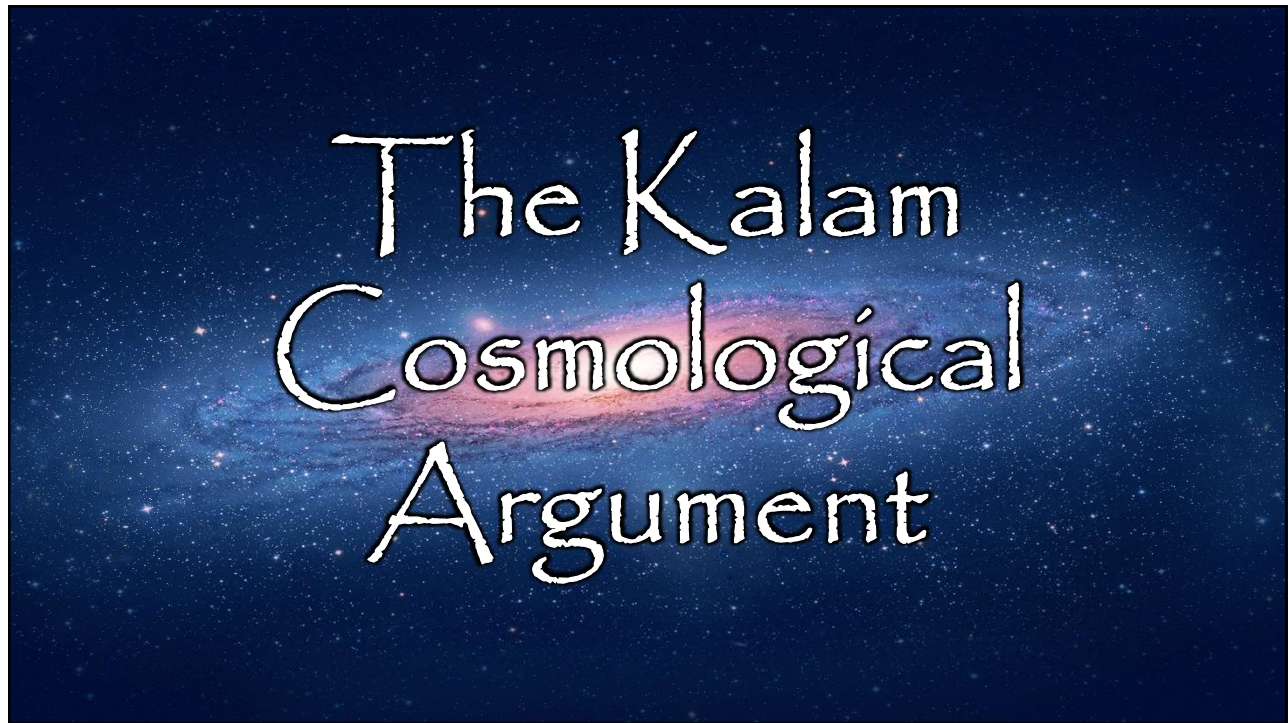


1



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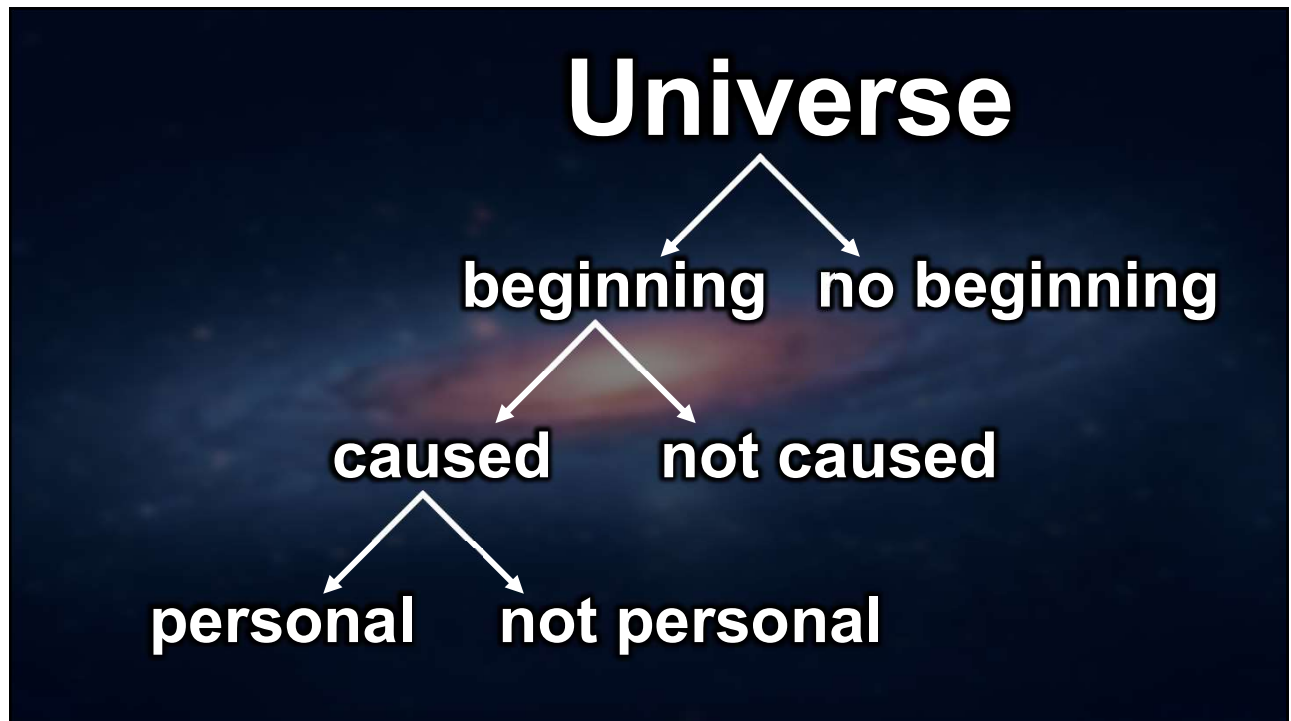
# The Kalam Cosmological Argument

the universe's  
coming-into-  
existence

the universe's  
current existing

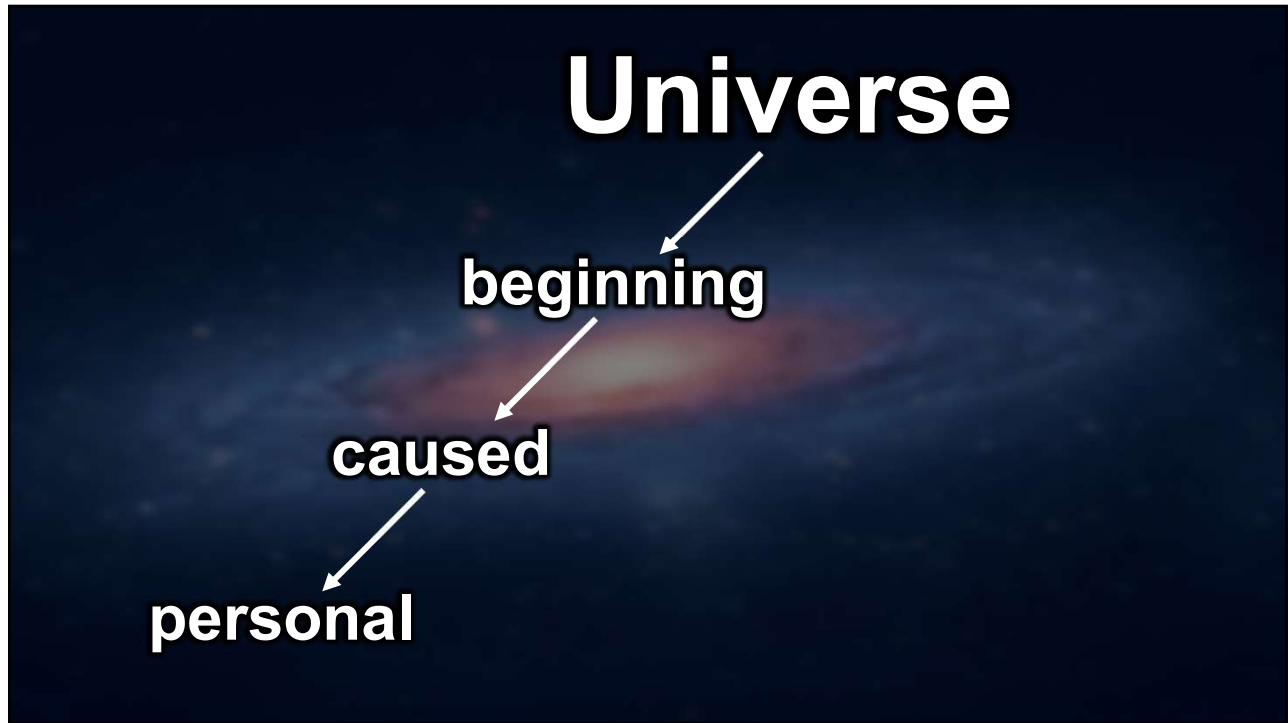


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4



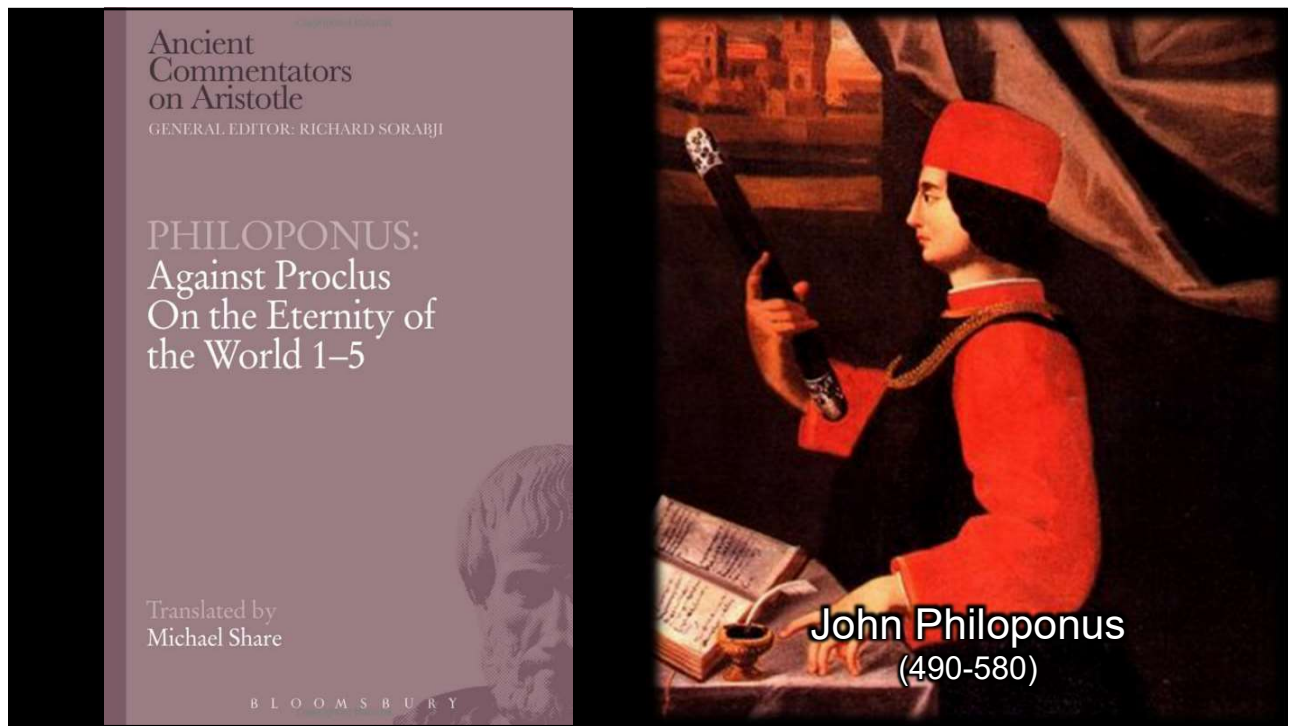


5

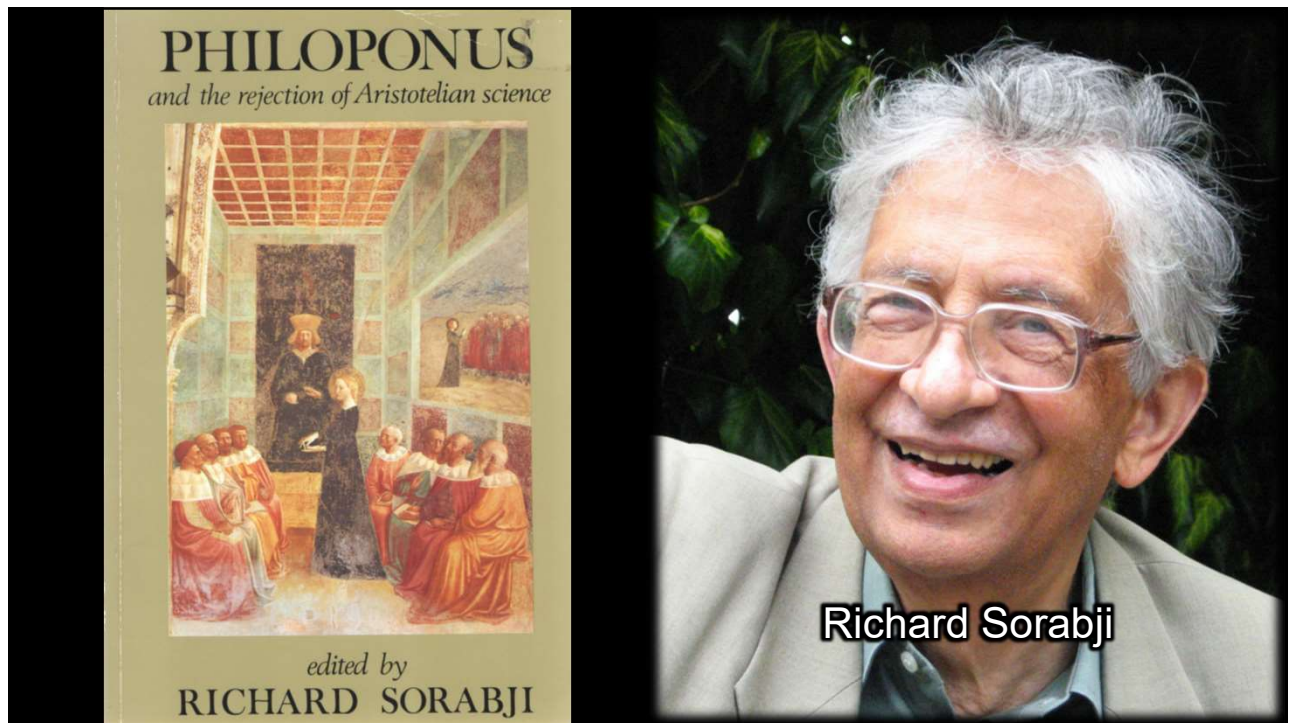
***The earliest defense of a Kalam type of argument is by John Philoponus in his work *Against Proclus' On the Eternity of the World [de Aeternitate Mundi contra Proclum]*.***

John Philoponus  
(490-580)

