



# The Quest for Truth of Stephen Hawking

foto taken at NASA on April 4, 2008 (NASA/Paul. E. Alers)

# A Brief History of Time

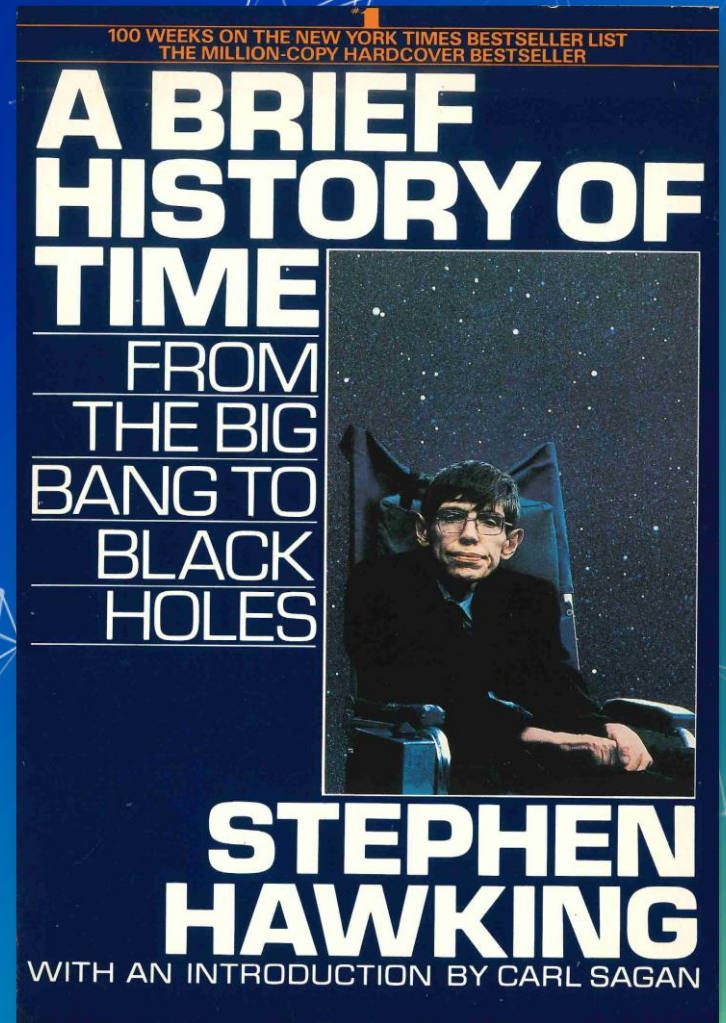
Hawking 1988

- more than 10 million copies sold
- a book about science
- and also about God

*"The word "God" fills the pages."*

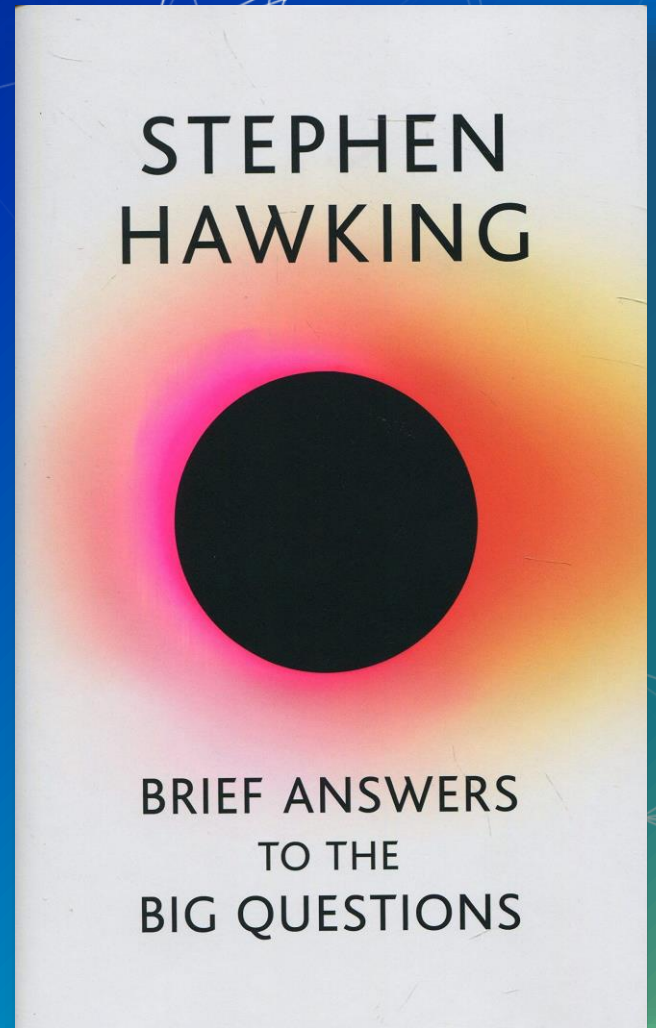
Carl Sagan in the introduction

- principle merit:  
it elevates the science-based proof of  
the existence of God to an academic level

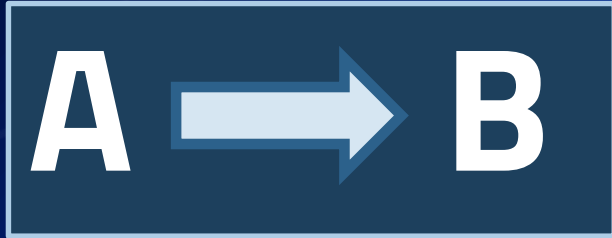


