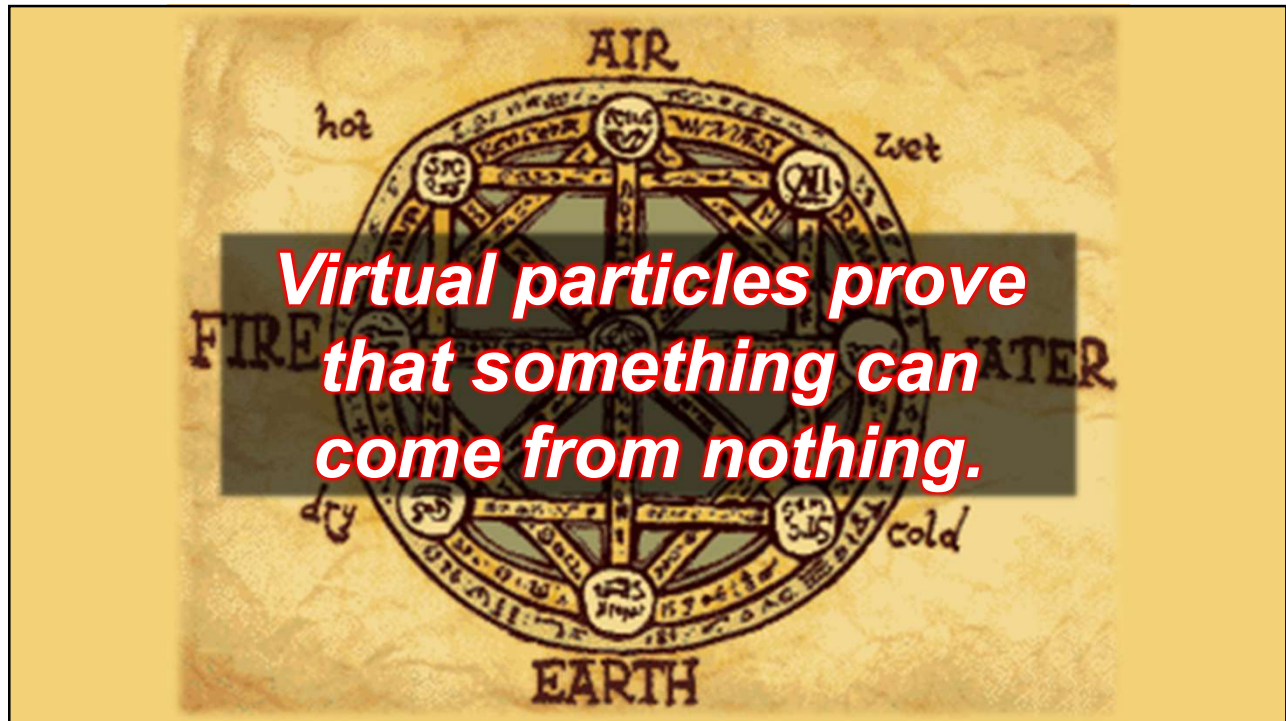
"Our knowledge of principles themselves is derived from sensible things."

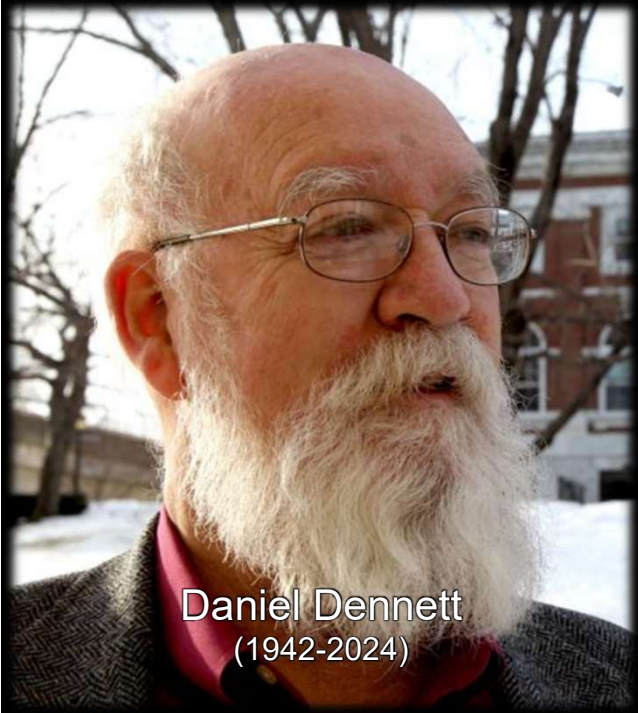
[Thomas Aquinas, *Summa Contra Gentiles*, II, 83, §32. Trans. James F. Anderson (Notre Dame: University of Notre Dame Press, 1975): II, 282]



Thomas Aquinas
(1225-1274)







Daniel Dennett
(1942-2024)

"Some deny the premise [that everything must have a cause] since quantum physics teaches us (doesn't it?) that not everything that happens needs to have a cause."

[Daniel C. Dennett, *Breaking the Spell* (New York: Penguin Group, 2006), 242]

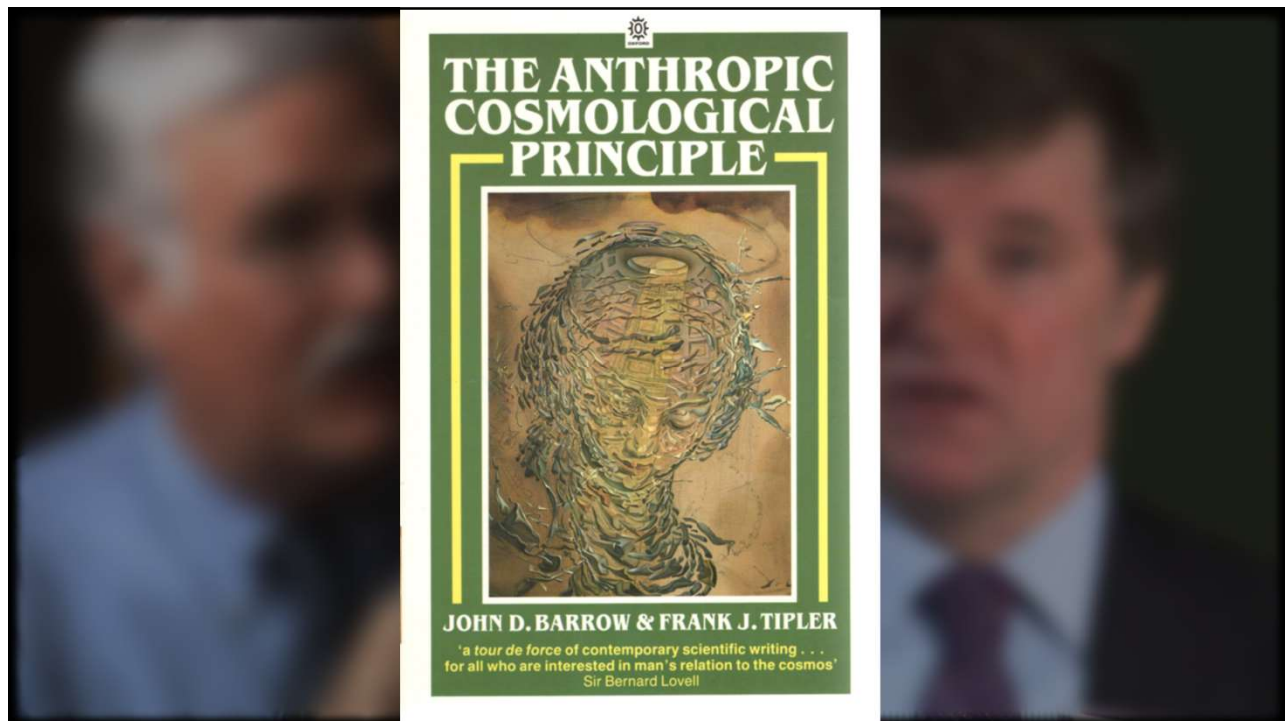




The claim is that physicists have observed that certain particles arise out of a quantum vacuum and thus come out of nothing without a cause.



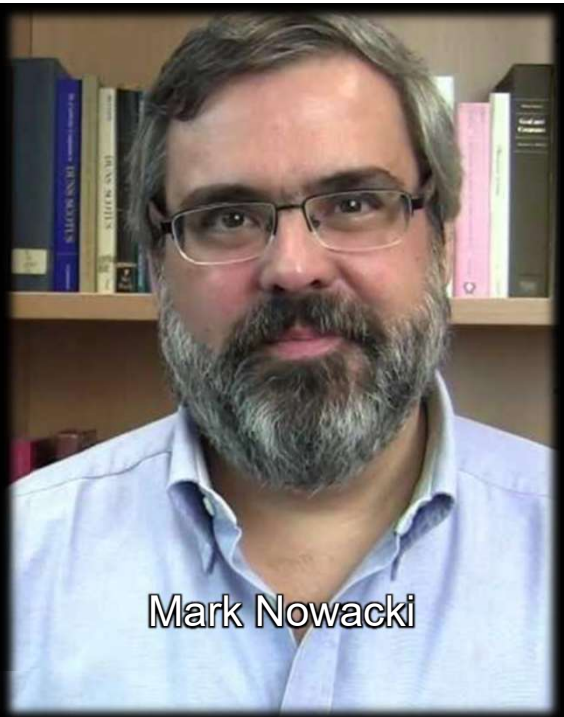
But this is not what is going on with virtual particles. They are not counter-examples to the notion of causality.



"The modern picture of the quantum vacuum differs radically from the classical and everyday meaning of a vacuum—nothing. ... The quantum vacuum ... states ... are defined simply as local, or global, energy minima. ... The quantum mechanical vacuum is not truly 'nothing'; rather, the vacuum state has a rich structure which resides in a previously existing substratum."