6

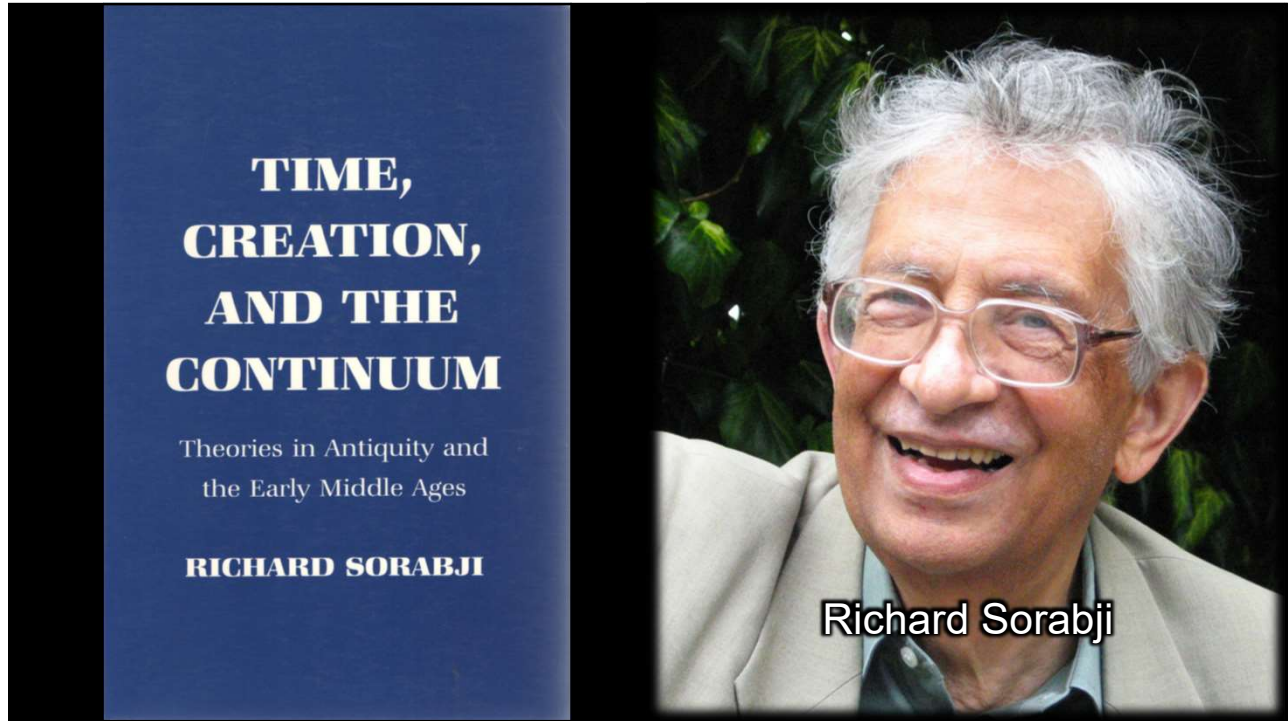


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8





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10



11

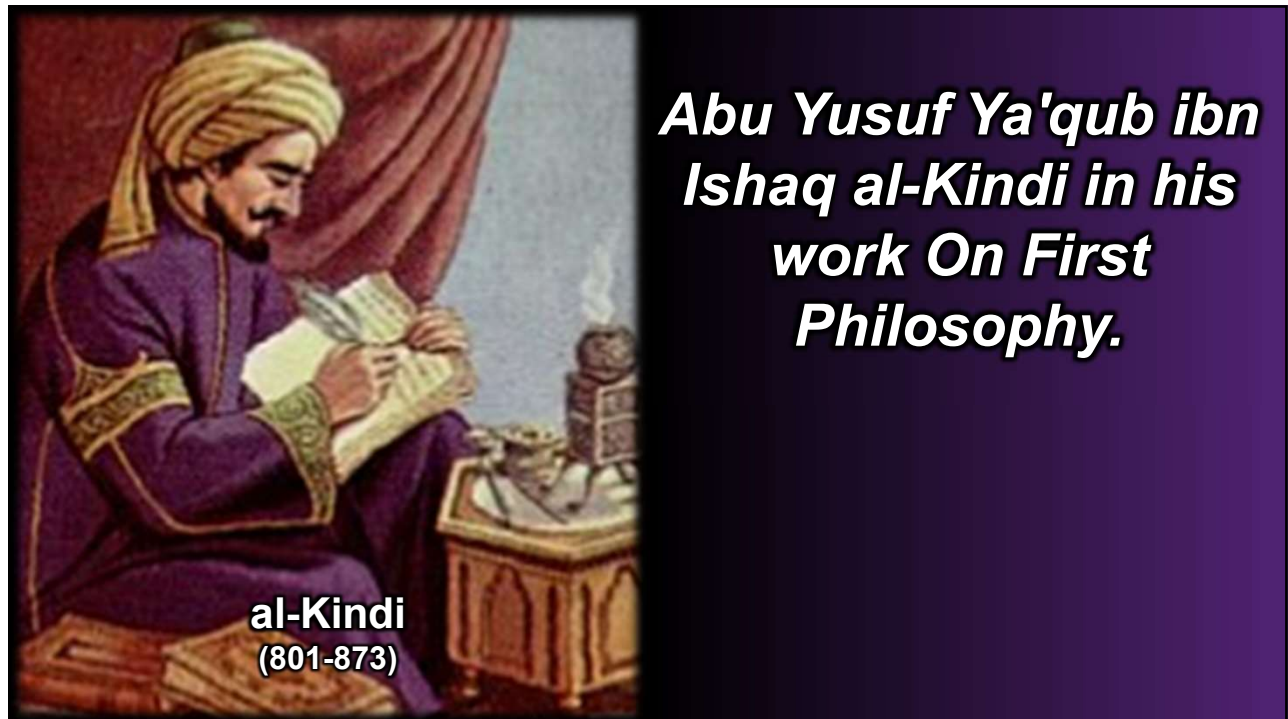


12



***The Kalam Cosmological Argument was championed in Medieval Arabic Philosophy by:***

13



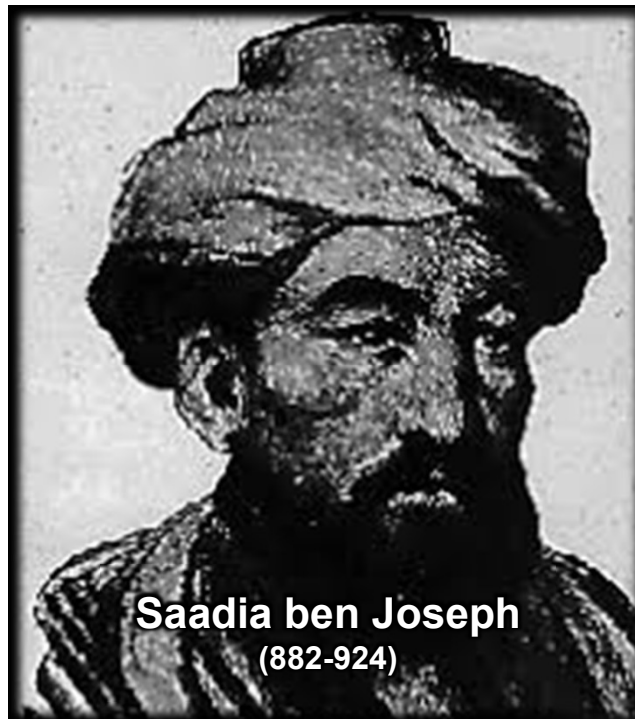
14

**Abu Hamid  
Muhammad ibn Ta'us  
Ahmad al-Tusi al-  
Shafi'i, generally  
known as al-Ghazali,  
in his work  
*Incoherence of the  
Philosophers.***



**al-Ghazali  
(1058-1111)**

15



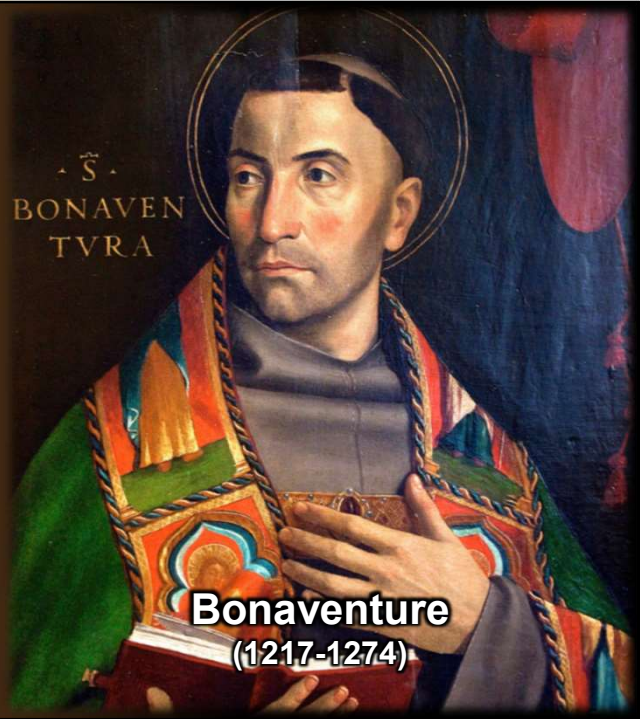
**Saadia ben Joseph  
(882-924)**

**It was championed in  
Medieval Jewish  
Philosophy most  
notably by Saadia ben  
Joseph (Saadia Gaon)  
in his work *The Book of  
Beliefs and Opinions.***

16



**It was championed in Medieval Christian Philosophy most notably by Bonaventure (John of Fidanza) in his *Commentary on the Sentences*.**

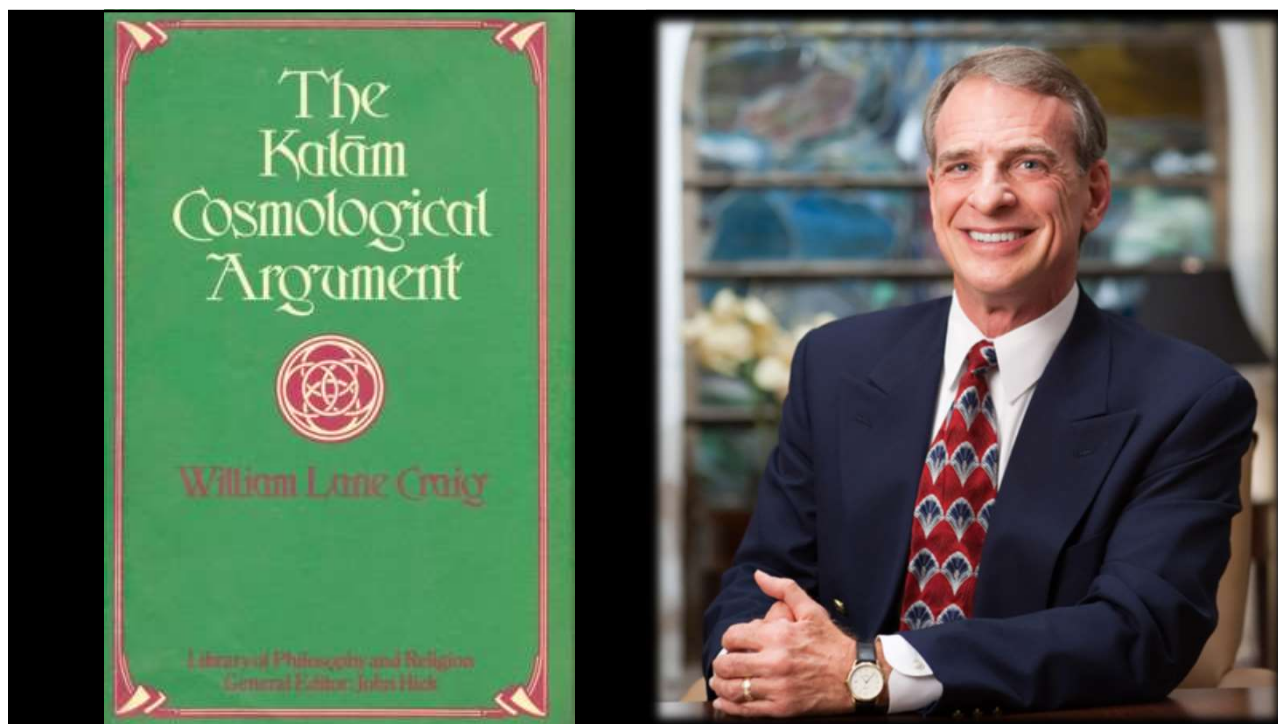


17

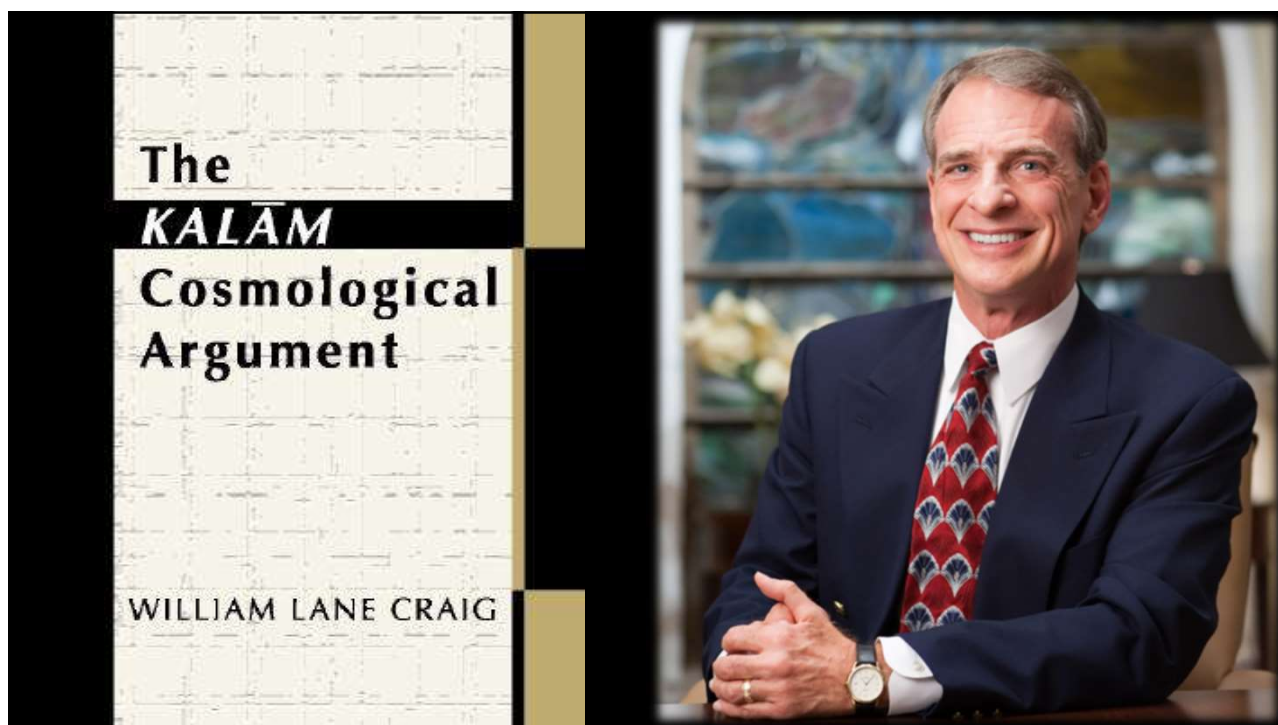
***The most notable contemporary defender of the argument is William Lane Craig in his work *The Kalam Cosmological Argument*.***



18



19



20



**Premise 1:** The Universe began to exist.

**Premise 2:** Whatever begins to exist has a cause of its existence.

**Conclusion:** Therefore, the universe has a cause of its existence.

21

The argument is valid,  
which means that if the  
premises are true, then  
the conclusion is  
necessarily true.