# Stephen Hawking 2018

**//** *People got upset that a scientist should have anything to say on the matter of religion. I have no desire to tell anyone what to believe, but for me asking if God exists is a valid question for science. After all, it is hard to think of a more important, or fundamental, mystery than what, or who, created and controls the universe. p. 29*



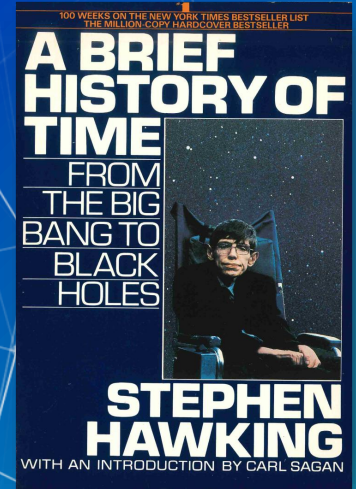
# Central concept: causality



- *Within the universe, you always explained one event as being caused by some earlier event.*

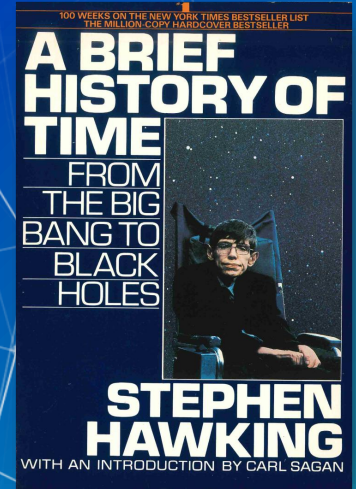
Hawking, p. 7

- What about *First Cause?* (Aristotle)
  - first in time
  - first in preference (like First Lady)