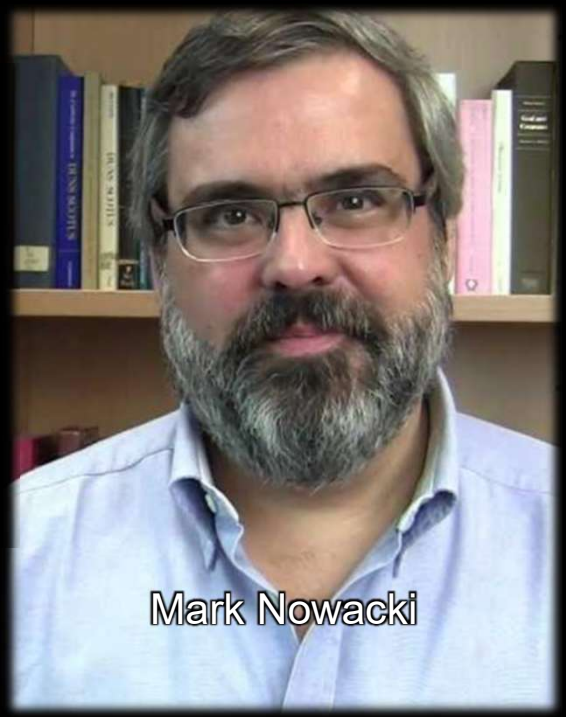
[John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle* (Oxford: Oxford University Press, 1986), 440, 441]

"... the quantum vacuum is very different from the void of Newton: the quantum vacuum is a soupy morass of energy and particles in constant flux; and virtual particles derive their existence from the surrounding quantum gumbo."



"So, whatever the full causal account of virtual particles might be, it is clear that their arising is not a case of something coming to be out of nothing."

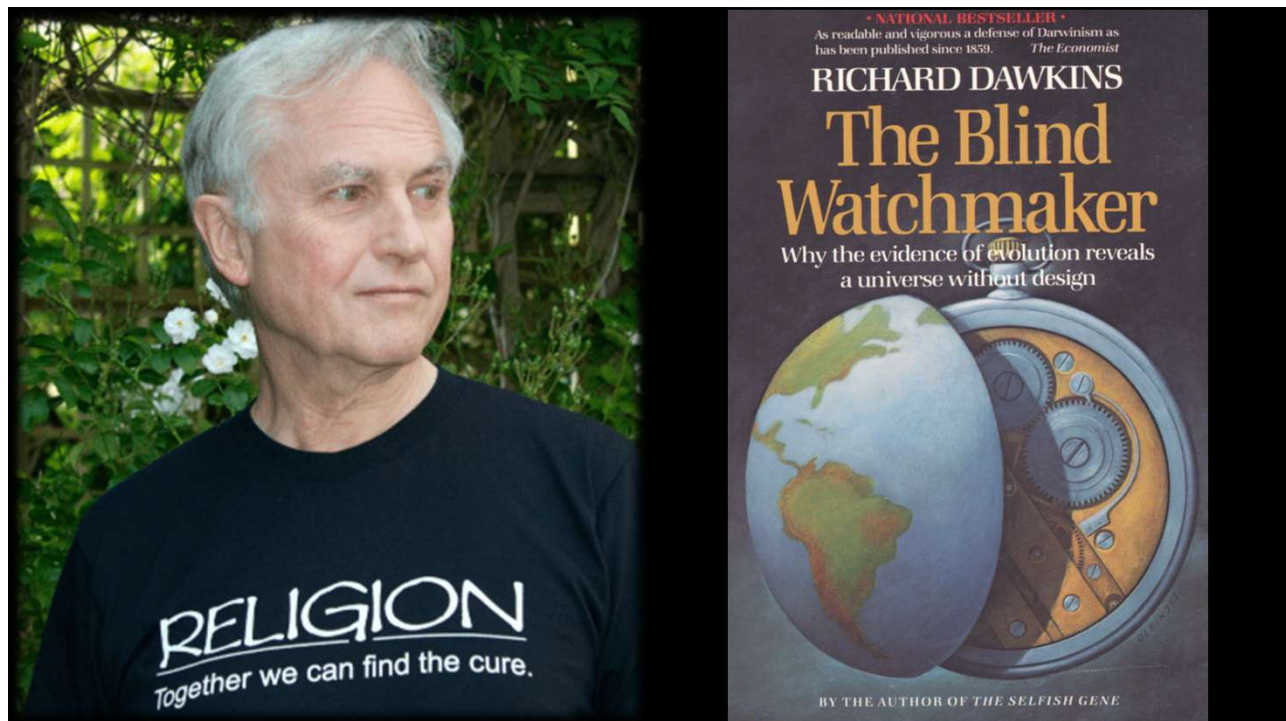
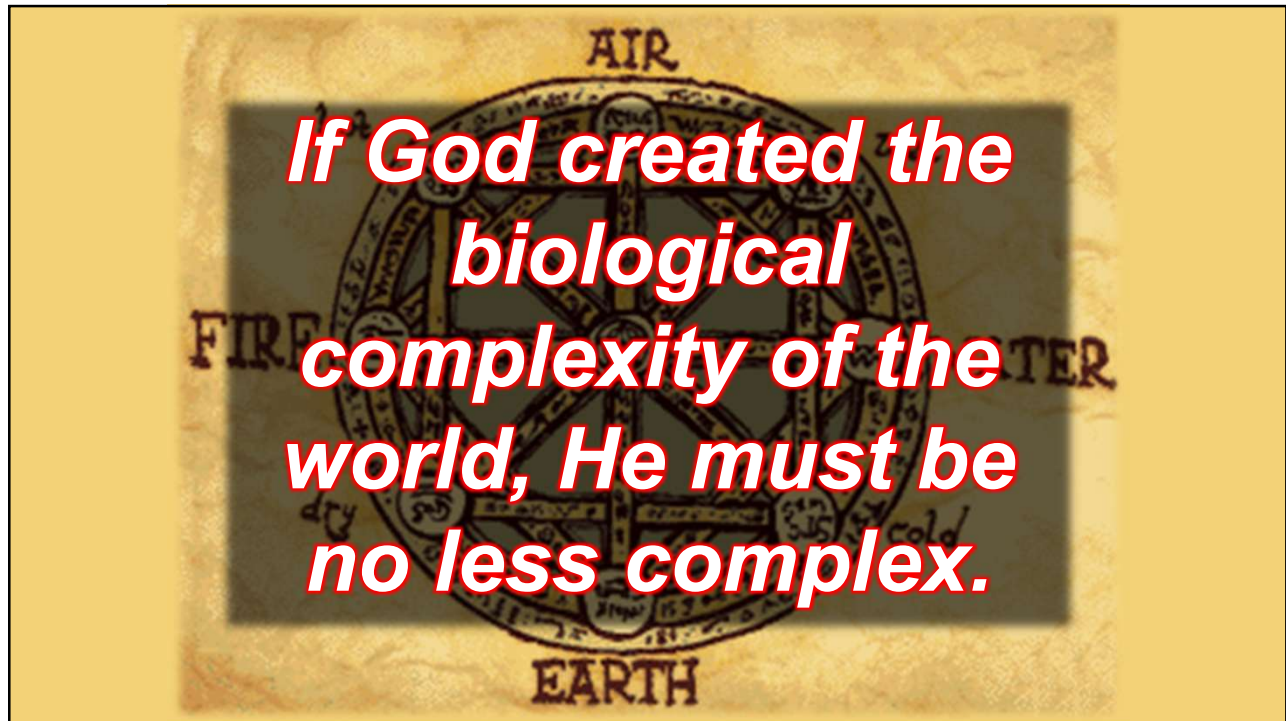
[Mark R. Nowacki, "Whatever Comes to Be Has a Cause of Its Coming to Be: A Thomistic Defense of the Principle of Sufficient Reason" *The Thomist* 62 (1998): 291-302]

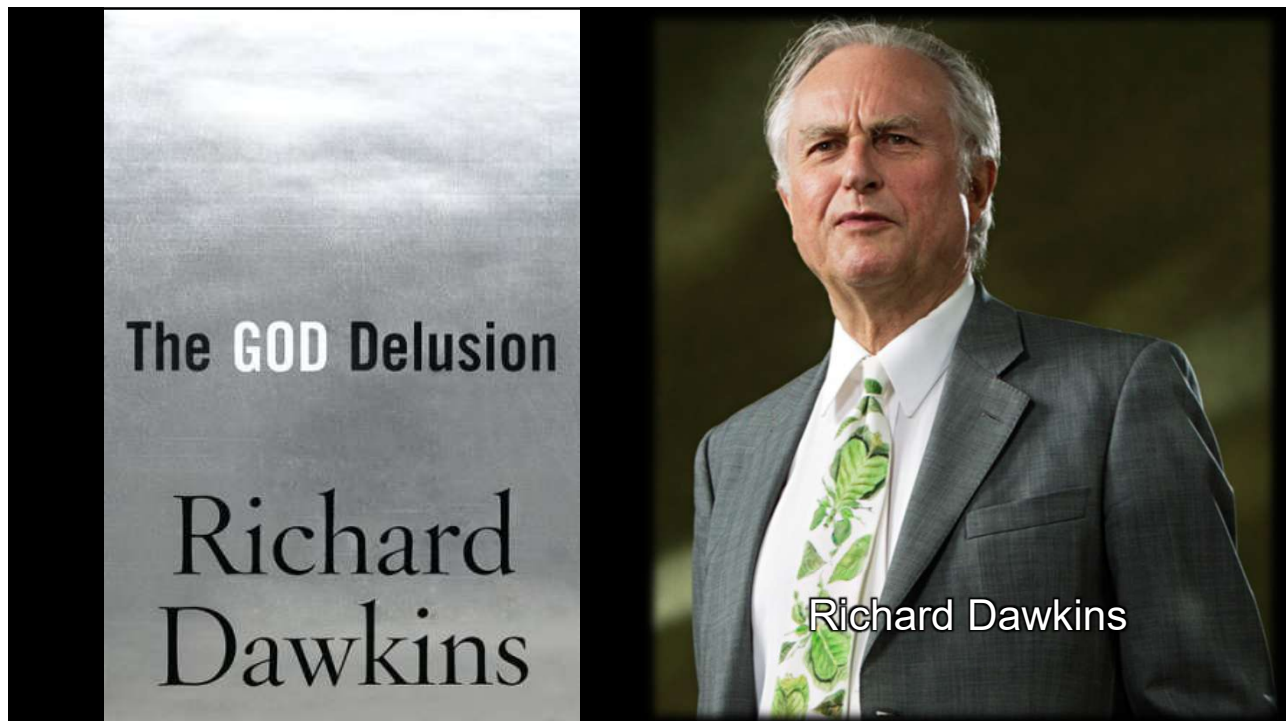
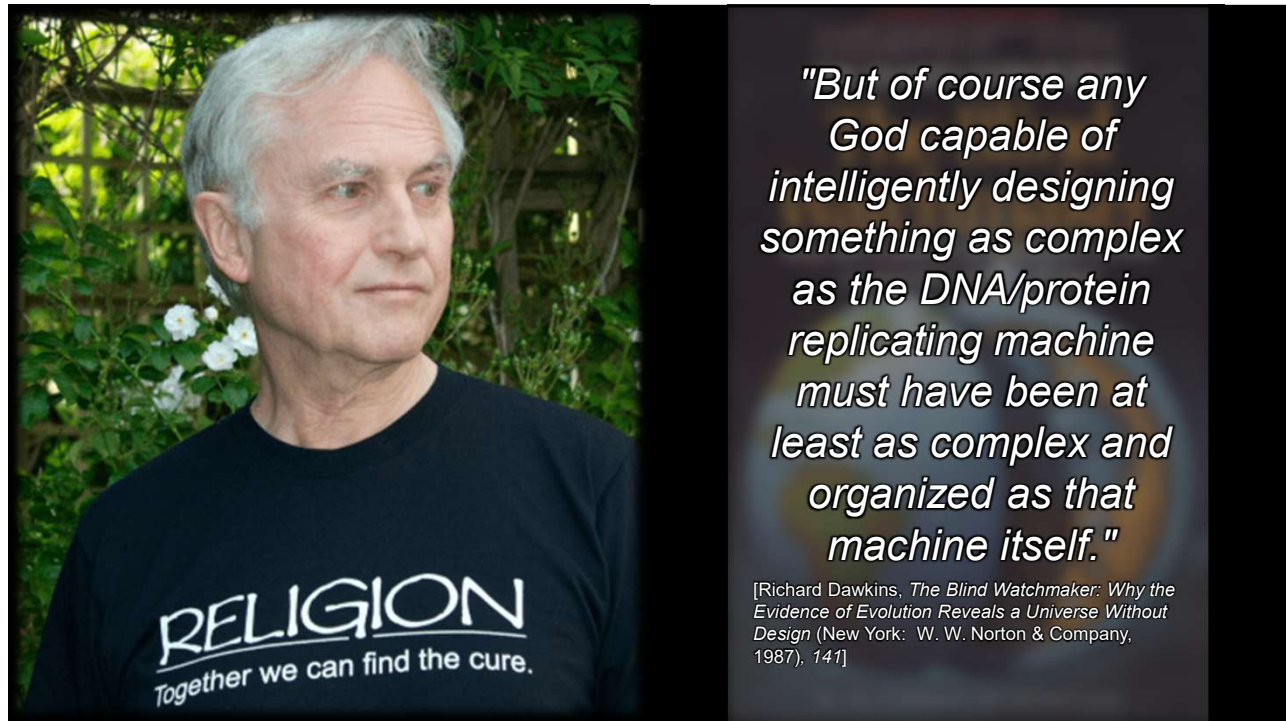