22

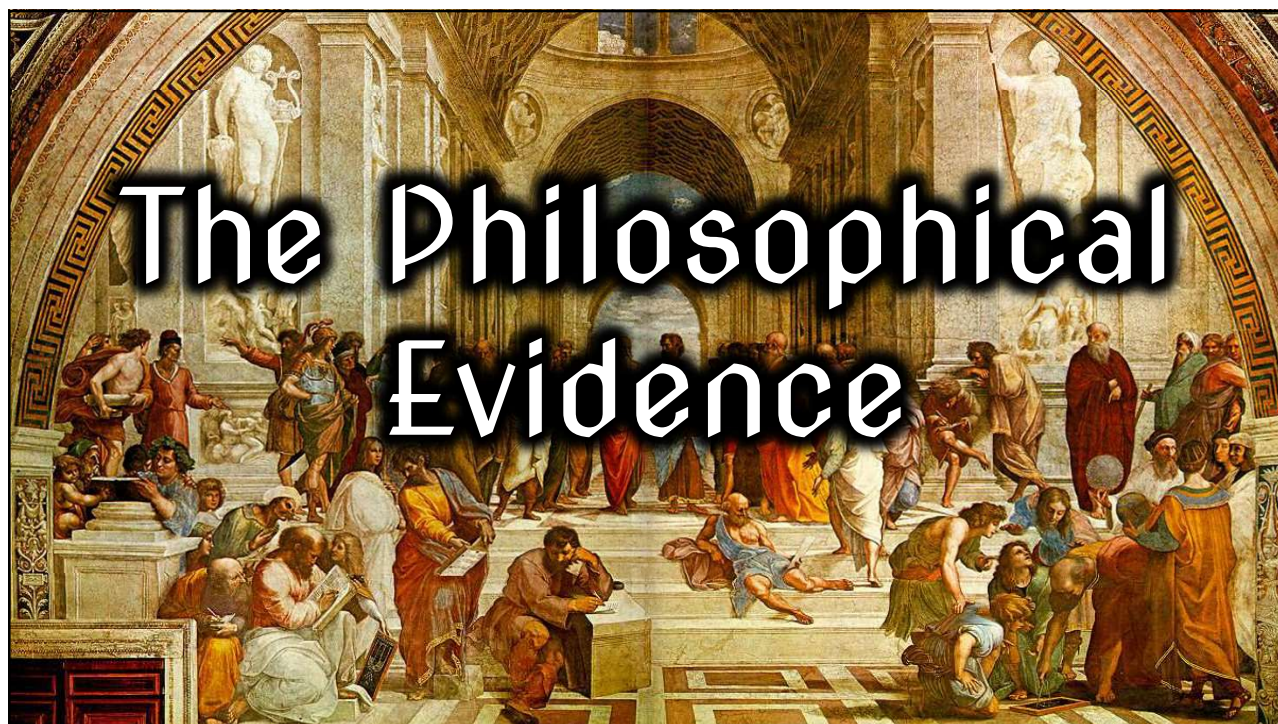
In order to defend the truth of the conclusion, one must give evidence for the truth of each premise.

23

**Premise 1:** The Universe began to exist.

24

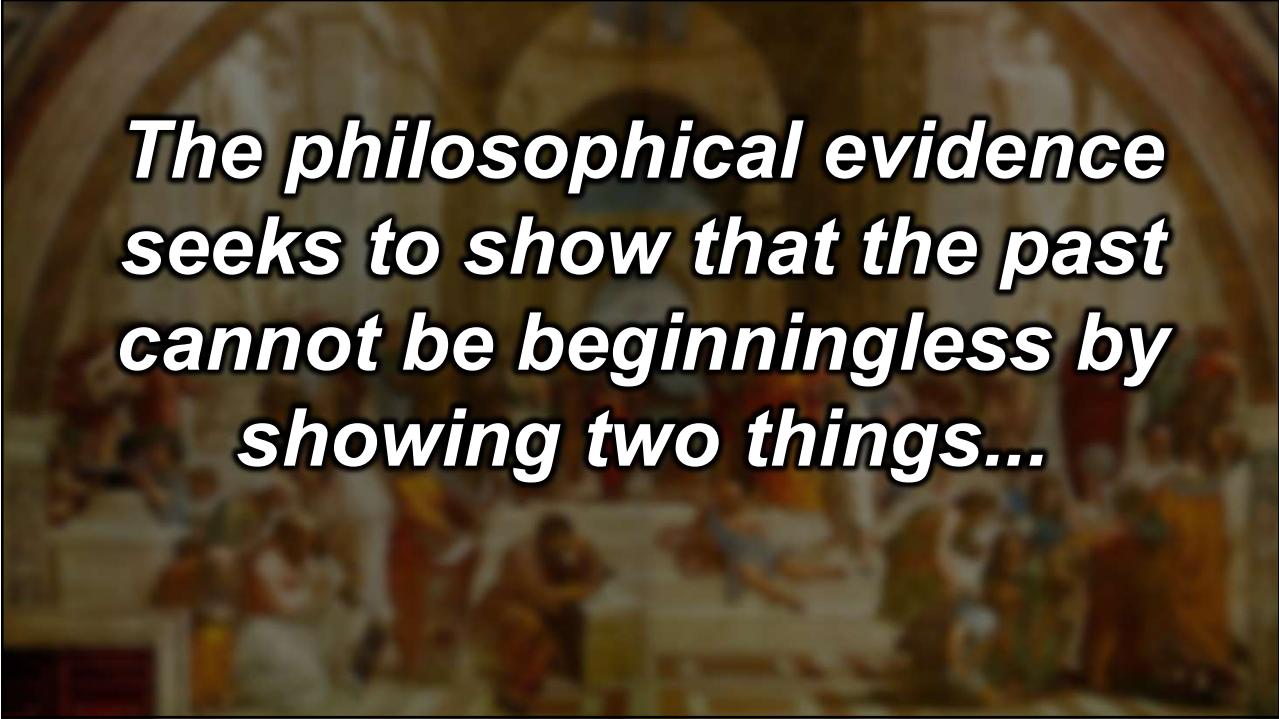




25

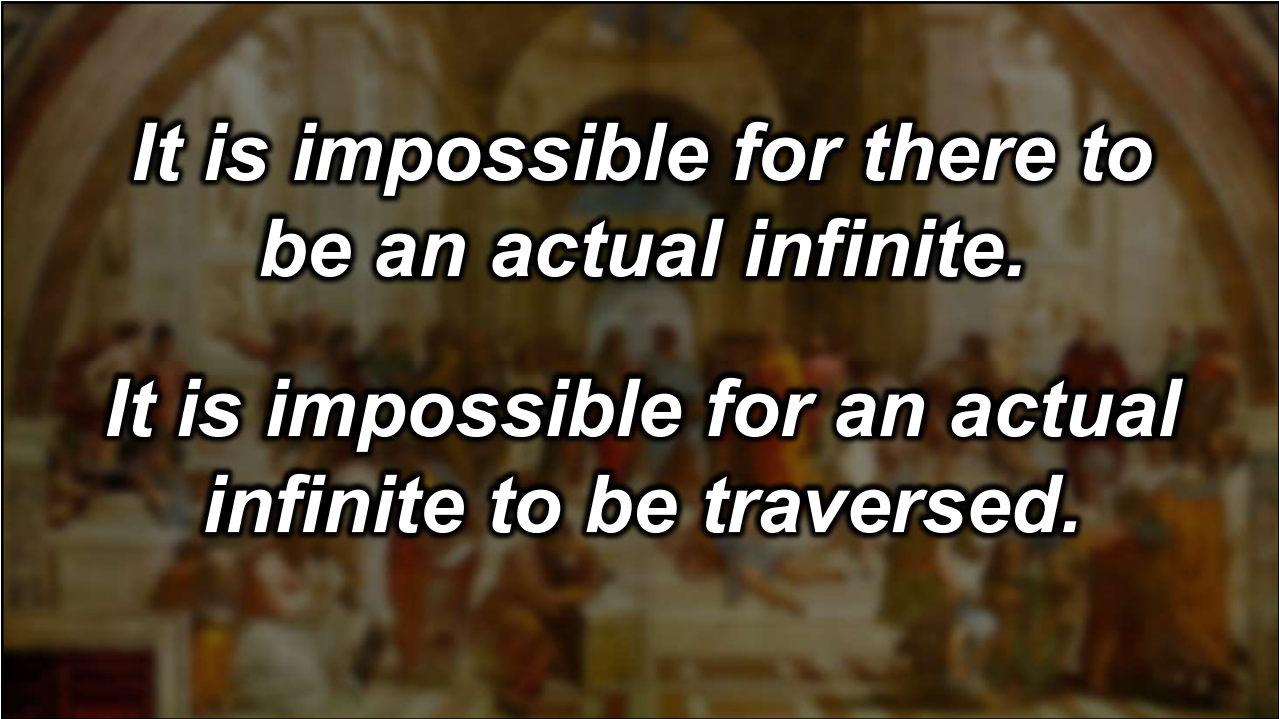
***If the universe did not have a beginning, then the past up until now would be actually infinitely long.***

26



***The philosophical evidence  
seeks to show that the past  
cannot be beginningless by  
showing two things...***

27



***It is impossible for there to  
be an actual infinite.  
It is impossible for an actual  
infinite to be traversed.***

28



# First Argument for Premise 1



29

1. *If the temporal past had no beginning, then the temporal past up to the present moment would constitute an actual infinite.*
  2. *It is impossible for there to be an actual infinite.*
- ∴ The temporal past must have had beginning.*



30



# Second Argument for Premise 1



31

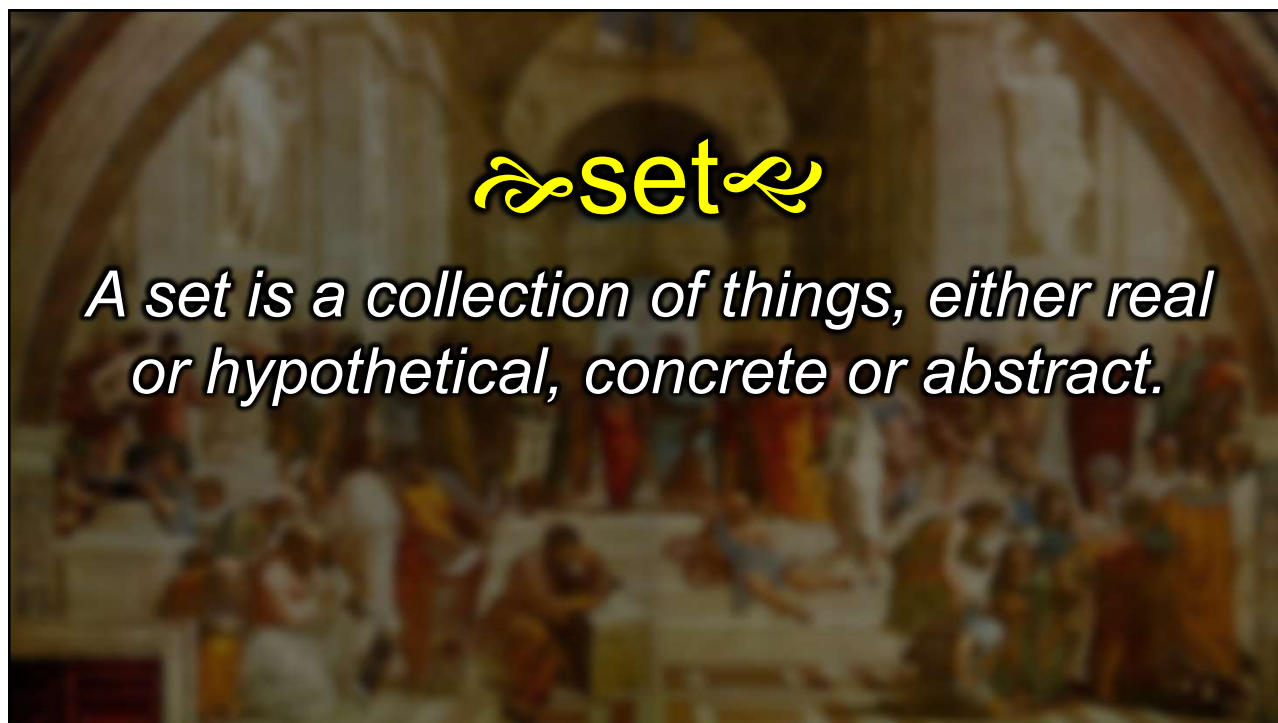
1. *If the temporal past had no beginning, then, up to the present moment, an actual infinite has been traversed.*
  2. *It is impossible for an actual infinite to be traversed.*
- ∴ The temporal past must have had beginning.*



32



33



34

## ∞ set ∞

*For our purposes, there are two types of sets: finite and infinite.*

35

## ∞ finite set ∞

*A finite set is a set that contains a finite number of members.*

36

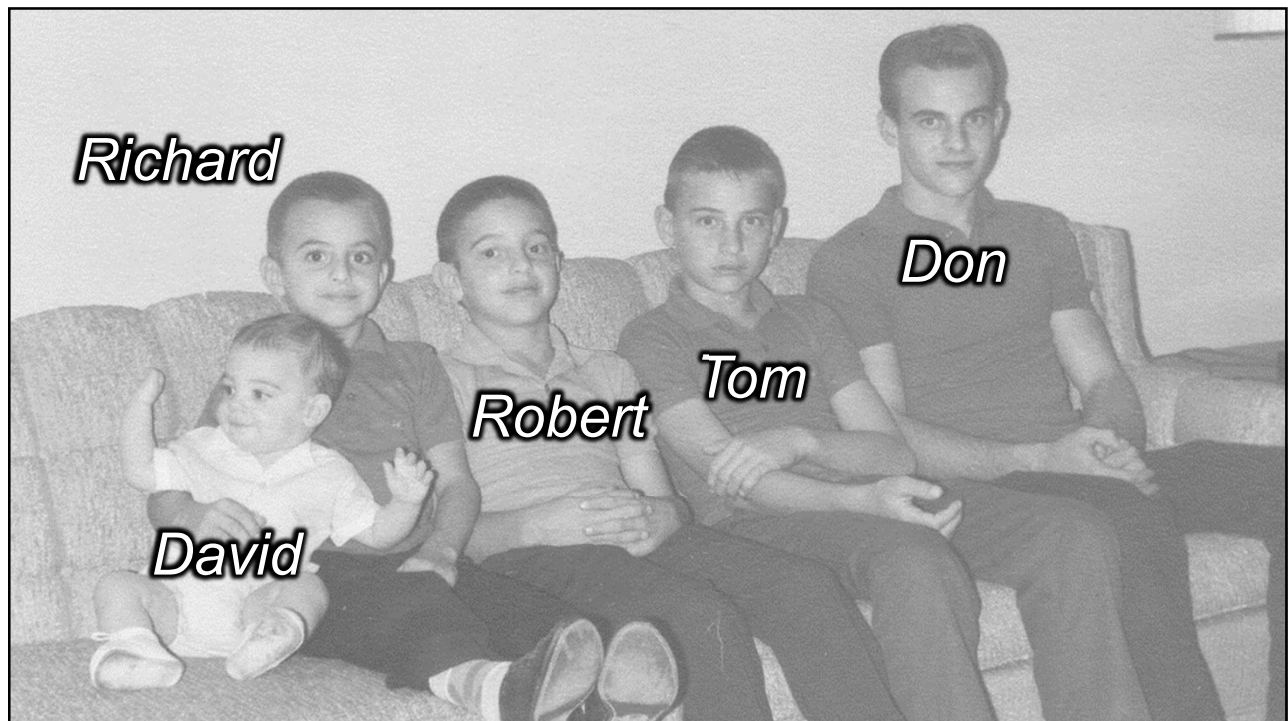


## *finite set*

*An example of a finite set would be the set of all children of Berton and Hilda Howe.*