# Argumentation in Hawking 1988

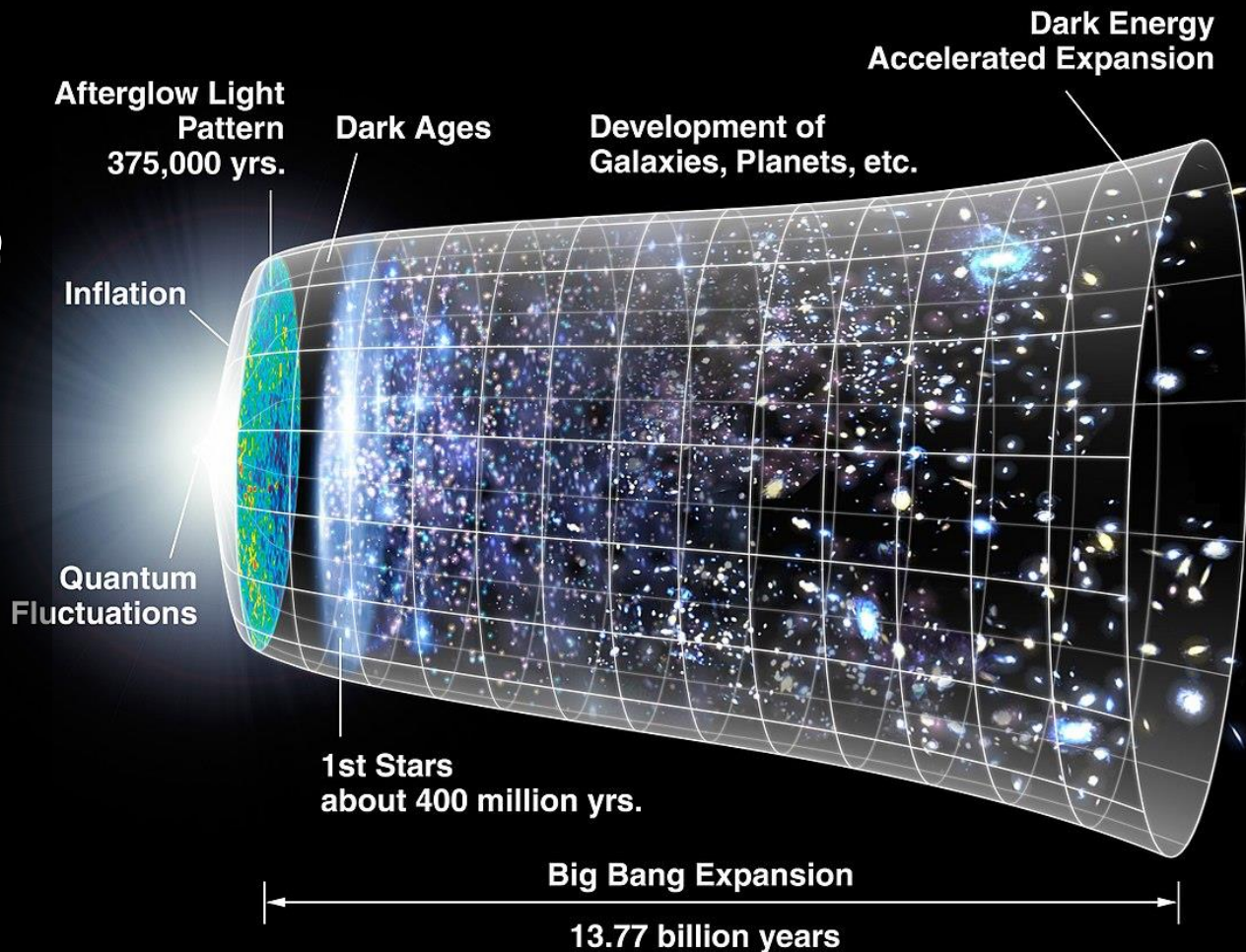
- causality restricted to temporal causality
- laws of nature are deterministic
- unforeseen events may happen by pure chance  
(in Quantum Mechanics or in biological evolution)
- First Cause may be active in the beginning
- no role for divine intervention after beginning



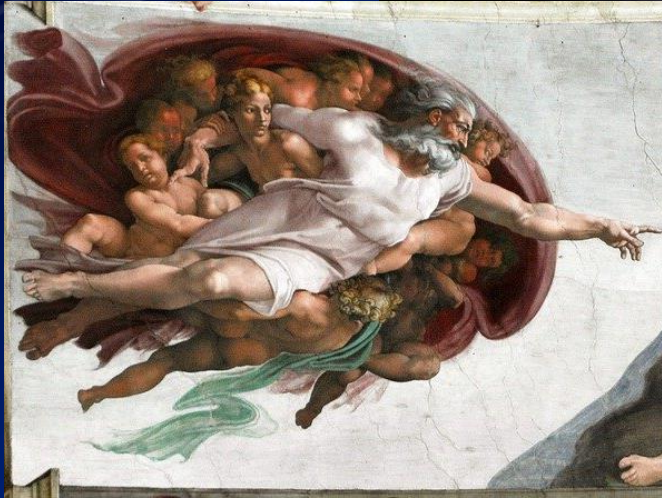
# A Special View on the History of the Universe