Mark Nowacki



Argument





"However statistically improbable the entity you seek to explain by invoking a designer, the designer himself has got to be at least as improbable."

[Richard Dawkins, *The God Delusion* (Boston: Houghton Mifflin, 2006), 114]

Richard Dawkins

Letter
to a
Christian
Nation

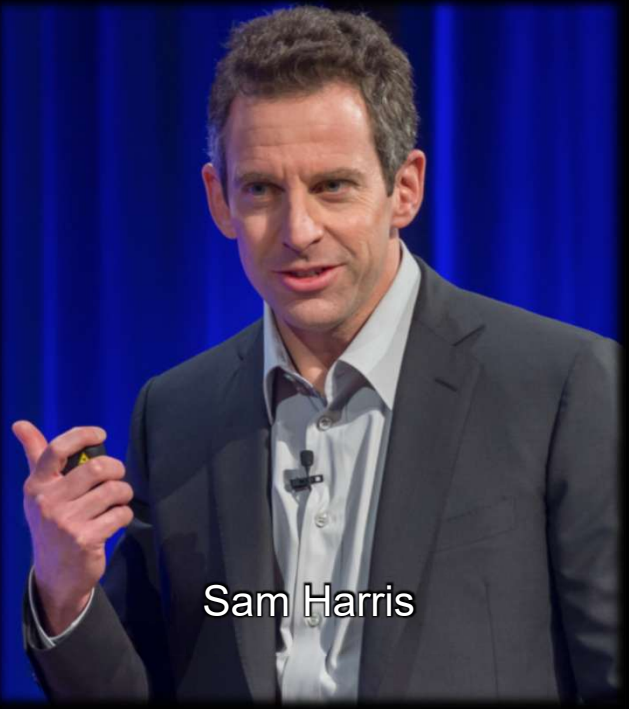
SAM HARRIS

AUTHOR OF THE NATIONAL BEST SELLER
THE END OF FAITH

Sam Harris

"Any being capable of creating a complex world promises to be very complex himself. As biologist Richard Dawkins has observed repeatedly, the only natural process we know of that could produce a being capable of designing things is evolution."

[Sam Harris, *Letter to a Christian Nation* (New York: Vintage Books, 2008), 73]



Sam Harris

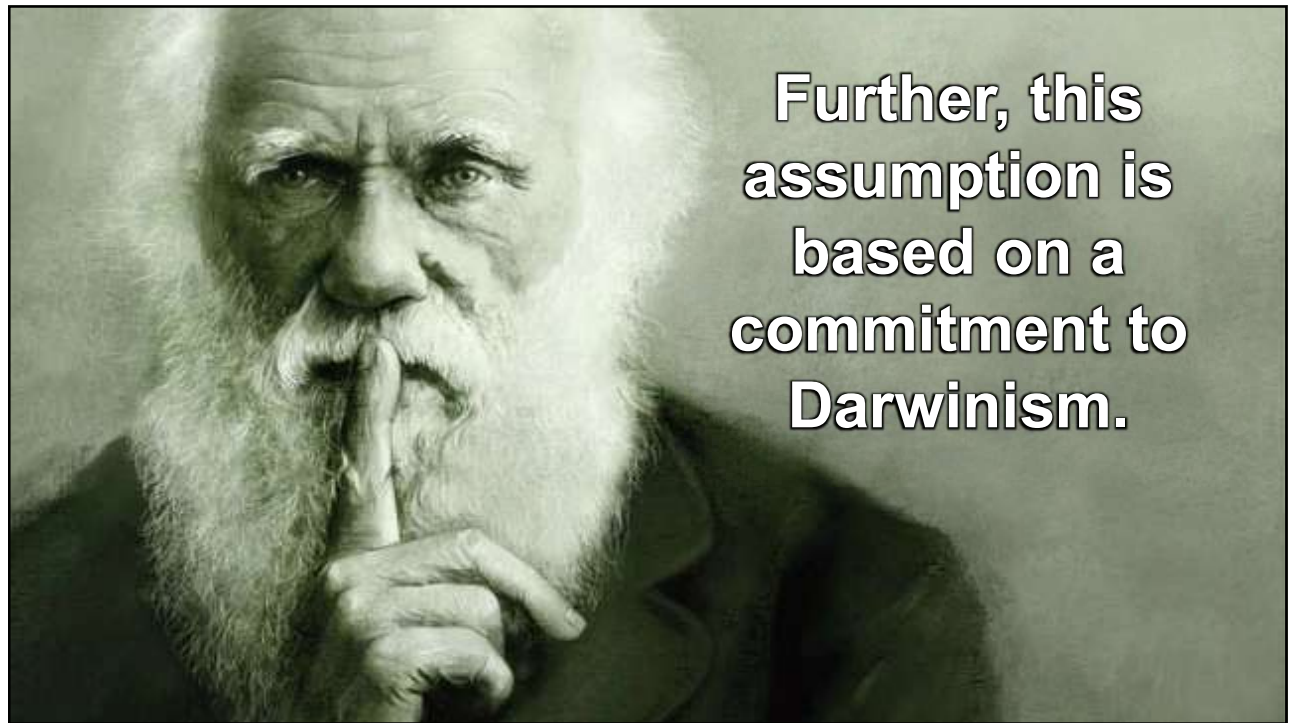
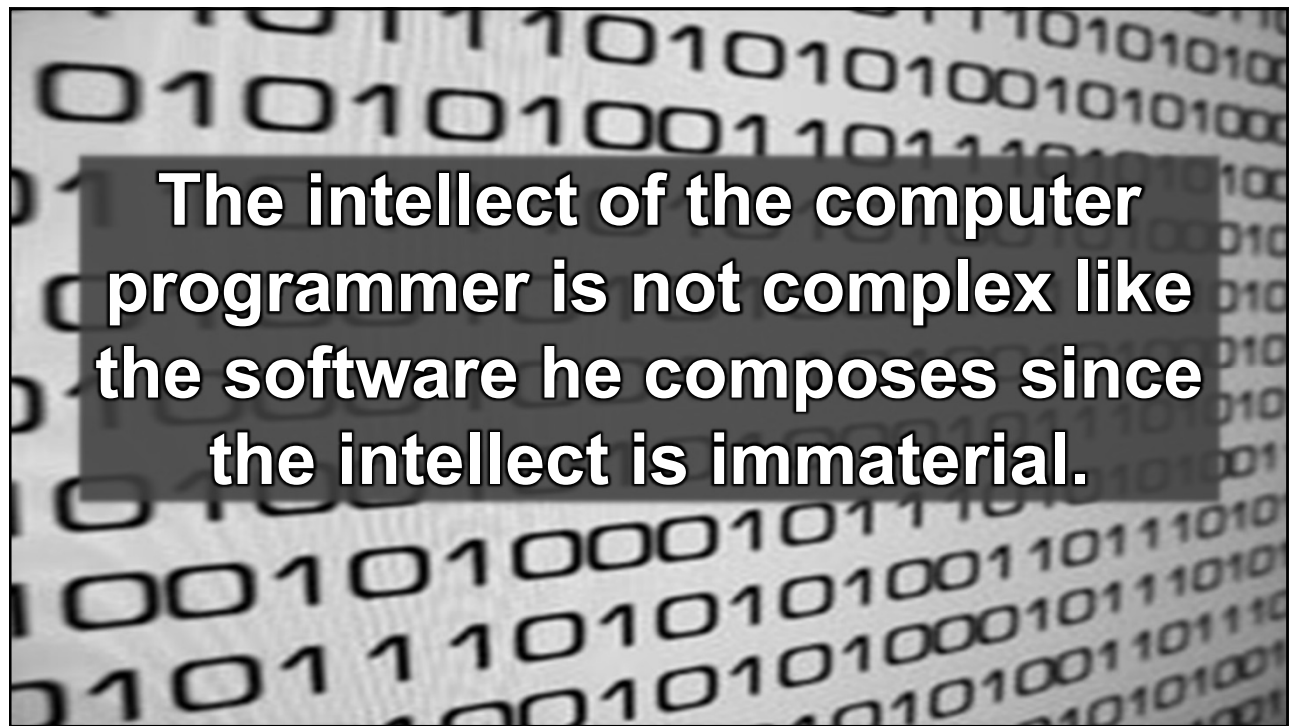