*{Don, Tom, Robert, Richard, David}*

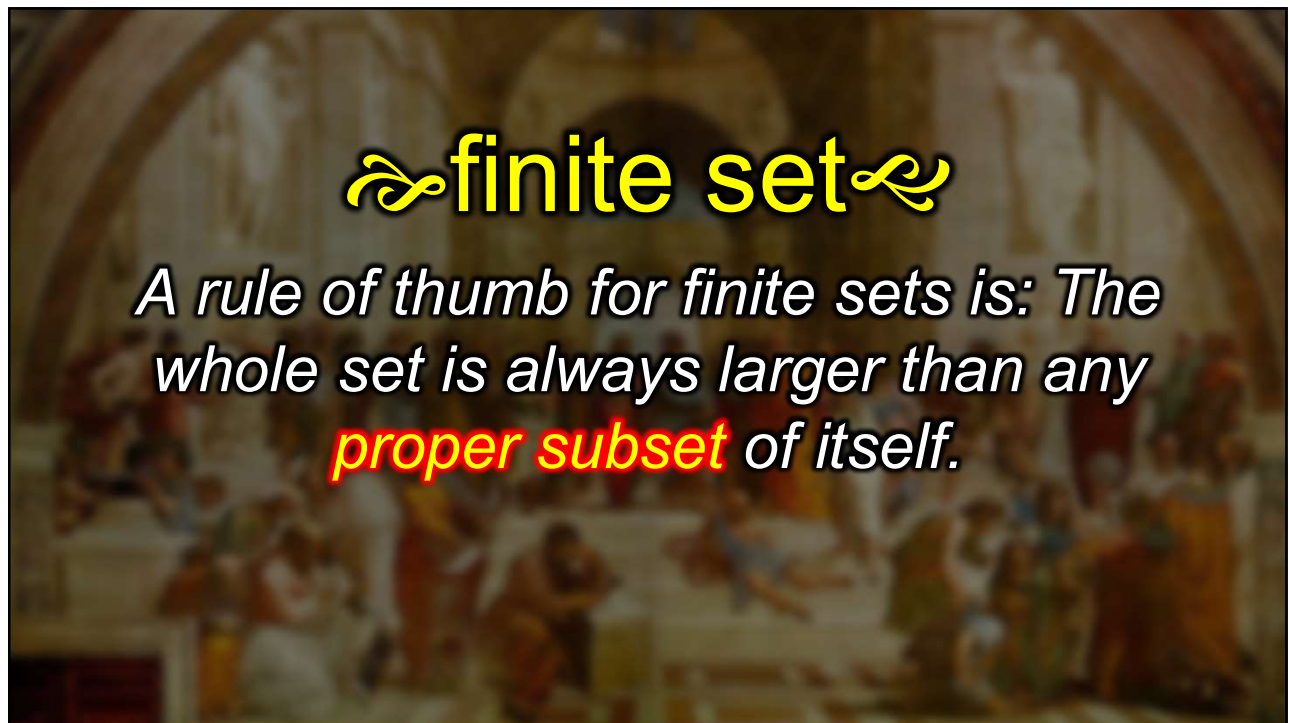
37



38



39



40



## proper subset

*All members of the proper subset  
are members of the set.*

*There are members of the set that are  
not members of the proper subset.*

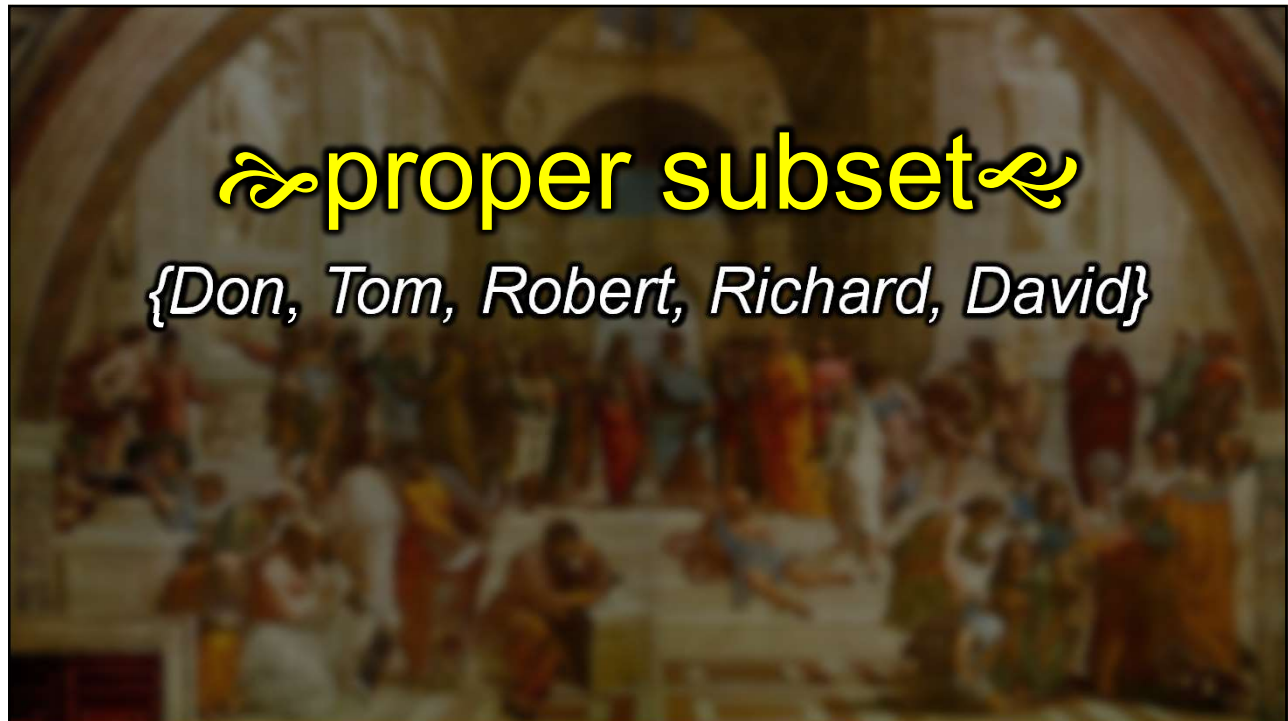
41

## proper subset

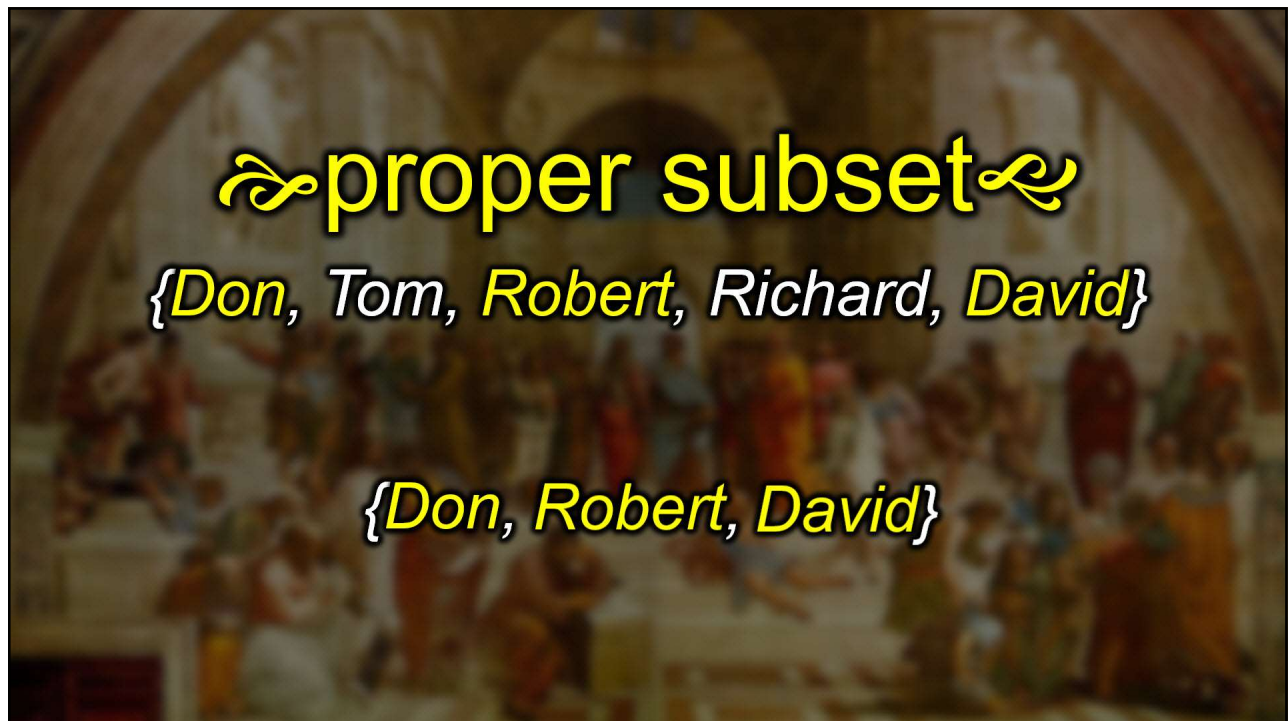
*For example, take the set of all the  
children of Berton and Hilda Howe.*

42





43



44

## proper subset

{Don, Tom, Robert, Richard, David}

{Don, Robert, David}

45

## proper subset

{Don, Tom, Robert, Richard, Daniel}

46



## ∞ proper subset ∞

*{Don, Tom, Robert, Richard, David}*

*{Don, Robert, **Daniel**}*

47

## ∞ infinite set ∞

*A infinite set is a set that contains an infinite number of members.*

48



## ∞ infinite set ∞

*There are two kinds of infinite sets: a potential infinite set and an actual infinite set.*

49

## ∞ potential infinite set ∞

*A potential infinite set is a set whose members are increasing without limit, but the number of which is always finite.*

50

∞ potential infinite set ∞

$$\{1 + 1 = 2 + 1 = 3 + 1 = 4 + 1 = 5 + 1 = 6 + 1 = 7 + 1 = 8 + 1 = 9 \dots\}$$

51

∞ potential infinite set ∞

$$\{1 + 1 = 2 + 1 = 3 + 1 = 4 + 1 = 5 + 1 = 6 + 1 = 7 + 1 = 8 + 1 = 9 \dots + 1 \neq \infty\}$$

52



## ↻ actual infinite set ↻

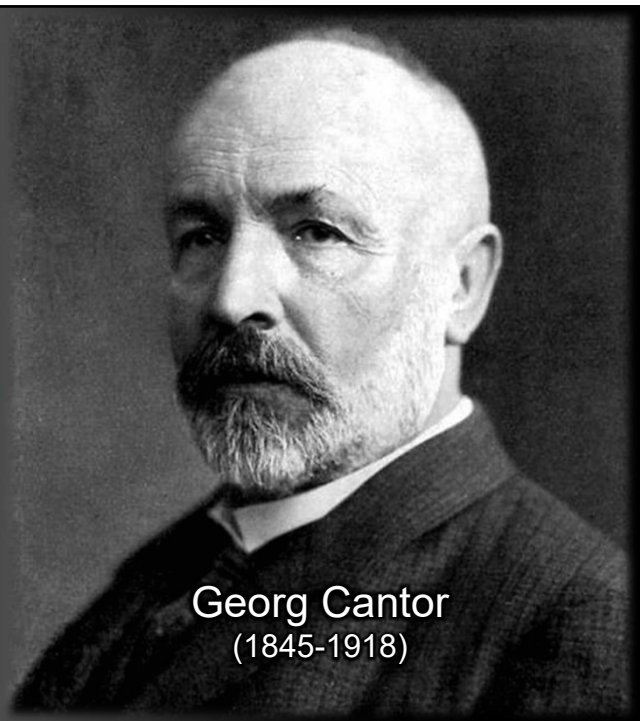
*An actual infinite set is a set that contains an actual infinite number of members, as, for example, the set of all whole numbers greater than zero*

*{1, 2, 3, ...}*

53

***German mathematician Georg Cantor defined an infinite set as "a set in which a part is equivalent to the whole. This means that it can be put in a **one-to-one correspondence with proper subset of itself.**"***

[George Cantor, *Contributions to the Founding of the Theory of Transfinite Numbers*, trans. with an Introduction by Philip E. B. Jourdain (New York: Dover Publications, 1915), pp. 55-6]



Georg Cantor  
(1845-1918)

54



## ∞ one-to-one correspondence ∞

*Two sets can be shown to be equivalent if their members can be put in a one-to-one correspondence with each other.*

55

## ∞ one-to-one correspondence ∞

*For example, the set of all odd whole numbers greater than zero can be put into a one-to-one correspondence with the set of all even whole numbers greater than zero.*