## Space versus Time

picture by NASA



# First Cause acting at Big Bang?



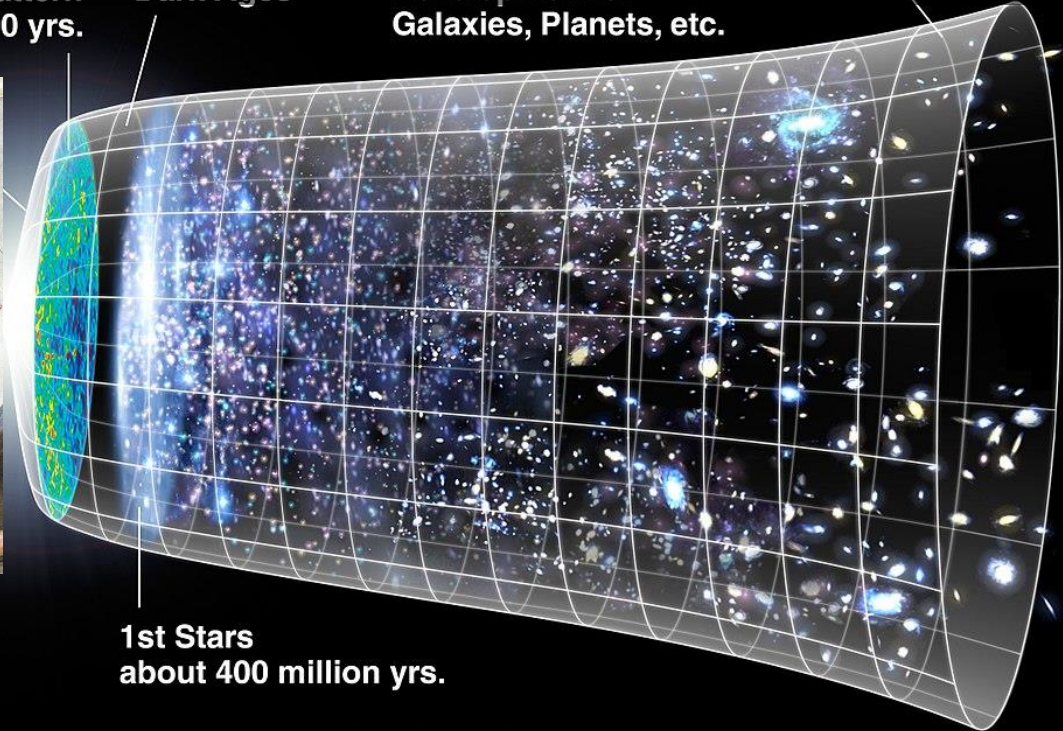
375,000 yrs.

Pattern

Dark Ages

Development of  
Galaxies, Planets, etc.