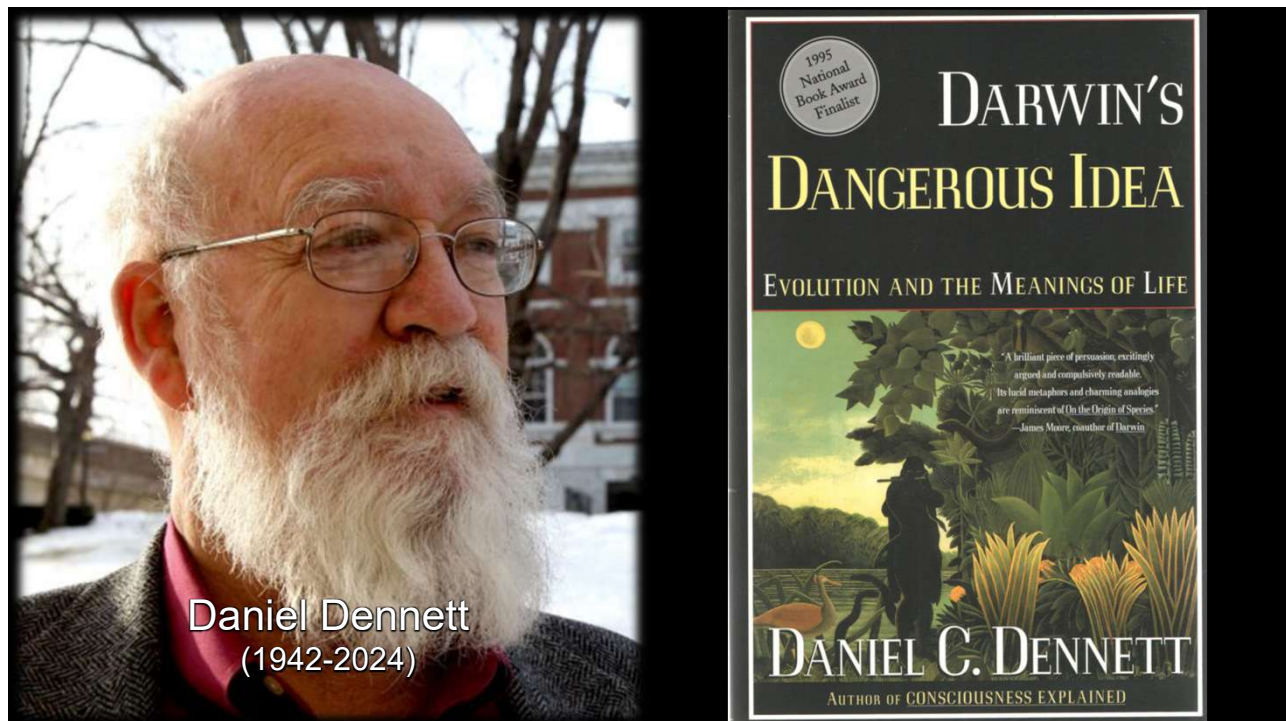
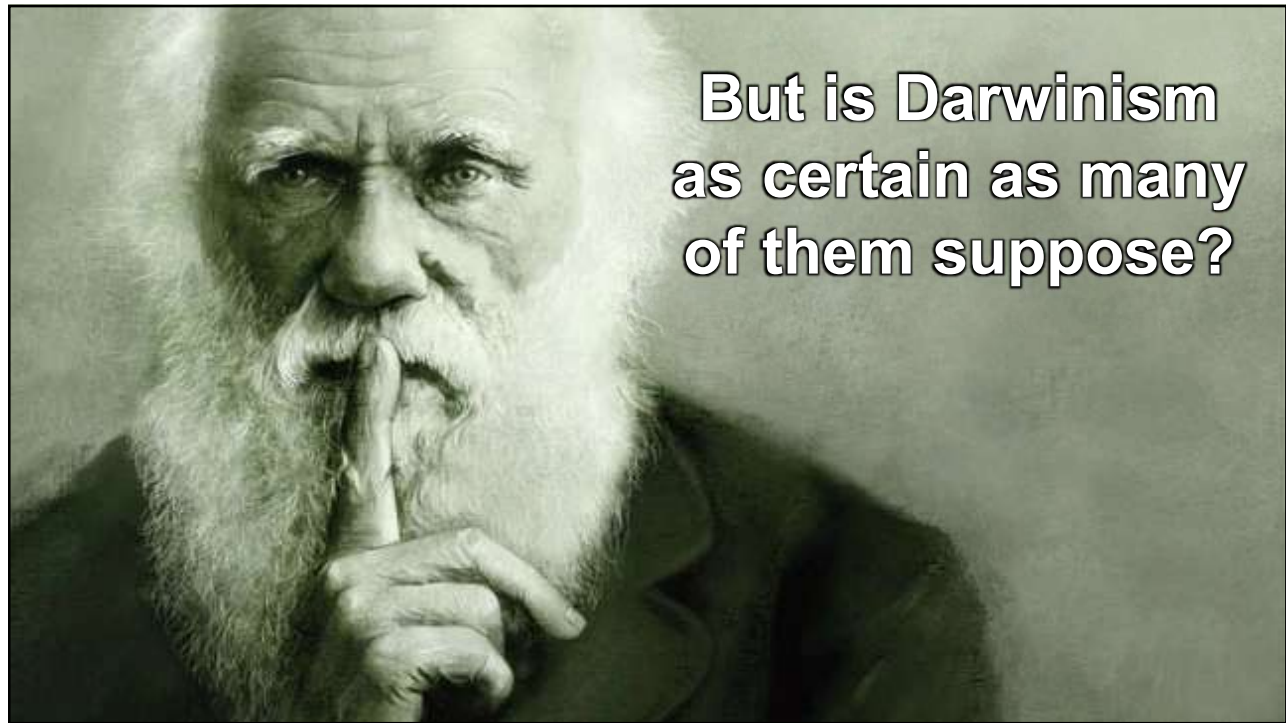
This reasoning is based on an assumption of physicalism (the view that maintains that everything that is real is physical).

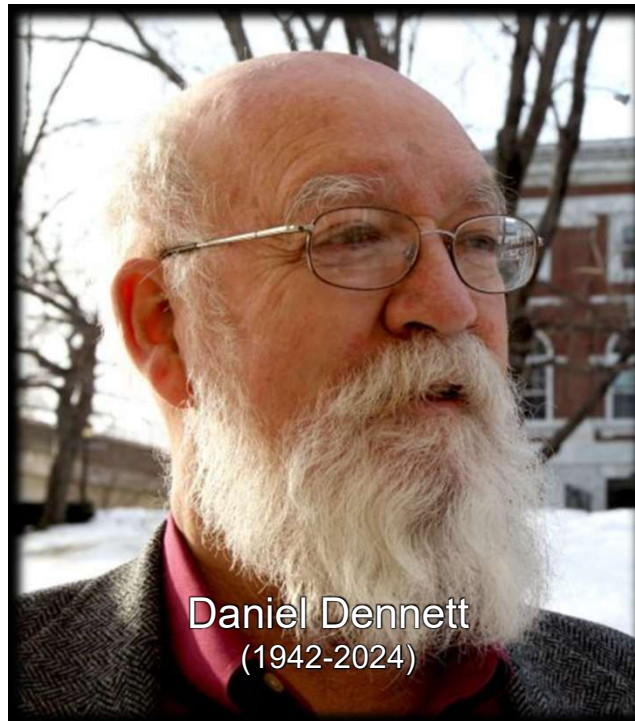


But there is no reason to think that intellects which are capable of creating complex objects and processes must themselves be complex (i.e., composed of parts).





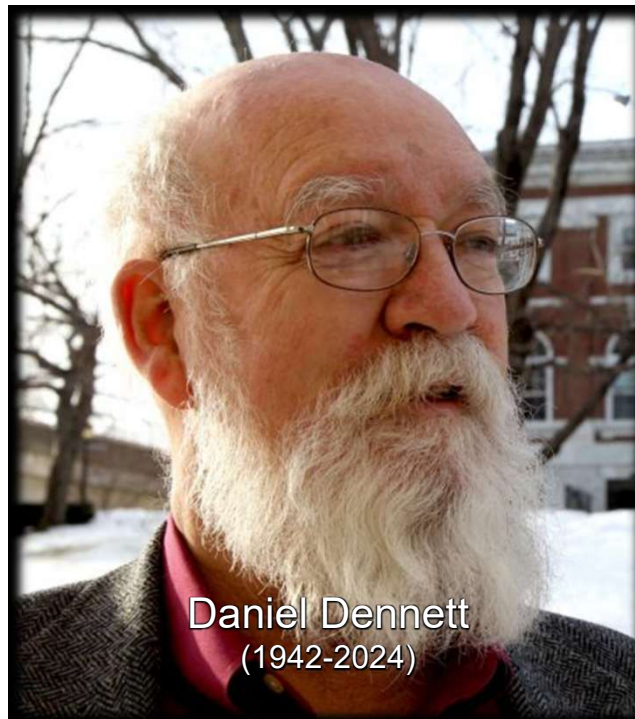




Daniel Dennett
(1942-2024)

"There are vigorous controversies swirling around in evolutionary theory, but those who feel threatened by Darwinism should not take heart from this fact. ... **The basic Darwinian idea ... is about as secure as any in science ...**"