56

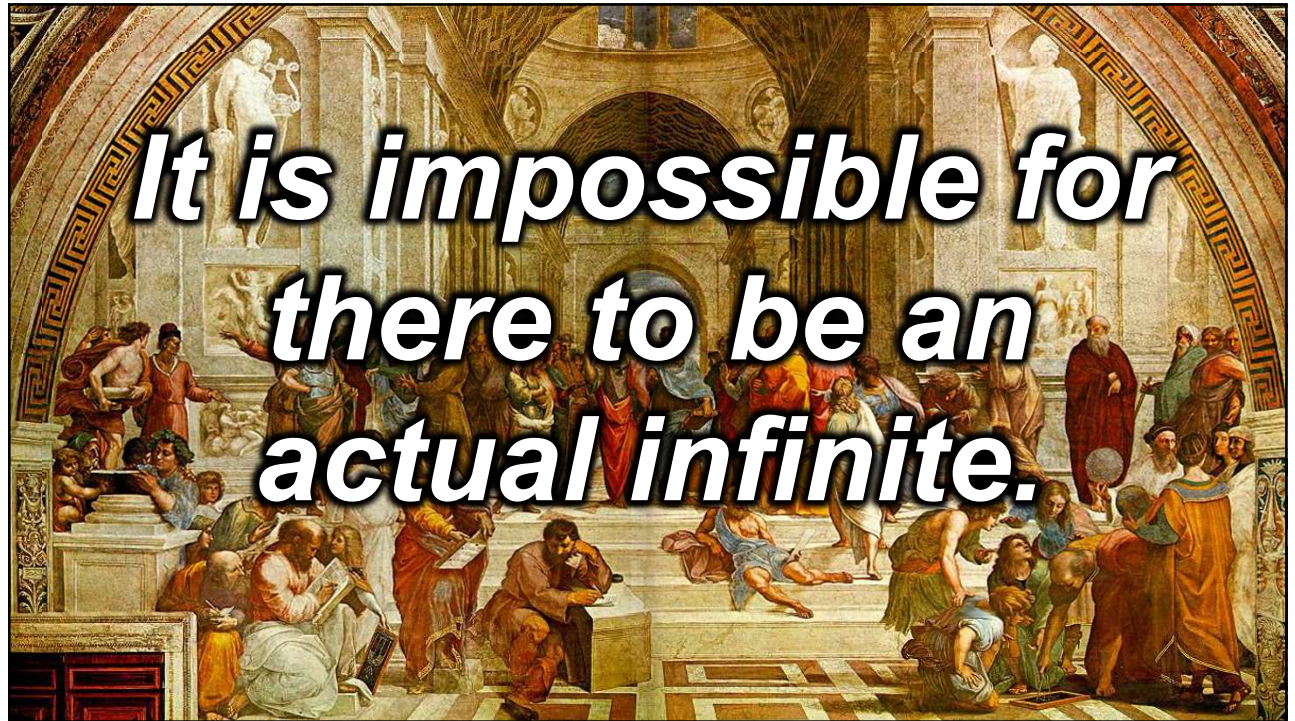
∞ one-to-one correspondence ∞

1, 3, 5, 7, ... → ∞

↓ ↓ ↓ ↓  
2, 4, 6, 8, ... → ∞

*This shows that the two sets are equivalent.*

57



58



***reductio ad absurdum argument***

***lit., "reduce to the absurd"***

59

∞ **one-to-one correspondence** ∞

**1, 3, 5, 7, ...** → ∞

↓ ↓ ↓ ↓  
**2, 4, 6, 8, ...** → ∞

*This shows that the two sets are equivalent.*

60



∞ one-to-one correspondence ∞

1, 3, 5, 7, ... → ∞

↓ ↓ ↓ ↓  
1, 2, 3, 4, ... → ∞

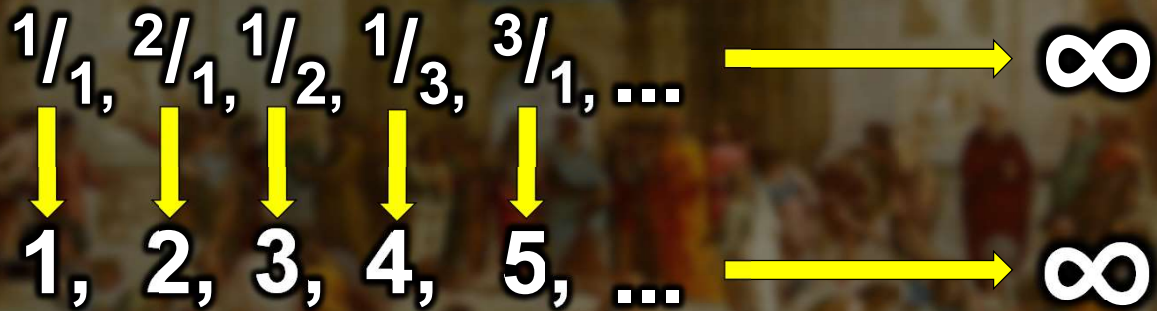
*This shows that the two sets are equivalent.*

61

	1	2	3	4	5
1	$\frac{1}{1}$ → $\frac{2}{1}$	$\frac{3}{1}$ → $\frac{4}{1}$	$\frac{5}{1}$		
2	$\frac{1}{2}$ ← $\frac{2}{2}$	$\frac{3}{2}$ ← $\frac{4}{2}$	$\frac{5}{2}$		
3	$\frac{1}{3}$ ↓ $\frac{2}{3}$	$\frac{3}{3}$ → $\frac{4}{3}$	$\frac{5}{3}$		
4	$\frac{1}{4}$ ← $\frac{2}{4}$	$\frac{3}{4}$ → $\frac{4}{4}$	$\frac{5}{4}$		
5	$\frac{1}{5}$ ↓ $\frac{2}{5}$	$\frac{3}{5}$ → $\frac{4}{5}$	$\frac{5}{5}$		

62

∞ one-to-one correspondence ∞



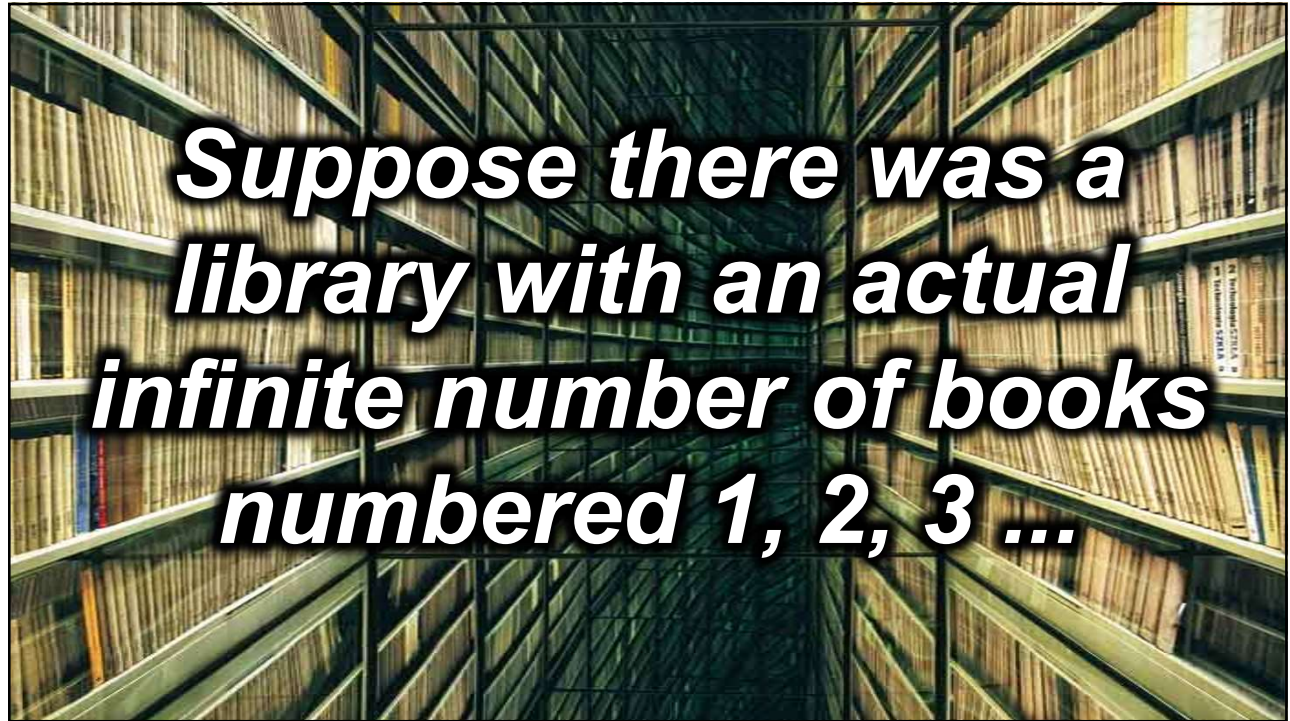
*This shows that the two sets are equivalent.*

63

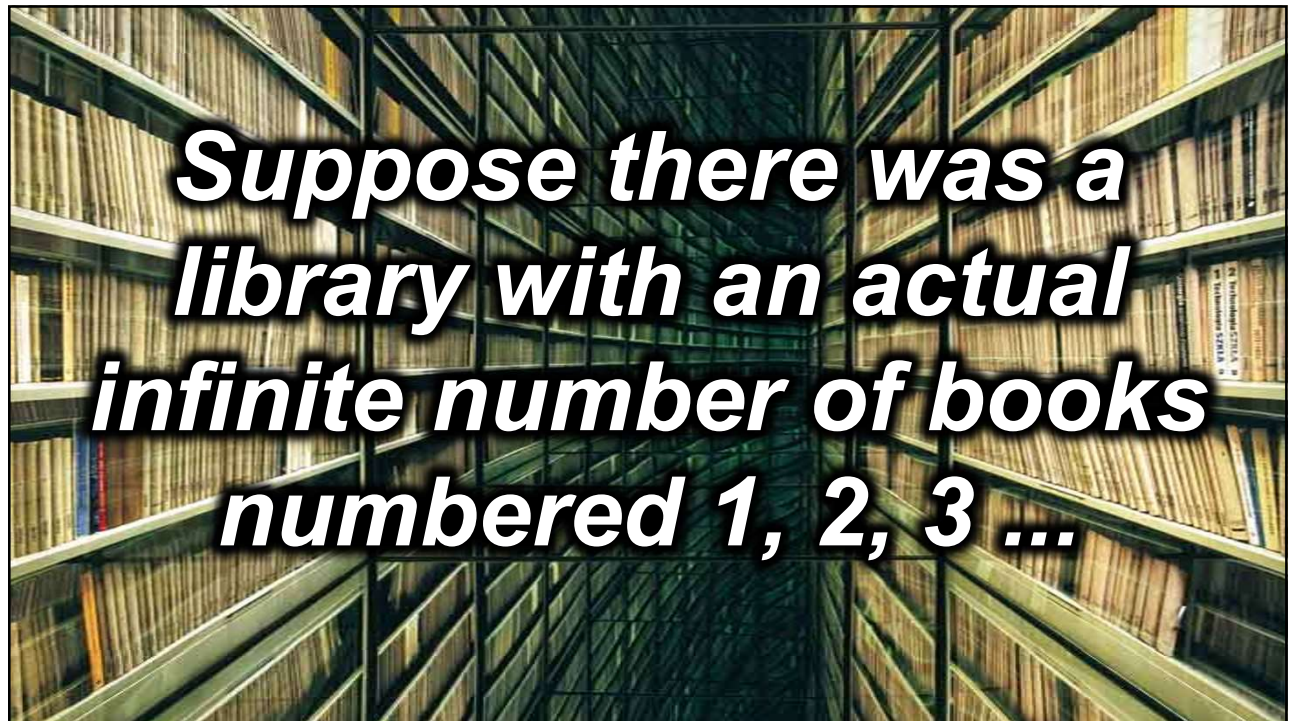
***Since all this follows from the definition of an actual infinite, consider the implications for something concrete.***