Dark Energy  
Accelerated Expansion



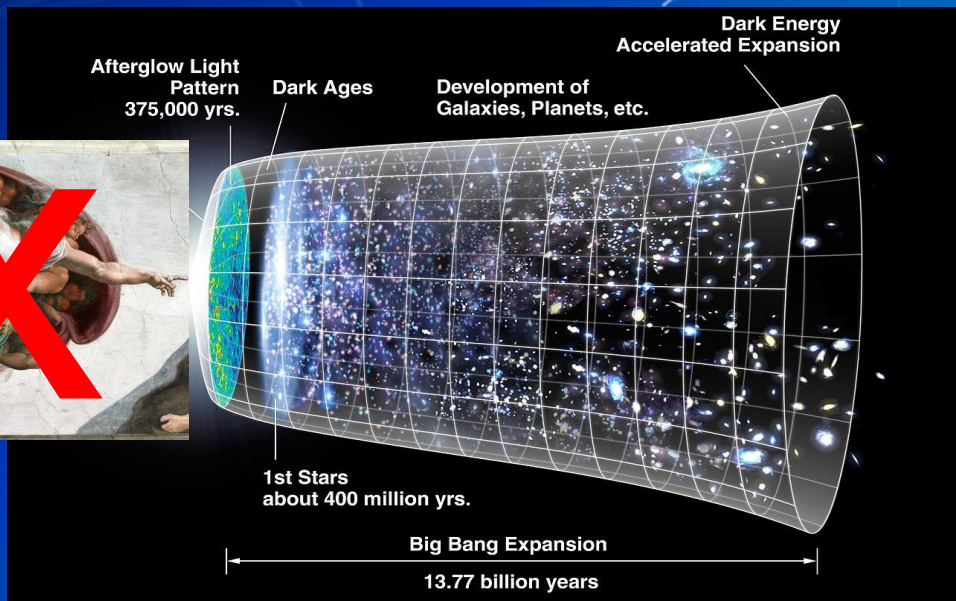
1st Stars  
about 400 million yrs.

Big Bang Expansion

13.77 billion years

*"So long as the universe had a beginning, we could suppose it had a creator. But if the universe is really completely self-contained, having no boundary or edge, it would have neither beginning nor end: it would simply be.*

*What place, then, for a creator?"* **Hawking, p. 140**



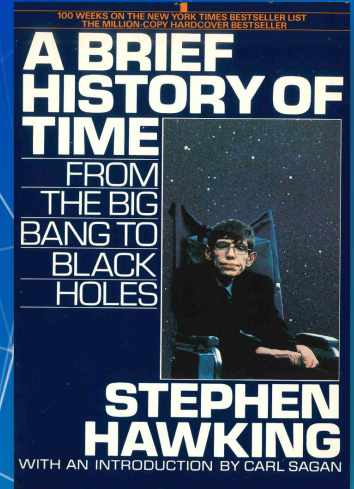


# Stephen Hawking 1988, a new argument

**//** *Even if there is only one possible unified theory, it is just a set of rules and equations.*

*What is it that breathes fire into the equations and makes a universe for them to describe?*

p. 174



# Mathematics, feasibility, and contingency

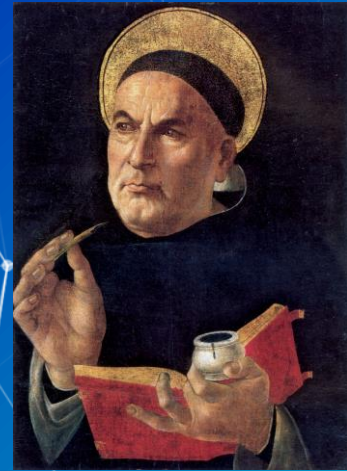
$$\Delta t' = \frac{\Delta t}{\sqrt{1 - \frac{v^2}{c^2}}}$$

- rules and equations result from formalized logic
- an object is feasible only if logically sound (no contradiction)
- something feasible does not necessarily exist, e.g. dinosaurs in the present
- all that is described by rules and equations is contingent, i.e., logically feasible but not necessary
- rules and equations involve space as well as time
- time in relativity is a dependent variable

# The third *via* of Aquinas

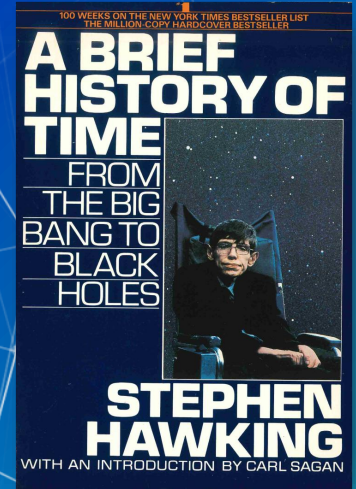
- Some of the things we come across can be but need not be.
- Now everything cannot be like this, for a thing that need not to be was once not; and if everything need not be, once upon a time there was nothing.
- Not everything then is the sort of thing that need not be; some things must be.
- So we are forced to postulate something which of itself must be.