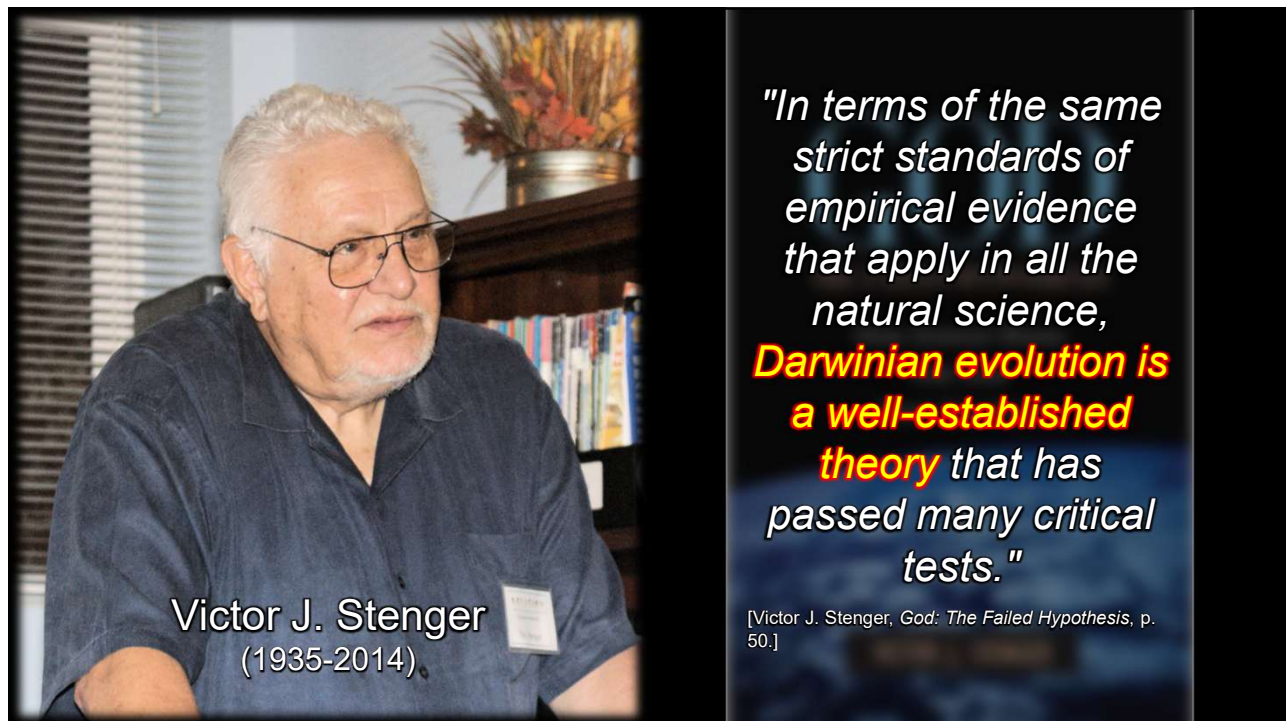
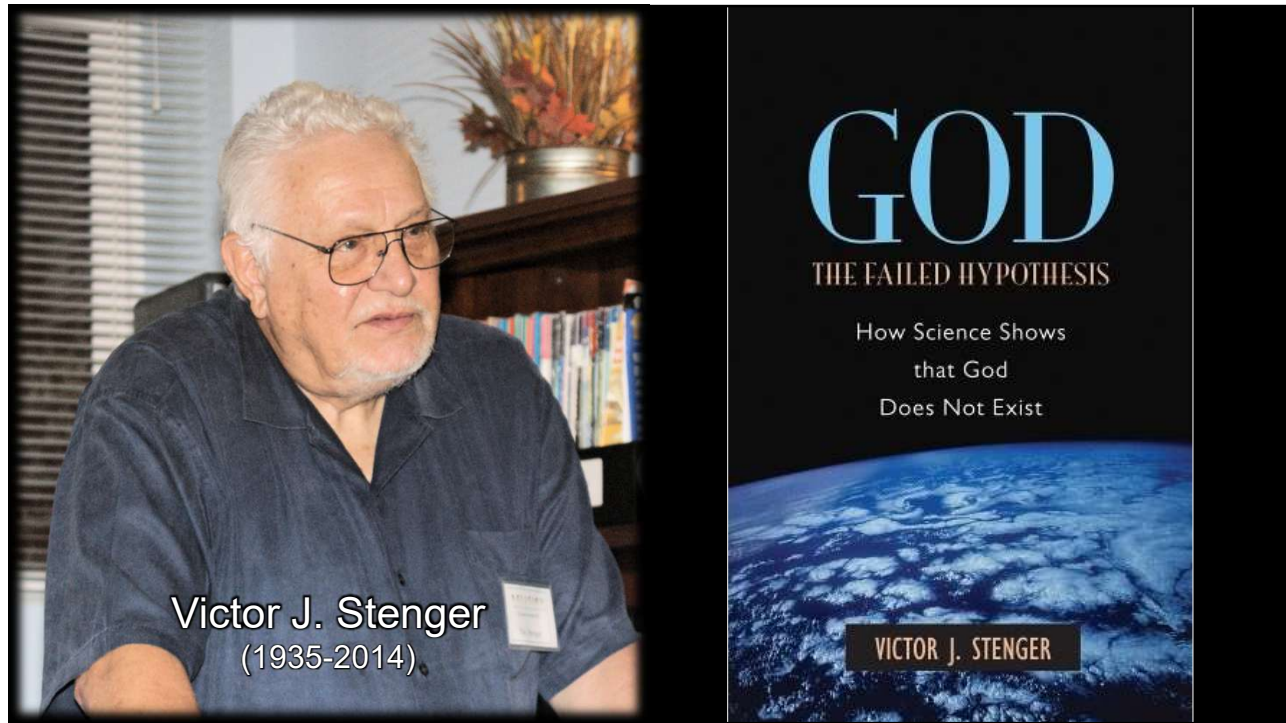
[Daniel C. Dennett, *Darwin's Dangerous Idea*, p. 19]

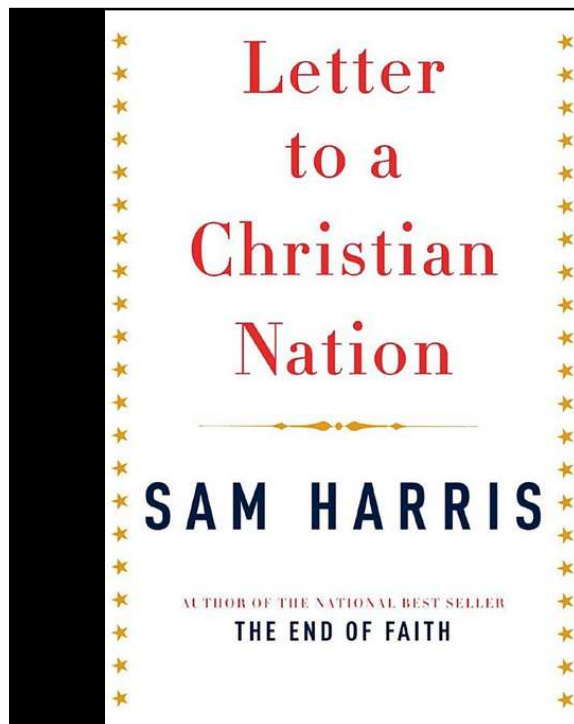


Daniel Dennett
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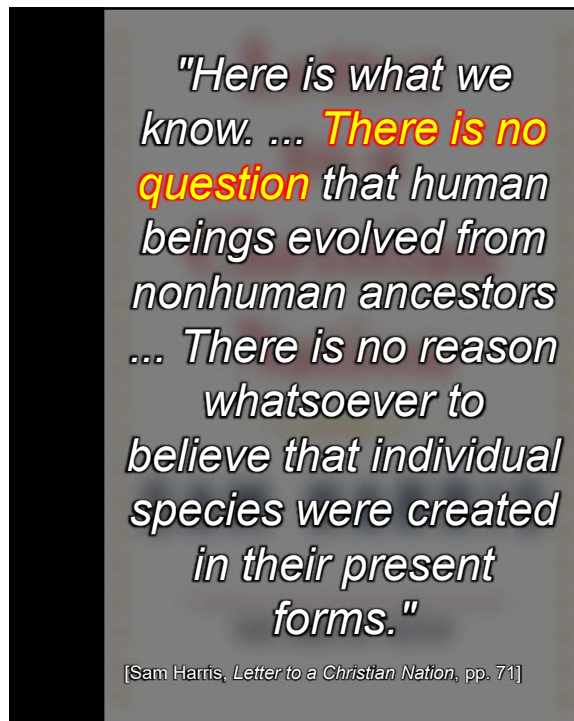
"If you insist on teaching your children falsehoods—that the **Earth is flat**, that '**Man**' is **not a product of evolution** by natural selection—then ... we will ... describe your teachings as the spreading of falsehoods, and will attempt to demonstrate this to your children at our earliest opportunity."

[Daniel Dennett, *Darwin's Dangerous Idea: Evolution and the Meaning of Life* (New York: Simon & Schuster, 1995), 519]





Sam Harris



Sam Harris



"The basic Darwinian idea . . . is about as secure as any in science ..."

Challenging evolution is on par with believing in a flat Earth.

"Darwinian evolution is a well-established theory. "

"There is no question . . ."

Challenging evolution is on par with challenging the Moon landing.

Is this so?

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**A SCIENTIFIC DISSENT
FROM DARWINISM**

"We are skeptical of claims for the ability of random mutation and natural selection to account for the complexity of life. Careful examination of the evidence for Darwinian theory should be encouraged."

Did you know that a growing number of scientists doubt the Darwinian Theory?



Growing Number of Scientists are Skeptical of Darwinian Theory

Sign the List
 Download the List


There Is Scientific Dissent From Darwinism.
It deserves to be heard.

"Scientific journals now document many scientific problems and criticisms of evolutionary theory and students need to know about these as well.... Many of the scientific criticisms of which I speak are well known by scientists in various disciplines, including the disciplines of chemistry and biochemistry, in which I have done my work."

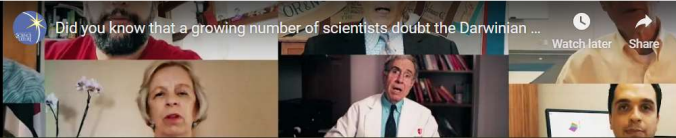
Philip K. Ball, Member National Academy of Sciences, Emeritus Dean Pugh Professor at Pennsylvania State University

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This was last publicly updated February 2019. Scientists listed by doctoral degree or current position.