64



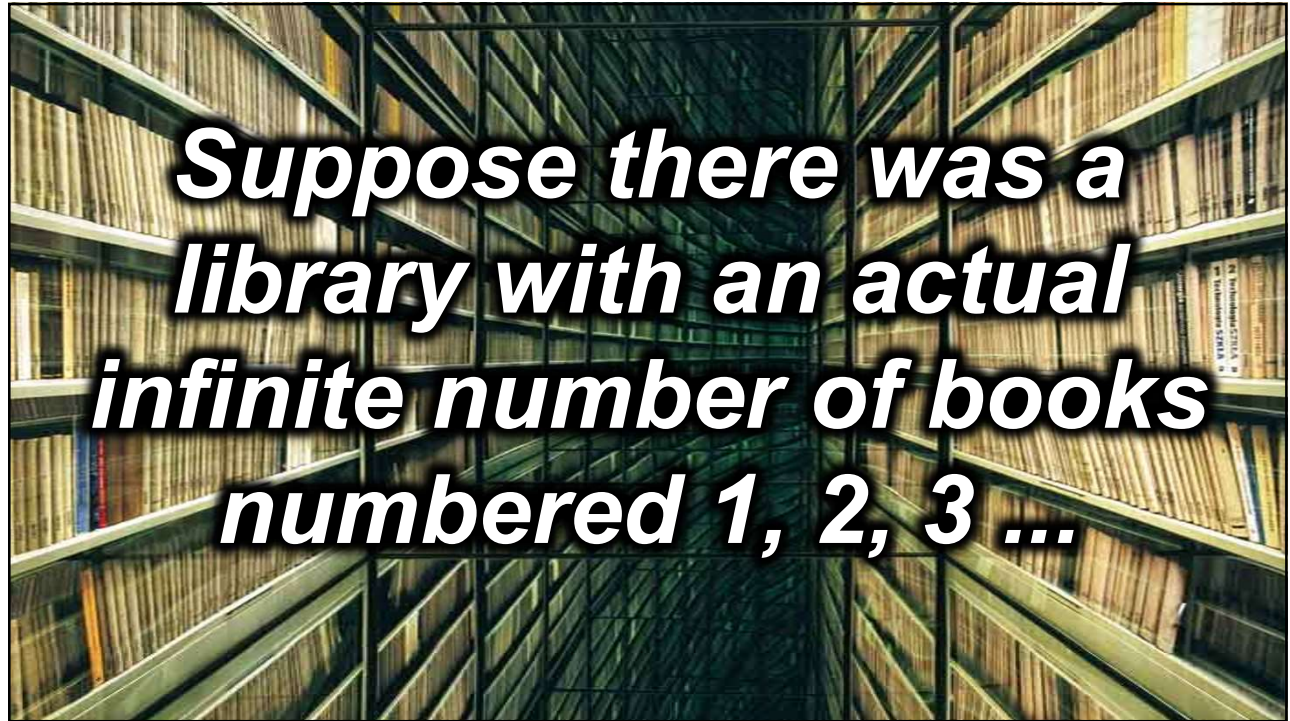


65



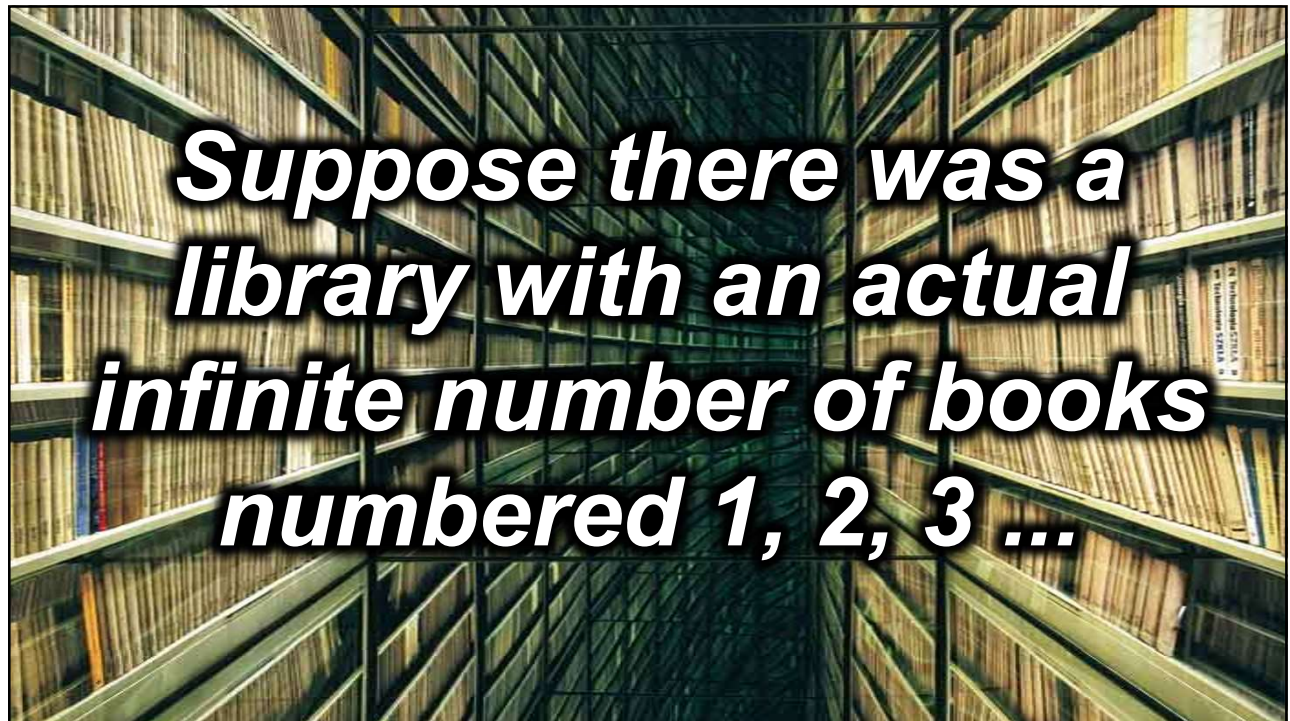
66





***Suppose there was a library with an actual infinite number of books numbered 1, 2, 3 ...***

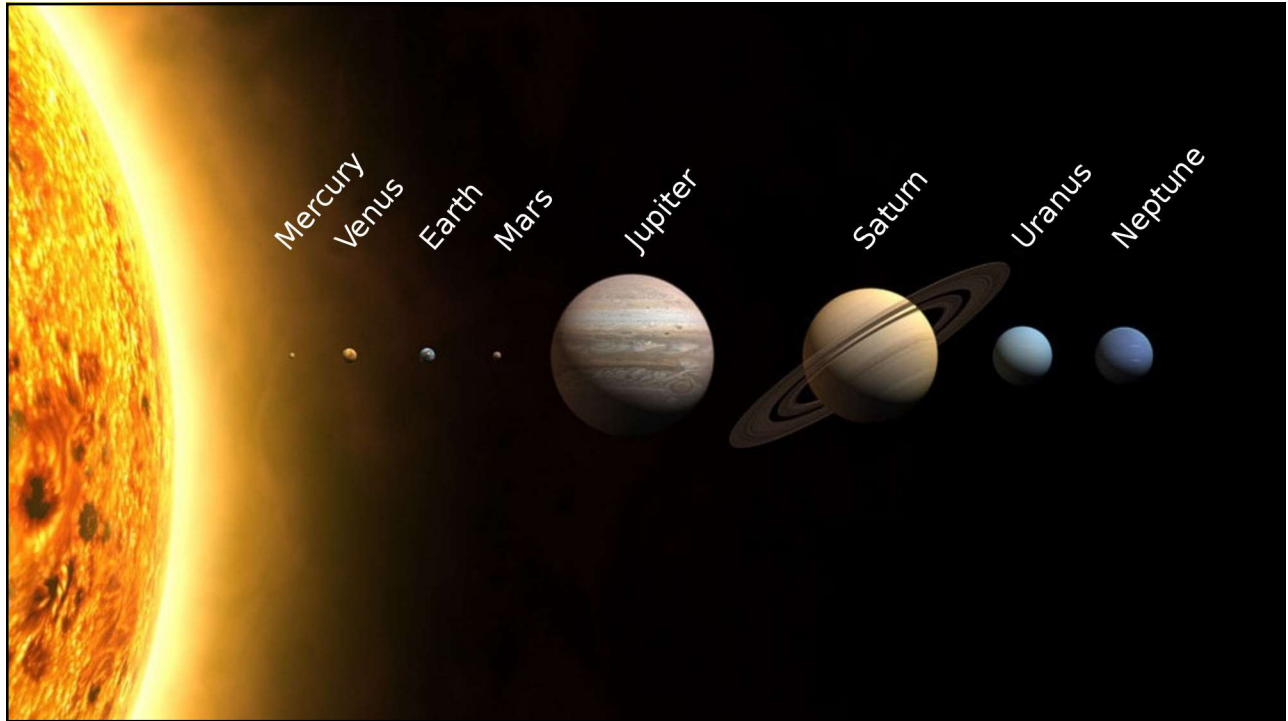
67



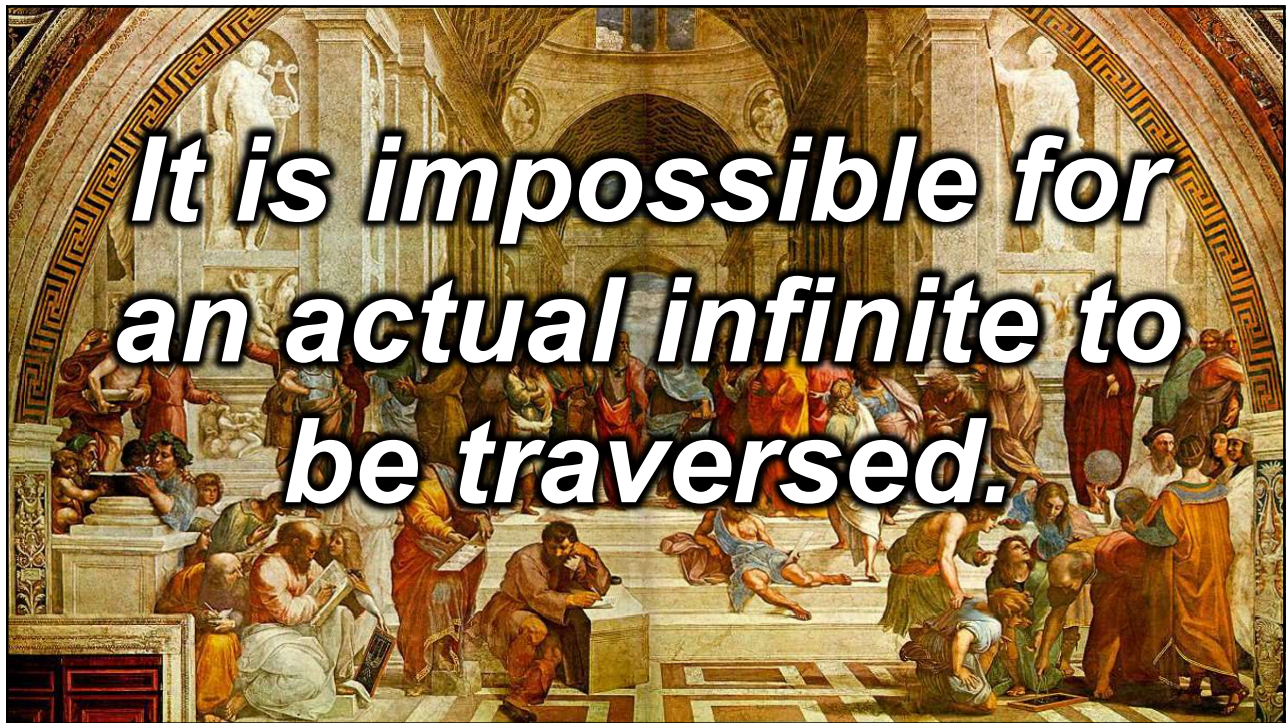
***Suppose there was a library with an actual infinite number of books numbered 1, 2, 3 ...***

68

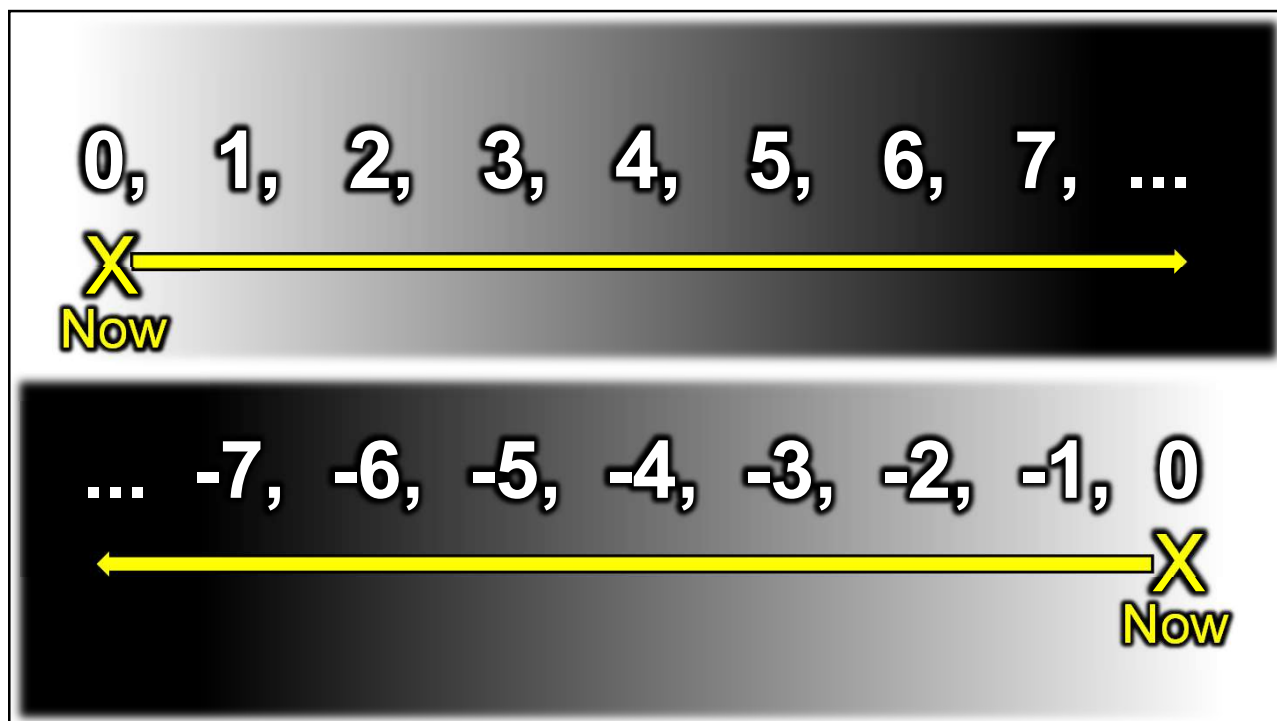




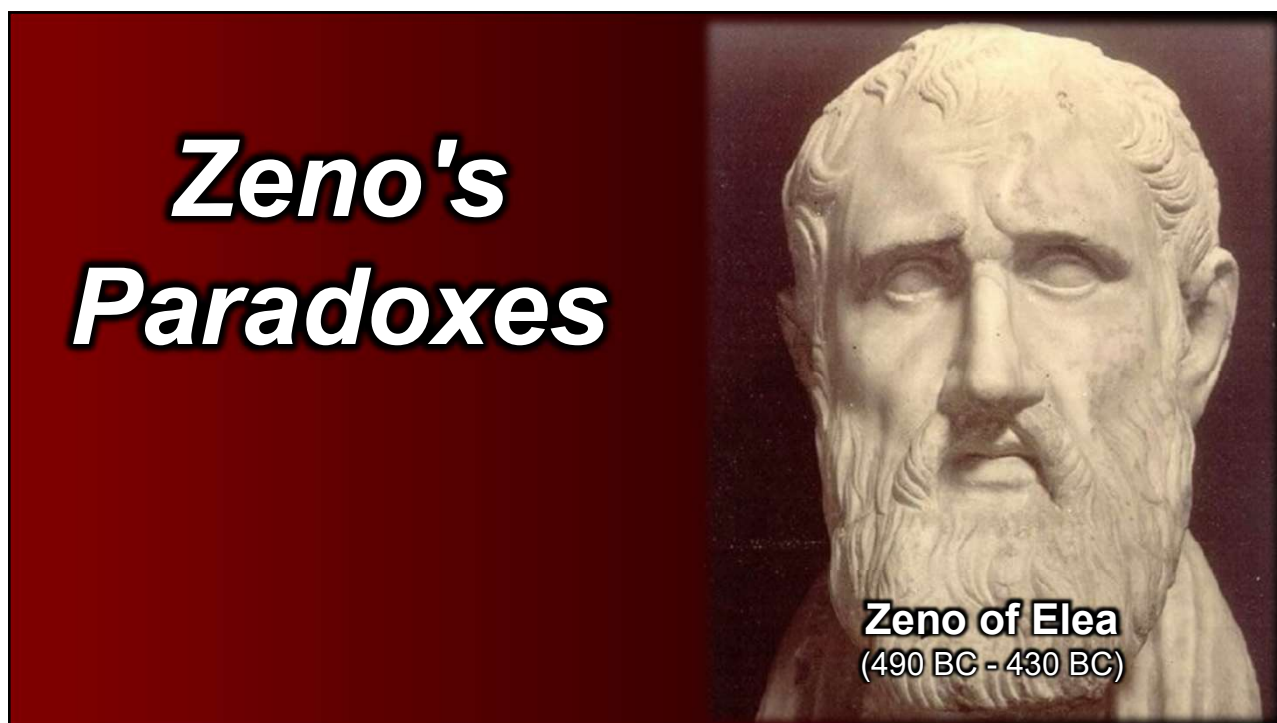
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70