A shortened version of the translation by Brian Davies, 2001



# The quote of Hawking

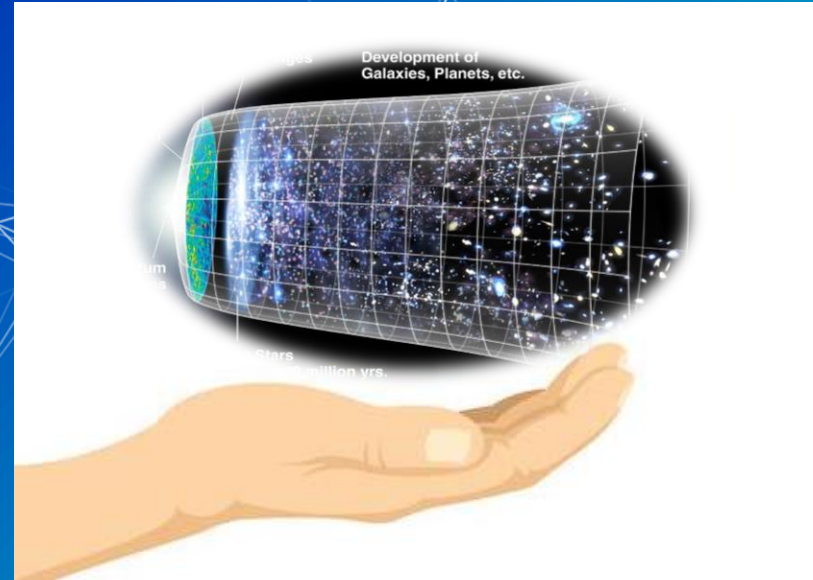
- *Even if there is only one possible unified theory, it is just a set of rules and equations.*
- *What is it that breathes fire into the equations and makes a universe for them to describe?*
- three elements
  - *set of rules and equations*
  - *the universe*
  - *the actor who is breathing fire*
- the actor is no part of the universe; he transcends it completely.



# Hawking got it right

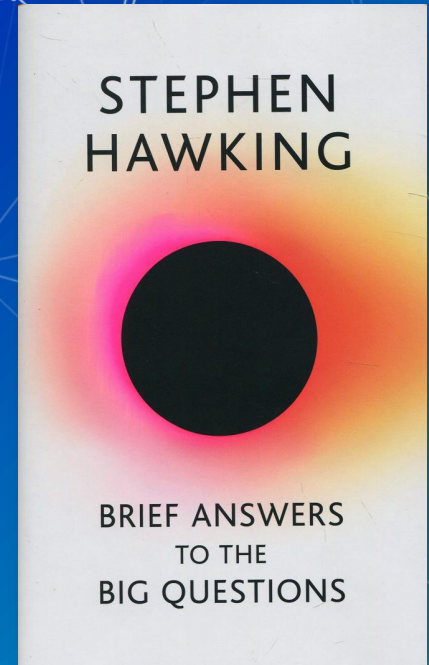
- *What place, then, for a creator?*
- The actor who breathes fire is not part of the universe.
- The creator has no place nor time.

An alternative look on the universe.



# A last phrase of Hawking

- *We have this one life to appreciate the grand design of the universe, and for that I am extremely grateful.* [Hawking 2018, p. 38]
- *Grand design; is there a designer?*
- *I am extremely grateful; one is grateful to someone not to something*



# References

Hawking 1988: A Brief History of Time

Hawking 2018: Brief Answers to the Big Questions

Driessen 1995: The Question of the Existence of God in the Book of Stephen Hawking

“A Brief History of Time”, *Acta Philosophica*, 4, pp 83-94

Driessen 2019: The Quest for Truth of Stephen Hawking, to be published

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