Philip Skell*	Emeritus, Evan Pugh Prof. of Chemistry, Pennsylvania State University	Member of the National Academy of Sciences
Lyle H. Jensen*	Professor Emeritus, Dept. of Biological Structure & Dept. of Biochemistry	University of Washington, Fellow AAAS
Maciej Giertych	Full Professor, Institute of Dendrology	Polish Academy of Sciences
Lev Belousov	Prof. of Embryology, Honorary Prof., Moscow State University	Member, Russian Academy of Natural Sciences
Eugene Buff	Ph.D. Genetics	Institute of Developmental Biology, Russian Academy of Sciences
Emil Palecek	Prof. of Molecular Biology, Masaryk University; Leading Scientist	Inst. of Biophysics, Academy of Sci., Czech Republic
K. Mosto Onuoha	Shell Professor of Geology & Deputy Vice-Chancellor, Univ. of Nigeria	Fellow, Nigerian Academy of Science
Ferenc Jeszenszky	Former Head of the Center of Research Groups	Hungarian Academy of Sciences
M.M. Ninan	Former President	Hindustan Academy of Science, Bangalore University (India)
Denis Fesenko	Junior Research Fellow, Engelhardt Institute of Molecular Biology	Russian Academy of Sciences (Russia)
Sergey I. Vdovenko	Senior Research Assistant, Department of Fine Organic Synthesis	Institute of Bioorganic Chemistry and Petrochemistry Ukrainian National Academy of Sciences (Ukraine)
Henry Schaefer	Director, Center for Computational Quantum Chemistry	University of Georgia
Paul Ashby	Ph.D. Chemistry	Harvard University
Israel Hanukoglu	Professor of Biochemistry and Molecular Biology Chairman	The College of Judea and Samaria (Israel)
Alan Linton	Emeritus Professor of Bacteriology	University of Bristol (UK)
Dean Kenyon	Emeritus Professor of Biology	San Francisco State University
David W. Forslund	Ph.D. Astrophysics, Princeton University	Fellow of American Physical Society
Robert W. Bass	Ph.D. Mathematics (also: Rhodes Scholar; Post-Doc at Princeton)	Johns Hopkins University
John Hey	Associate Clinical Prof. (also: Fellow, American Geriatrics Society)	Dept. of Family Medicine, Univ. of Mississippi
Daniel W. Heinze	Ph.D. Geophysics (also: Post-Doc Fellow, Carnegie Inst. of Washington)	Texas A&M University
Donald Ewert	Ph.D. Microbiology	University of Georgia
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Stanley Salthe	Emeritus Professor Biological Sciences	Brooklyn College of the City University of New York
Marcelo H. Ebedin	Professor, The State University of Campinas (Brazil)	Member, Brazilian Academy of Science

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Eugene Buff	Ph.D. Genetics	Institute of Developmental Biology, Russian Academy of Sciences
Emil Palecek	Prof. of Molecular Biology, Masaryk University; Leading Scientist	Inst. of Biophysics, Academy of Sci., Czech Republic
K. Mosto Onuoha	Shell Professor of Geology & Deputy Vice-Chancellor, Univ. of Nigeria	Fellow, Nigerian Academy of Science
Ferenc Jeszenszky	Former Head of the Center of Research Groups	Hungarian Academy of Sciences
M.M. Ninan	Former President	Hindustan Academy of Science, Bangalore University (India)
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Sergey I. Vdovenko	Senior Research Assistant, Department of Fine Organic Synthesis	Institute of Bioorganic Chemistry and Petrochemistry Ukrainian National Academy of Sciences (Ukraine)
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	Fellow	Royal Society of Edinburgh
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Todd A. Anderson	Ph.D. Computer Science	University of Kentucky
John Cimballa	Professor of Mechanical Engineering	Pennsylvania State University
Chris Swanson	Tutor (Ph.D. Physics, University of Oregon)	Gutenberg College
Kieran Clements	Assistant Professor, Natural Sciences	Tocoo Falls College
John K. Herdlotz	Ph.D. Physical Chemistry	Rice University
Jan Chatham	Ph.D. Neurophysiology	University of North Texas
George A. Gates	Emeritus Professor of Otolaryngology-Head and Neck Surgery	University of Washington
John Cogdell	Professor of Electrical & Computer Engineering	University of Texas, Austin
David R. Beaucauge	Ph.D. Mathematics	State University of New York at Stony Brook
Leon Combs	Professor & Chair, Chemistry & Biochemistry	Kennesaw State University
Laraba P. Kendig	Ph.D. Materials Science & Engineering	University of Michigan
Nicholas Comninellis	Associate Professor of Community and Family Medicine	University of Missouri-Kansas City
William J. Arion	Emeritus Professor of Biochemistry	Cornell University
Stephen Crouse	Professor of Kinesiology	Texas A&M University
Cham Dallas	Professor, Pharmaceutics & Biomedical Science	University of Georgia

Charles N. Verheyden	Professor of Surgery	Texas A&M College of Medicine
Melody Davis	Ph.D. Chemistry	Princeton University
Thomas Deahl	Ph.D. Radiation Biology	The University of Iowa
Shun Yan Cheung	Associate Professor of Computer Science	Emory University
Robert DeHaan	Ph.D. Human Development	University of Chicago
Gage Blackstone	Doctor of Veterinary Medicine	Texas A&M University
Harold Delaney	Professor of Psychology	University of New Mexico
Jonathan C. Boomgaarden	Ph.D. Mechanical Engineering	University of Wisconsin
Greg Tate	Ph.D. Plant Pathology	University of California, Davis
William Bordeaux	Chair, Department of Natural & Mathematical Science	Huntington College
Michael Delp	Professor of Physiology	Texas A&M University
Keith F. Conner	Ph.D. Electrical Engineering	Clemson University
David DeWitt	Chair, Department of Biology & Chemistry	Liberty University
Aaron J. Miller	Ph.D. Physics	Stanford University
Gary Dilts	Ph.D. Mathematical Physics	University of Colorado
Gerald Chubb	Associate Professor of Aviation	Ohio State University
Robert DiSilvestro	Ph.D. Biochemistry	Texas A & M University
Daniel Dix	Associate Professor of Mathematics	University of South Carolina
Allison Dobson	Assistant Professor, Chemistry	Georgia Southern University
David Prentice	Professor, Department of Life Sciences	Indiana State University
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Ernest Prabhakar	Ph.D. Experimental Particle Physics	California Institute of Technology
John Doughty	Ph.D. Aerospace & Mechanical Engineering	University of Arizona
Jeanne Drisko	Clinical Assistant Professor of Alternative Medicine	University of Kansas, School of Medicine
Robert Eckel	Professor of Medicine, Physiology & Biophysics	University of Colorado Health Sciences Center
Seth Edwards	Associate Professor of Geology	University of Texas, El Paso
Eduard F. Schmitter	Ph.D. Astronomy	University of Wisconsin
Lee Eimers	Professor of Physics & Mathematics	Cedarville University
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Gary Achtemeier	Ph.D. Meteorology	Florida State University
William Everson	Ph.D. Human Physiology	Penn State College of Medicine
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Ibrahim Barsoum	Ph.D. Microbiology	The George Washington University
Jim Gibson	Ph.D. Biology	Loma Linda University
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George W. Benthien	Ph.D. Mathematics	Carnegie Mellon University
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Gregory A. Snyder	Ph.D. Geochemistry	Colorado School of Mines
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Mark Pritt	Ph.D. Mathematics	Yale University
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Mark Bearden	Ph.D. Electrical & Computer Engineering	Carnegie Mellon University
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James Menart	Associate Professor of Mechanical Engineering	Wright State University
Theodor Liss	Ph.D. Chemistry	Massachusetts Institute of Technology
James Keesling	Professor of Mathematics	University of Florida
Brian Miller	Ph.D. Physics	Duke University
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Thomas Milner	Associate Professor of Biomedical Engineering	University of Texas, Austin
David Ness	Ph.D. Anthropology	Temple University
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Paul Missel	Ph.D. Physics	Massachusetts Institute of Technology
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Dónal O'Mathúna	Ph.D. Pharmacognosy	Ohio State University
Steve D. Figard	Ph.D. Biochemistry	Florida State University
Lennart Möller	Professor, Center for Nutrition & Toxicology	Karolinska Institute (Sweden)
Victoriano Saenz	Professor of Medicine	Autonomous University of Guadalajara (Mexico)
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Terry Morrison	Ph.D. Chemistry	Syracuse University
Bijan Nemati	Ph.D. High Energy Physics	University of Washington
William Russell Belding	Ph.D. Mathematics	University of Notre Dame
Bridget Ingham	Ph.D. Physics	Victoria University of Wellington (New Zealand)
Paul Nesselroade	Professor of Psychology and Department Chair	Asbury University
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Angus Menuge	Ph.D. Philosophy of Psychology	University of Wisconsin-Madison
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Janet Parker	Professor of Medical Physiology	Texas A&M University, Health Science Center
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Mark Shlapobersky	Ph.D. Virology	Bar-Ilan University (Israel)
Arthur John Jones	Ph.D. Zoology & Comparative Physiology	Birmingham University (UK)
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Gregory Shearer	Ph.D. Physiology	University of California, Davis
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David Shormann	Ph.D. Limnology	Texas A&M University
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Mark Apkarian	Ph.D. Exercise Physiology	University of New Mexico
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Terry L. Rathman	Ph.D. in Organic Chemistry	University of Virginia
Philip C. Sekar	Ph.D. in Medical Chemistry	Virginia Tech
Evgeny Selensky	Ph.D. in Physics and Mathematics	University of Delhi
Craig Thomas	Ph.D. in Animal Science	Moscow State University
Ron Voss	Ph.D. in Chemistry	University of Florida
Wesley Brewer	Ph.D. in Computational Engineering	University of Manitoba
Keith Diaz	Ph.D. in Integrative Exercise Physiology	Mississippi State University
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Amaro Carvalho Camilo	Ph.D. in Cellular and Structural Biology	University of Connecticut
David (Dale) Gottlieb	Ph.D. in Philosophy – Mathematical Logic	University of Vigosa
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Ramsin Khoshabeh	Ph.D. in Electrical and Computer Engineering	National Tsing-Hua University
Ming-blu Leung	Ph.D. in Civil Engineering	University of California, San Diego
Pekka Maattanen	Ph.D. in Biochemistry	University of Illinois
Gerald K. McEwen	Ph.D. in Chemistry	McGill University (Canada)
Suzanne Phillips	Chair of Biology Department	Iowa State University
Wei H. Ruan	Professor of Mathematics	Southwestern Adventist University
Terry Strout	Ph.D. in Chemical Engineering	Purdue University, Calumet
Paolo Cioni	Contract Professor, Psychology, Faculty of Medicine	University of Maine
George A. Damoff	Ph.D. in Forestry	University of Pisa and Florence
		Stephen F. Austin State University