71

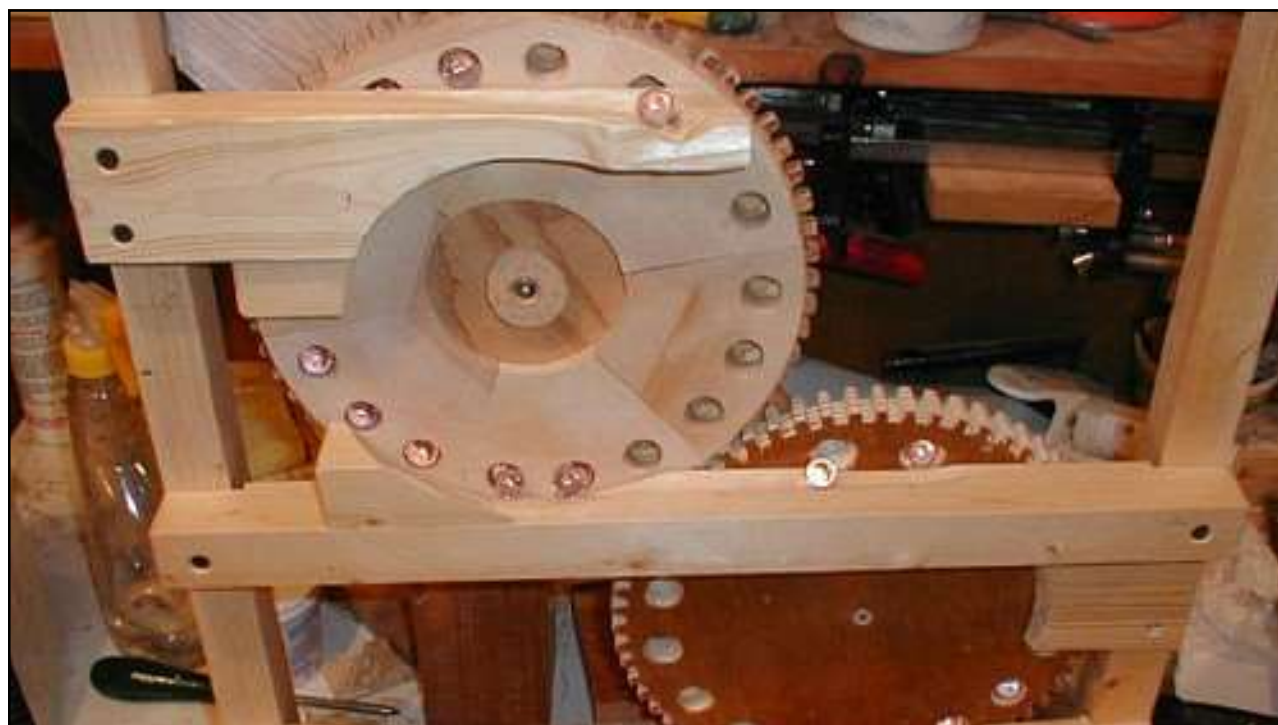


72





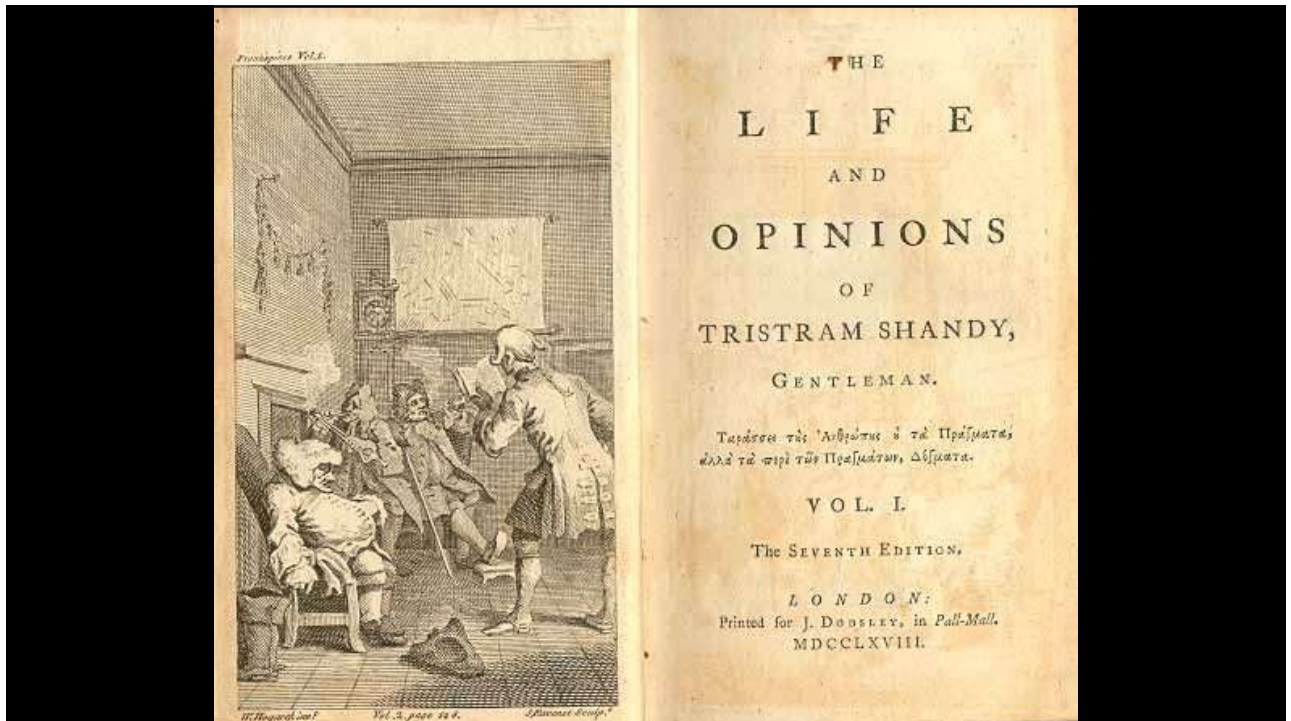
73



74



75



76

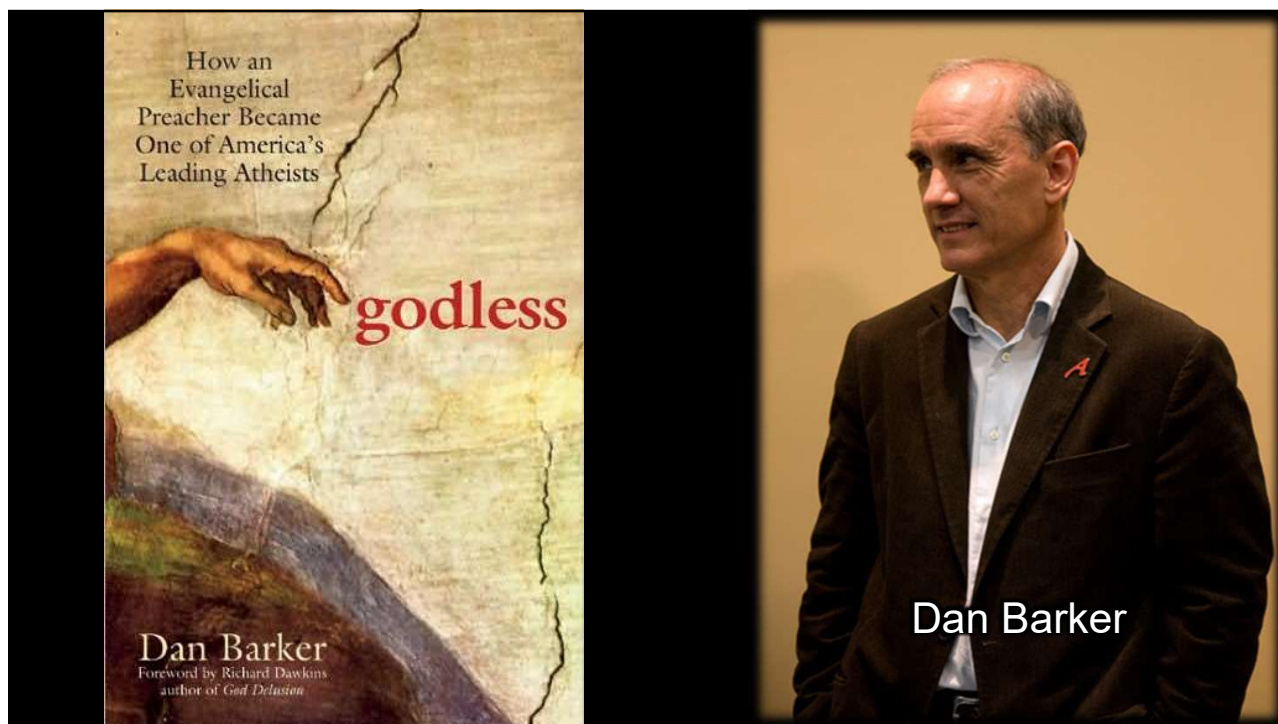
**Premise 2:** Whatever begins to exist has a cause of its existence.

77

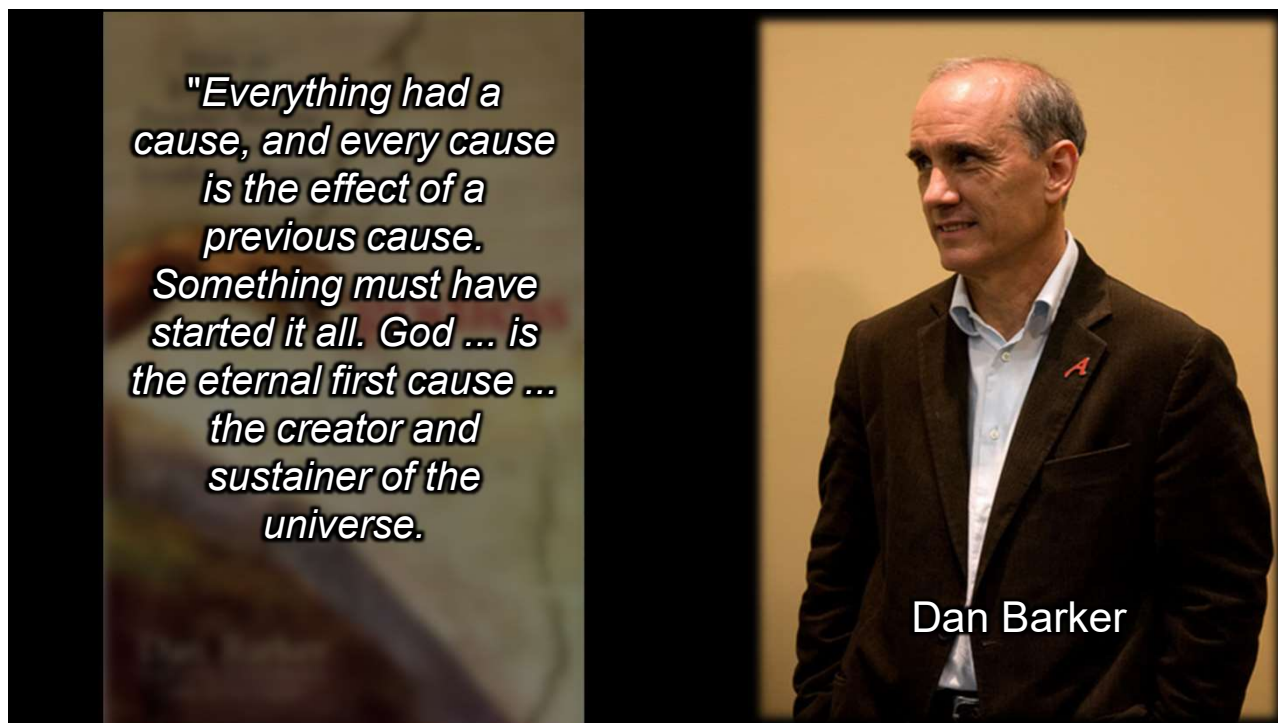
***Astonishingly, many contemporary atheists completely miss this premise in the argument.***

78





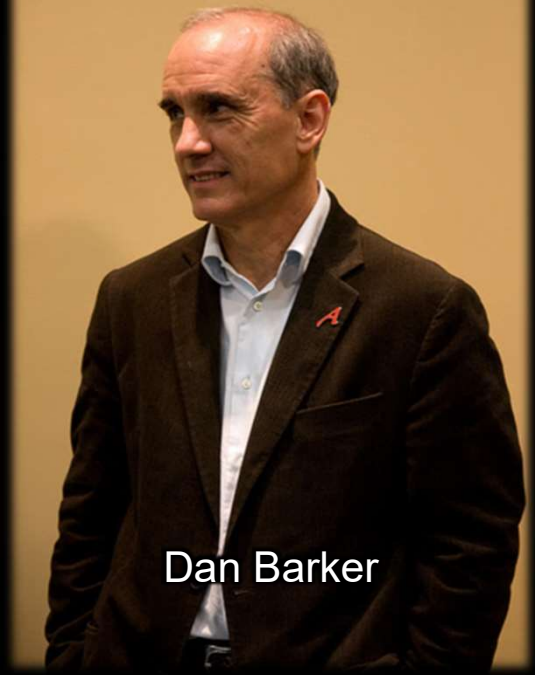
79



80

*"The major premise of this argument 'everything had a cause,' is contradicted by the conclusion that 'God did not have a cause.' You can't have it both ways. If everything had to have a cause, then there could not be a first cause."*

[Dan Barker, *Godless: How an Evangelical Preacher Became One of America's Leading Atheists* (Berkeley: Ulysses Press, 2008), 113-114]

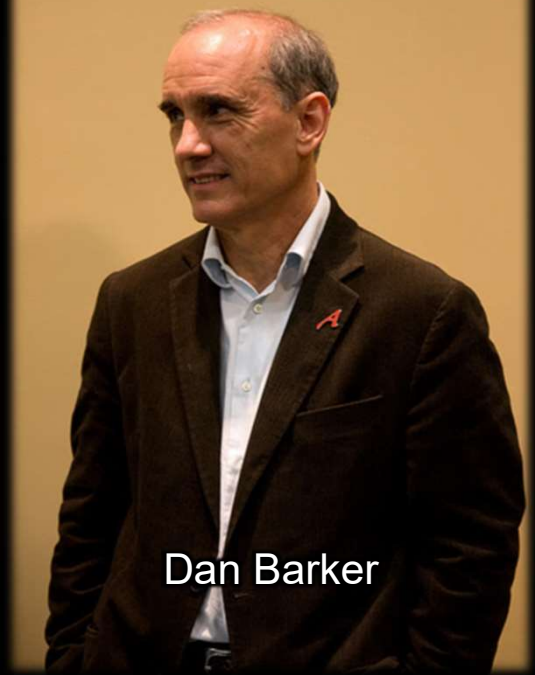


Dan Barker

81

*"The old cosmological argument claimed that since everything has a cause, there must be a first cause, an 'unmoved first mover.' Today no theistic philosophers defend that primitive line because if everything needs a cause, so does God."*

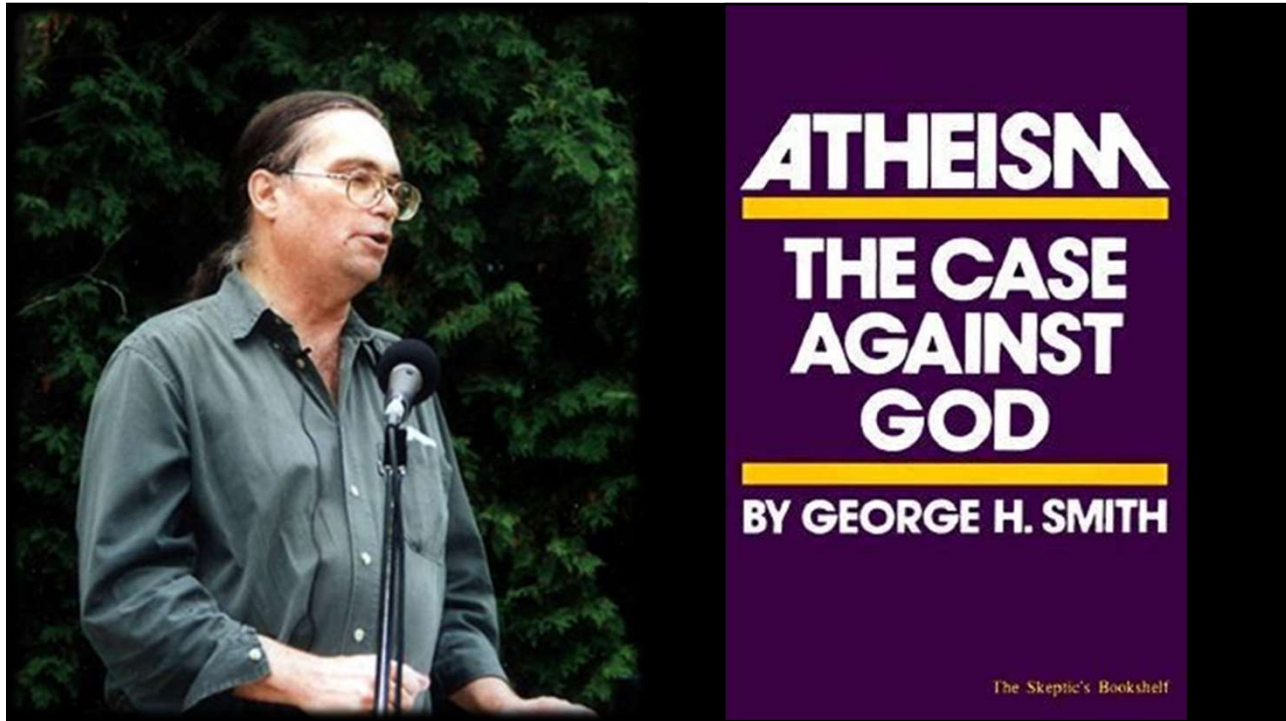
[Dan Barker, *Godless*, 130]