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Alberto Vigato	Ph.D. Information Engineering	University of Padua, Italy
Kjell J. Tveter	Professor of Urology (retired)	University of Oslo
Rodrigo M. Pontes	Professor of Chemistry	The State University of Maringá (Brazil)
George-Adrian Lungu	Ph.D. Physics	University of Bucharest
Kirk Durston	Ph.D. Biophysics	University of Guelph
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Greg W. Burgreen	Ph.D. Mechanical Engineering	Mississippi State University
Silviu Podariu	Ph.D. Cosmology	Kansas State University
Catherine K. Luk	Ph.D. in Biophysics	University of Rochester
Moshe Marikovsky	Ph.D. in Biology	Weizmann Institute of Science (Israel)
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Wilton Remigio	Assistant Professor, Department of Physical Therapy	Misericordia University
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Betsy Siewert	Ph.D. in Biostatistics	University of Colorado, Denver
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Günter Bechly	Ph.D. Paleontology	Eberhard-Karls-University Tübingen
Patricia Wolfe	Ph.D. Molecular Pharmacology	Cornell University
Doo Jin Cho	Professor of Electronics	Ajou University, Korea
Jang Hoon Kim	Professor of Architecture	Ajou University, Korea
Rémi Plus	Doctor of Sciences	Paris University
	Former member, Société Française de Chimie Physique	
D. David Nowack	Ph.D. Nutritional Biochemistry	Purdue University
Dusan Fiala	Ph.D. Biophysics/Systems Biology	De Montfort University
Michael R. Shepard	Ph.D. Chemistry	University of Florida
Victor Enrique Vizcarra Ruiz	Professor of Physics	Universidade Estadual de Maringá
PremRaj Pushpakaran	Ph.D. Biotechnology	Jamia Hamdard, New Delhi, India
Dudley Eirich	Ph.D. Microbiology	University of Illinois, Champaign-Urbana
Guy F. Birkenmeier	Ph.D. Biochemistry	Washington State University
Paul Keough	Ph.D. Health Sciences	Northwestern University

*= Deceased since signing statement.

Note: Unless updated information has been received, positions listed are those held by signatories when they signed the statement.

Charles W. Slack	Ph.D. in Psychology	Princeton
Stefano Brillanti	Associate Professor of Gastroenterology	University of Bologna
Ryan F. Estevez	Assistant Professor, Dept. of Psychiatry and Neurosciences	University of South Florida College of Medicine
Monty Craig Johnson	Ph.D. in Microbiology	Southern Illinois University
William Soo Hoo	Ph.D. in Biochemistry	University of Illinois, Champaign-Urbana
David L. MacQuarrie	Ph.D. in Evaluation, Measurement and Research	Western Michigan University
Mustafa McPherson	Ph.D. in Agronomy	Mississippi State University
Michael Barfield	Research Fellow, Dept. of Surgery	Duke University Medical Center
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David W. Chester	Ph.D. in Biochemistry	University of Connecticut
Julio A. Gonzalo	Professor of Solid State Physics, 1983-2006	Universidad Autónoma de Madrid
John G. Leslie	Ph.D. Experimental Pathology	University of Utah
Hamza Saouli	Ph.D. Computer Science	University of Biskra, Algeria
Peter-Brian Andersson	DPhil Experimental Pathology	Oxford University (UK)
Mark Tabladillo	Ph.D. Industrial and Systems Engineering	Georgia Institute of Technology
Jean-Michel Olivereau	Professor of Neurosciences (retired)	University of Paris-Descartes
Timothy P. Gilmour	Ph.D. Electrical Engineering	Pennsylvania State University
Mark Liebe	Ph.D. Water Resources Engineering	Iowa State University
Edward Schmeichel	Emeritus Professor of Mathematics	San Jose State University
James Hodge	Ph.D. Chemistry	Pennsylvania State University
Ernst Lutz	Ph.D. in Agricultural and Resource Economics	University of California, Berkeley
Istvan Fodor	Ph.D. in Molecular Biology	USSR Academy of Sciences (USSR)
Kelson Mota T. Oliveira	Associate Professor, Physical Chemistry	Universidade Federal do Amazonas (Brazil)
Rob Redfield	Professor, Dept. of Engineering Mechanics	US Air Force Academy
Brian E. Hunt	Associate Professor, Applied Health Science	Wheaton College
David Rolf	Ph.D. in Bioorganic Chemistry	University of Minnesota
Wayne Rossiter	Assistant Professor of Biology	Waynesburg University
Ralph A. Henderson Jr.	Professor Emeritus, Department of Clinical Sciences	Auburn University, College of Veterinary Medicine
Carlos Alberto Mourão Jr	Chief of Physiology Department	Universidade Federal de Juiz de Fora (Brazil)
Moses Noh	Ph.D. in Mechanical Engineering	Georgia Institute of Technology
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John Rokos	Ph.D. Biochemistry	University of London
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James P. O'Halloran	Ph.D. Psychology	University of California, Irvine
Isak J. van der Walt	Professor, Philosophy of Science and Technology	North West University (South Africa)
Rex A. Parker	Ph.D. Biochemistry	Indiana University
Richard Webb	Ph.D. Physics	Washington State University
Robert W. West, Jr.	Emeritus Professor, Department of Biochemistry and Molecular Biology	SUNY Upstate Medical University
Matthew Weeks	Ph.D. Materials Science and Engineering	University of California, Irvine
Timothy D. Blackburn	Ph.D. Systems Engineering	The George Washington University
Teemu Langsjo	M.D., Ph.D. Anatomy	University of Eastern Finland
Peter Knibbe	Ph.D. Experimental Physics	University of Pennsylvania
Sebastian Michael	Ph.D. in Anthropology	University of Bombay
John Thatcher	Ph.D. Mathematics (Theoretical Astrophysics)	University of Sydney

Observations
This doesn't prove that
Darwinism is false.

Observations

This doesn't mean that all these signers repudiate evolution entirely.

Observations

It does mean that statements such as

"The basic Darwinian idea . . . is about as secure as any in science ..."

Challenging evolution is on par with believing in a flat Earth.

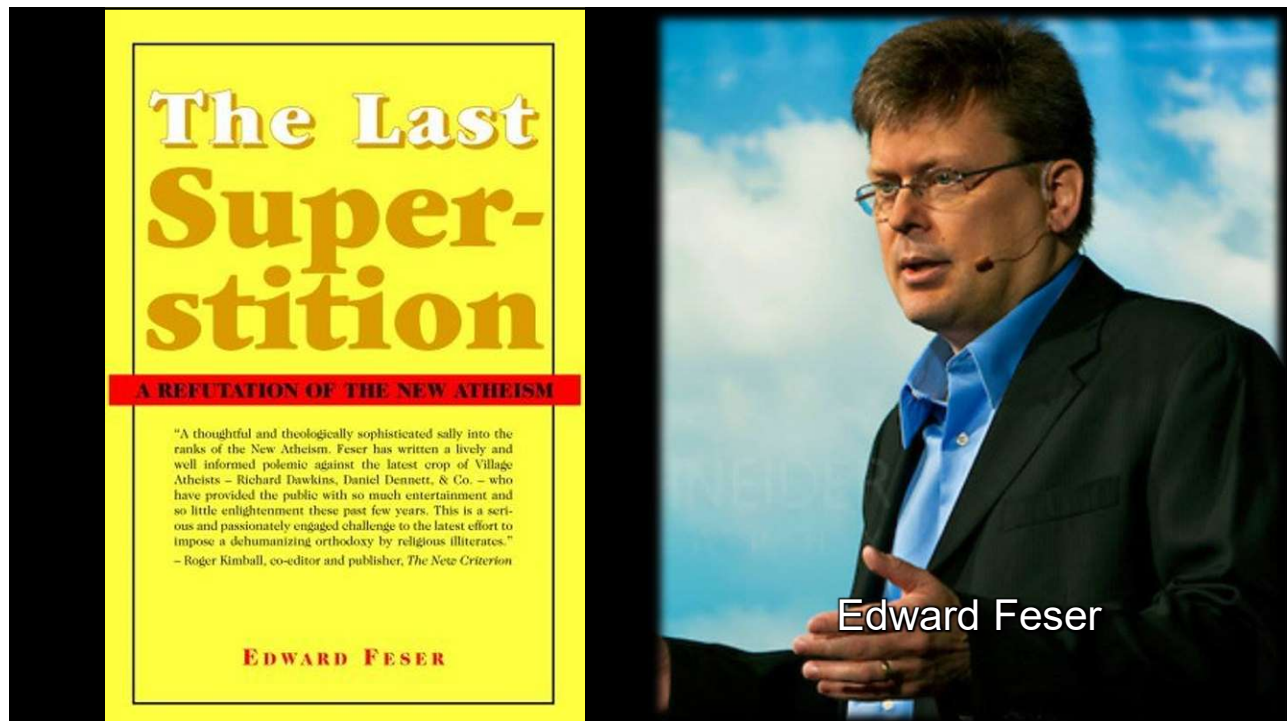
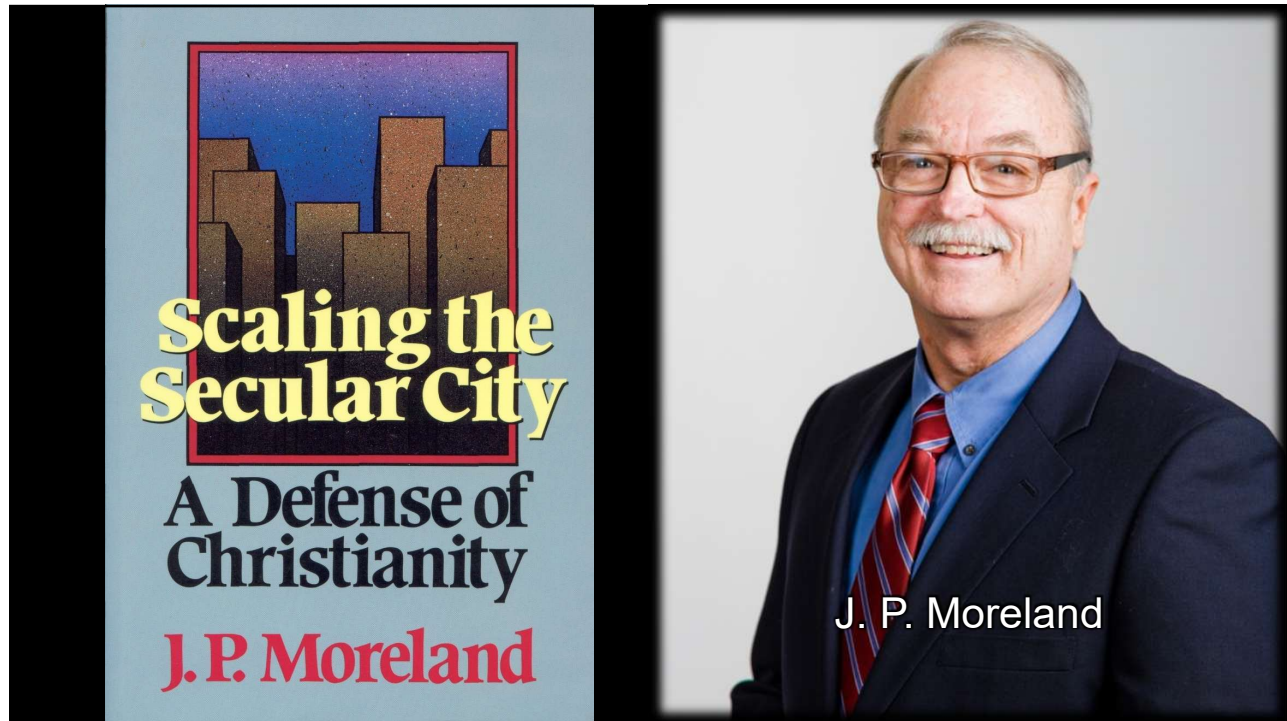
"Darwinian evolution is a well-established theory. "

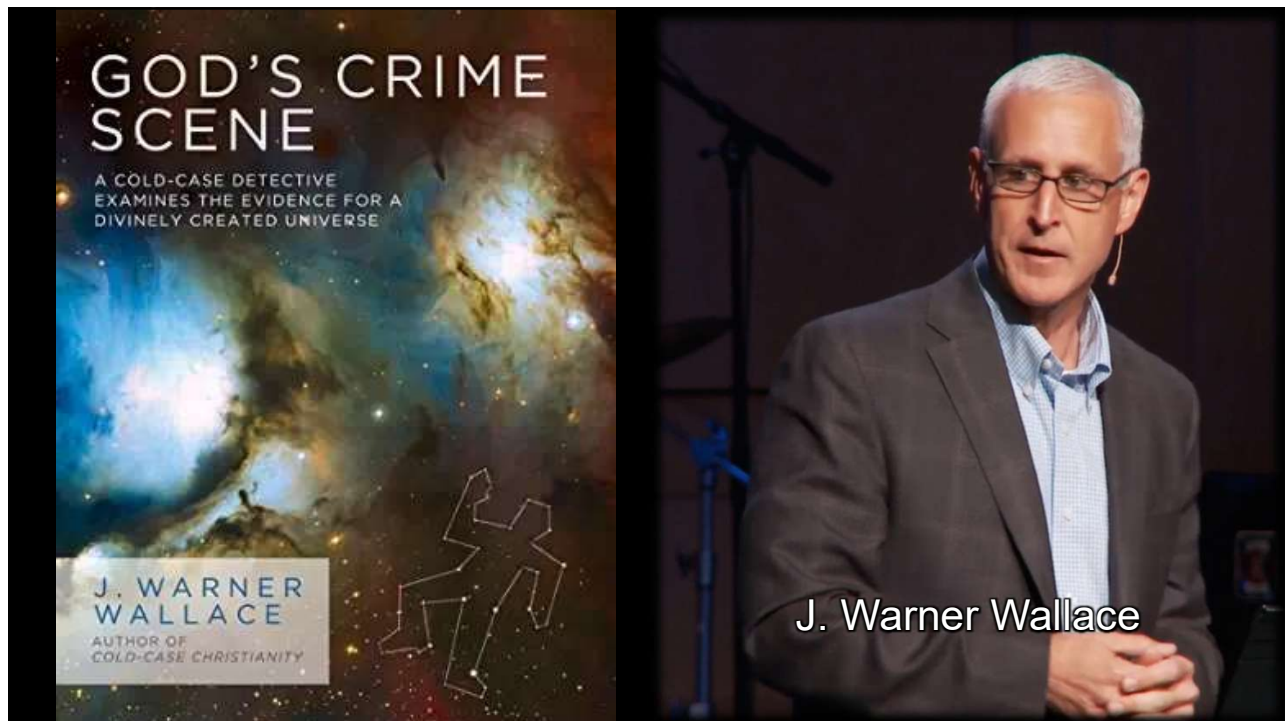
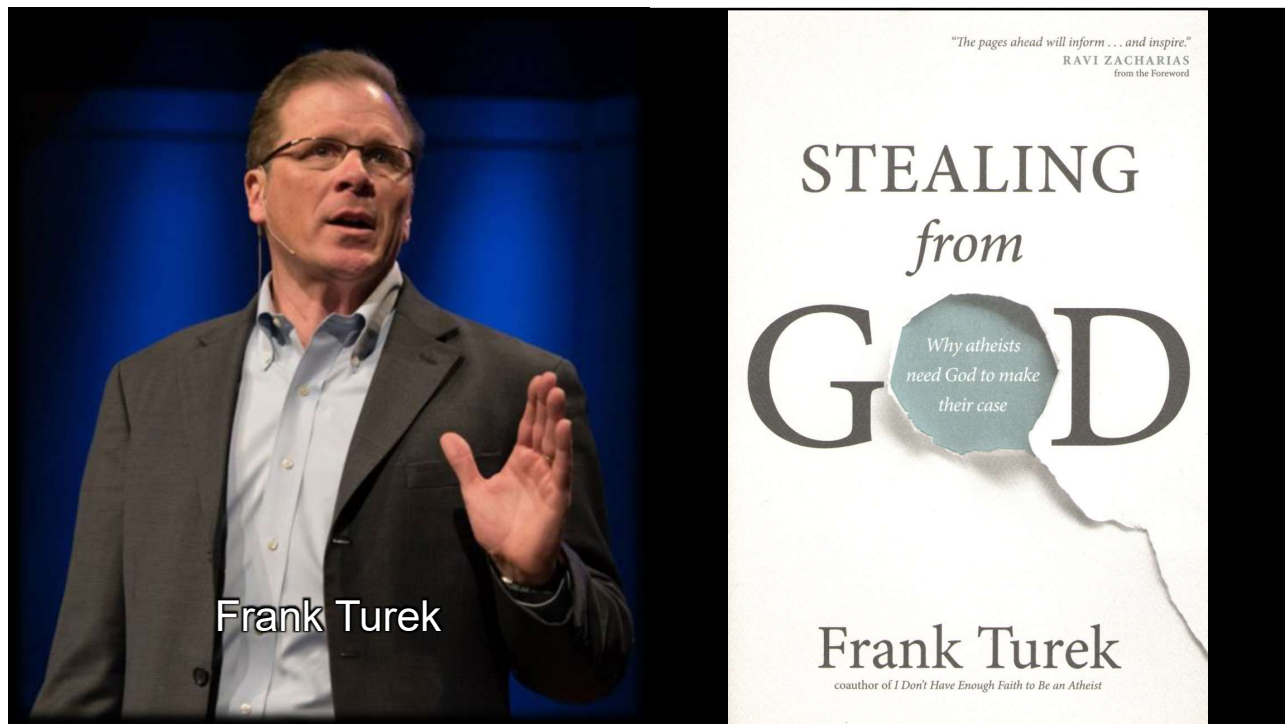
Challenging evolution is on par with challenging the Moon landing.

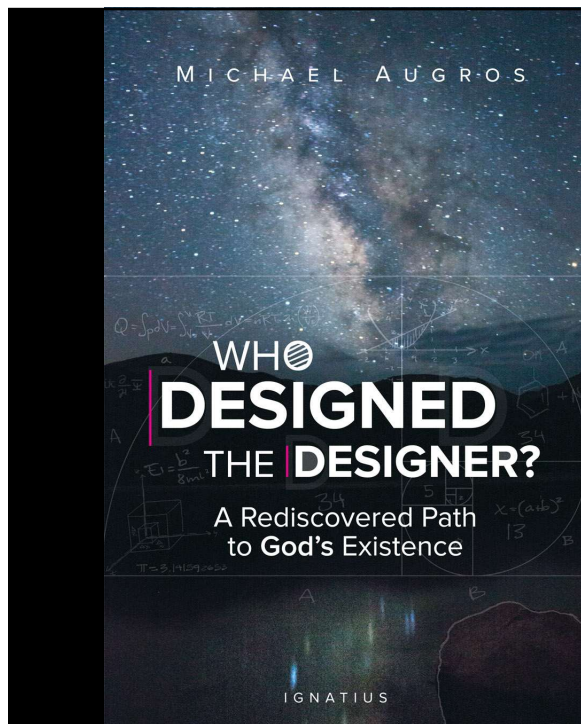
"There is no question . . ."

are unwarranted.

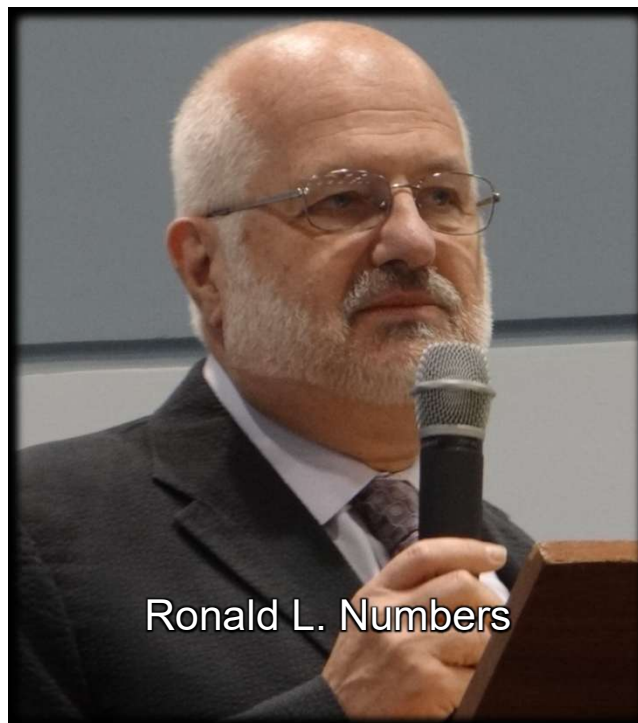








Michael Augros



Ronald L. Numbers