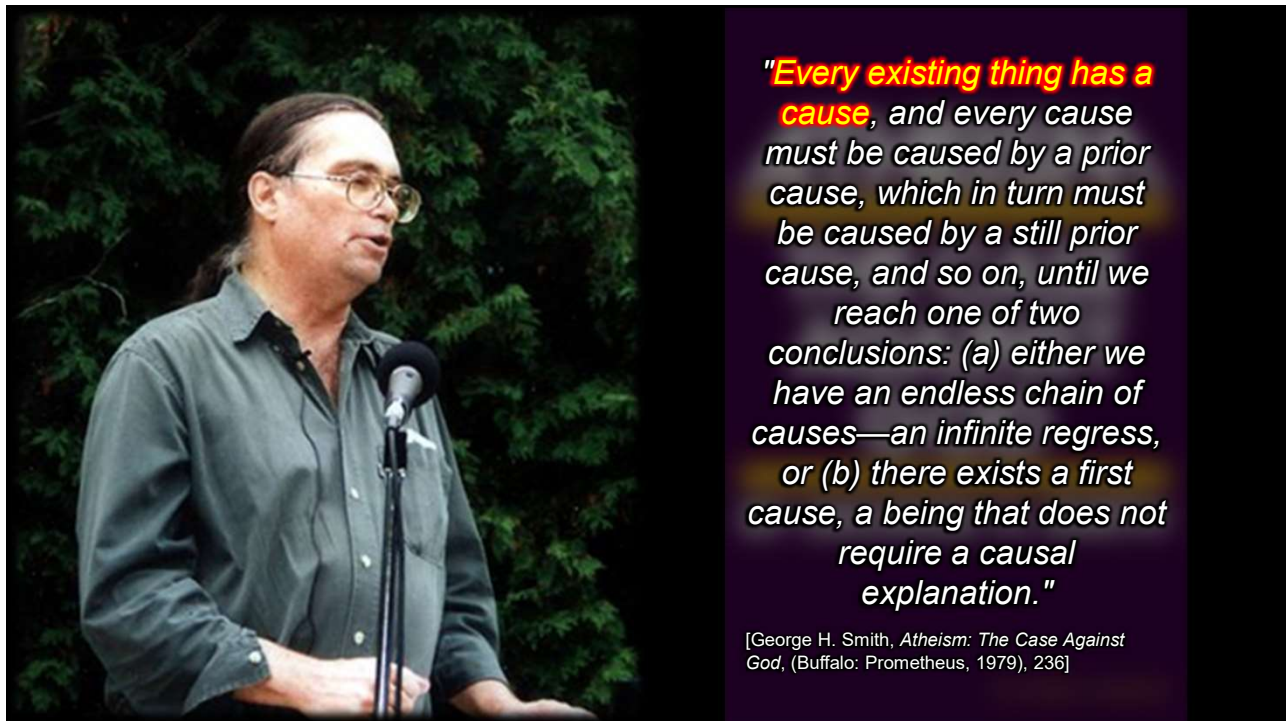
Dan Barker

82



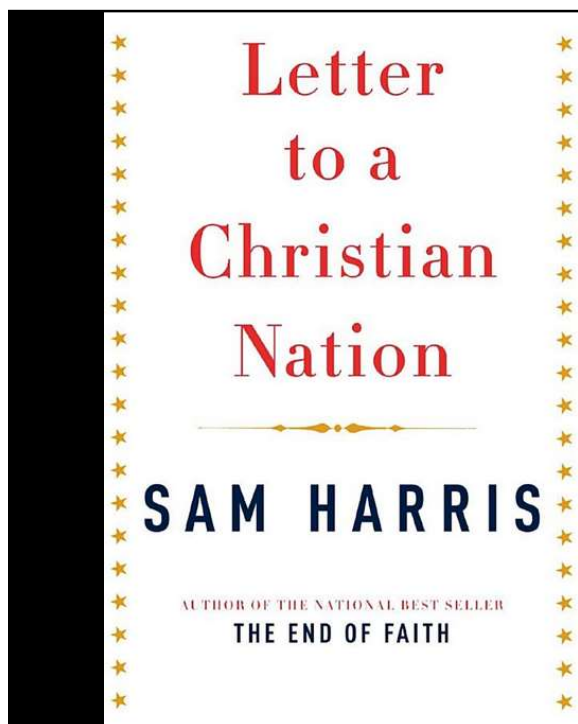


83

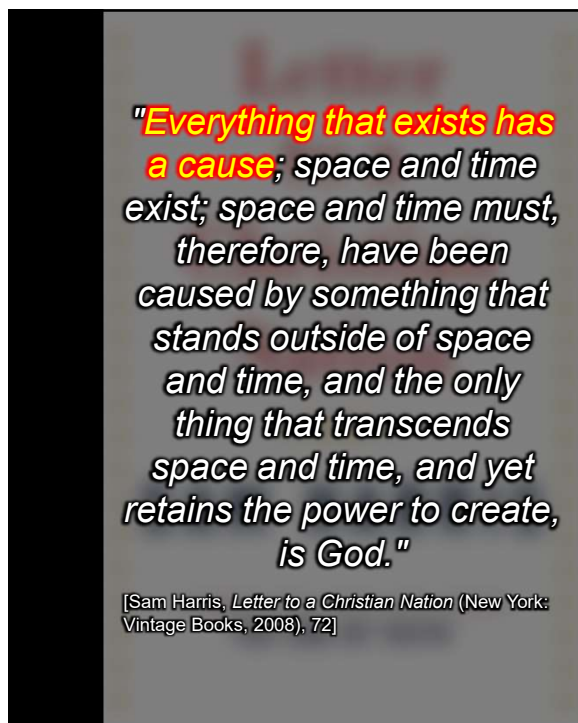


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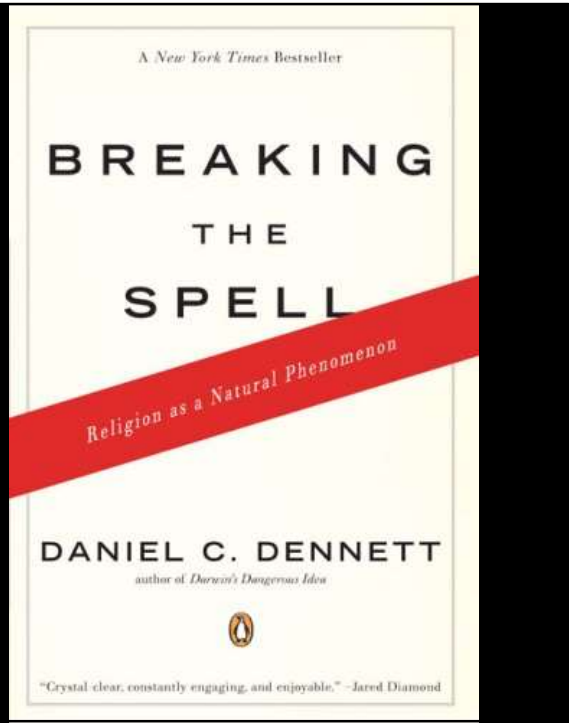
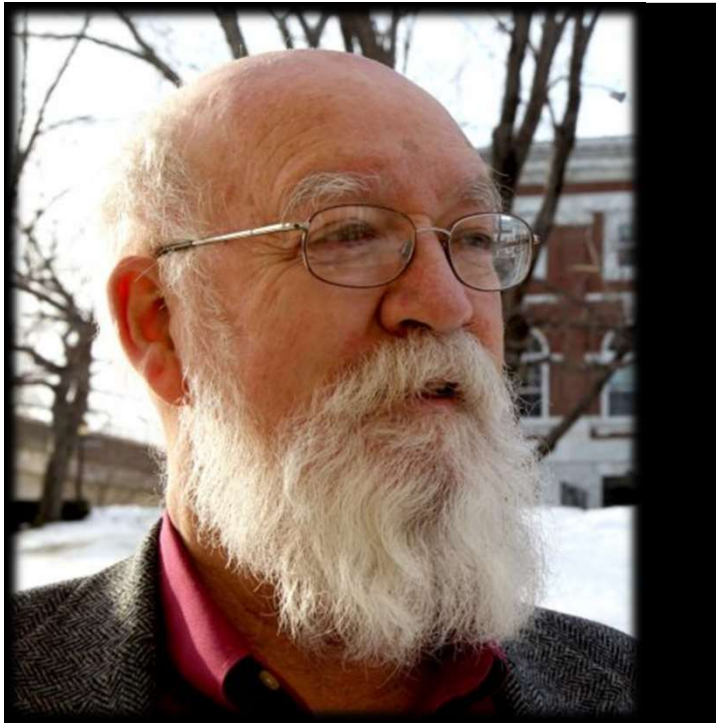




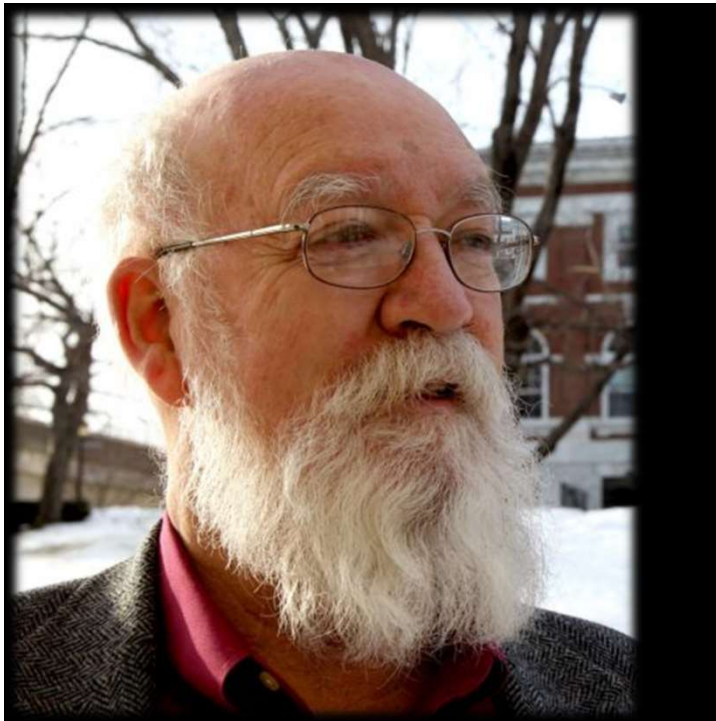
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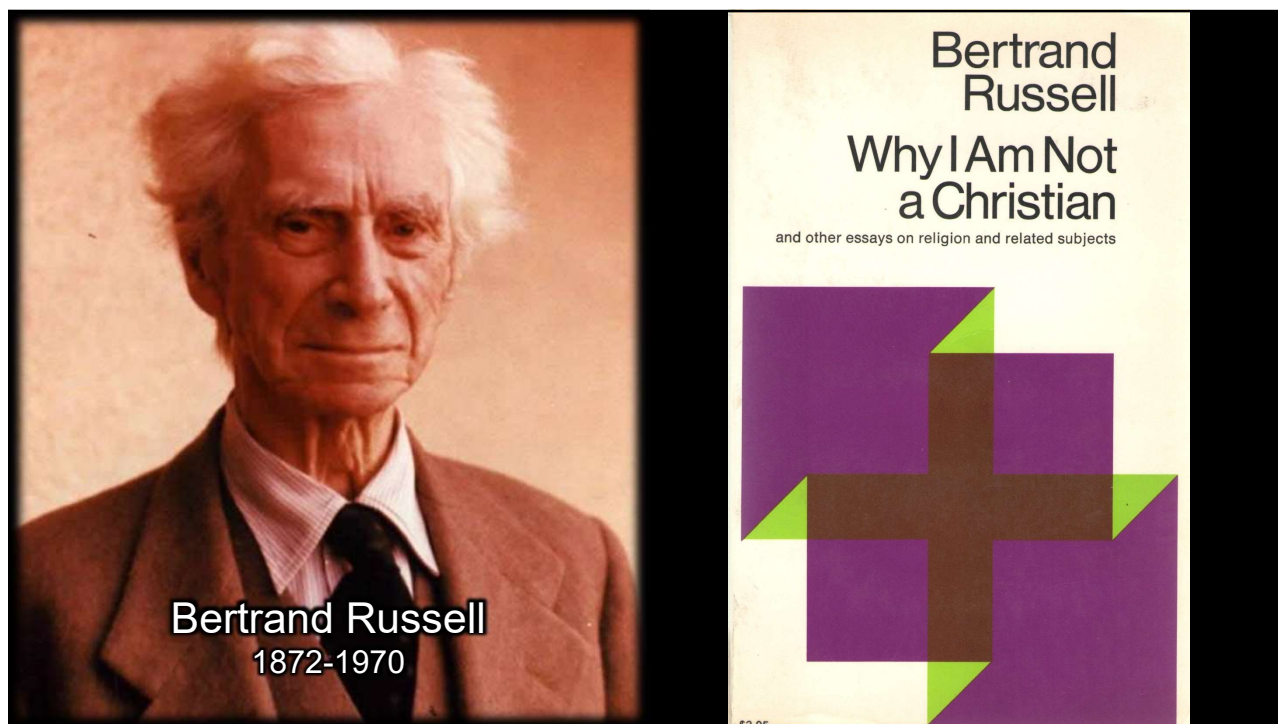


*"The Cosmological Argument, which in its simplest form states that since **everything must have a cause** the universe must have a cause—namely, God—doesn't stay simple for long."*

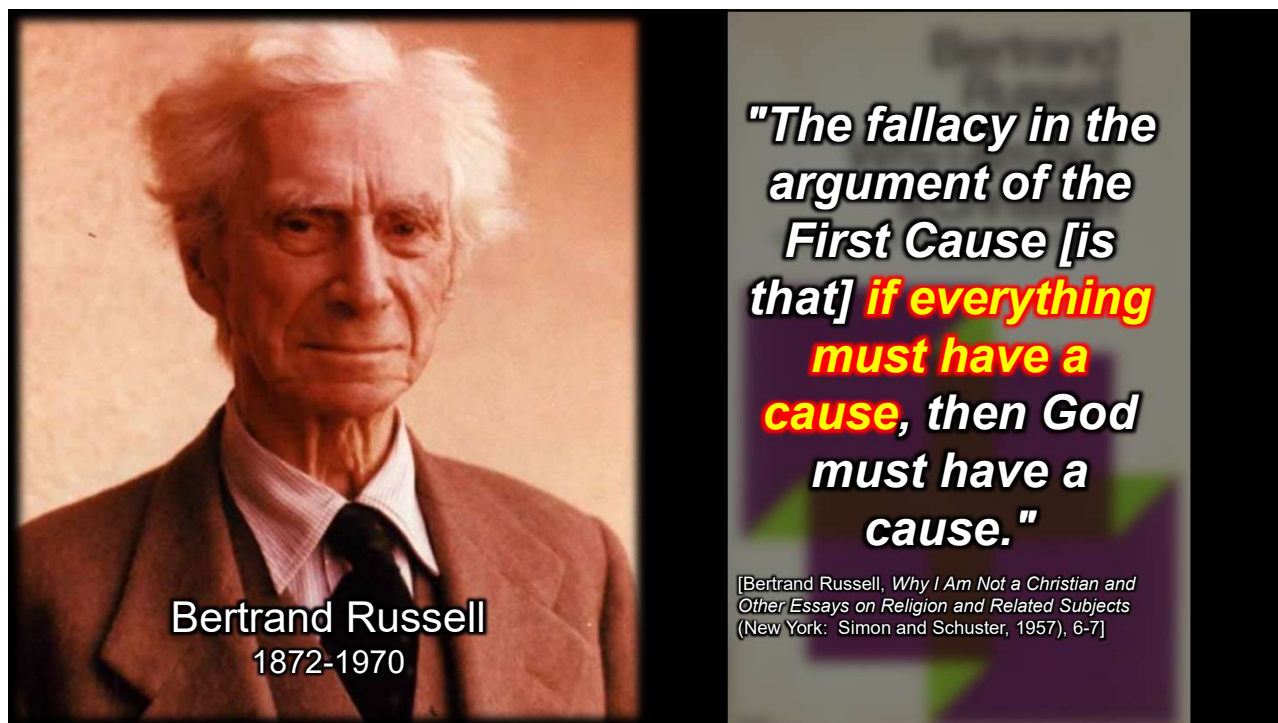
[Daniel C. Dennett, *Breaking the Spell*, (New York: Penguin Group, 2006), 242]

88



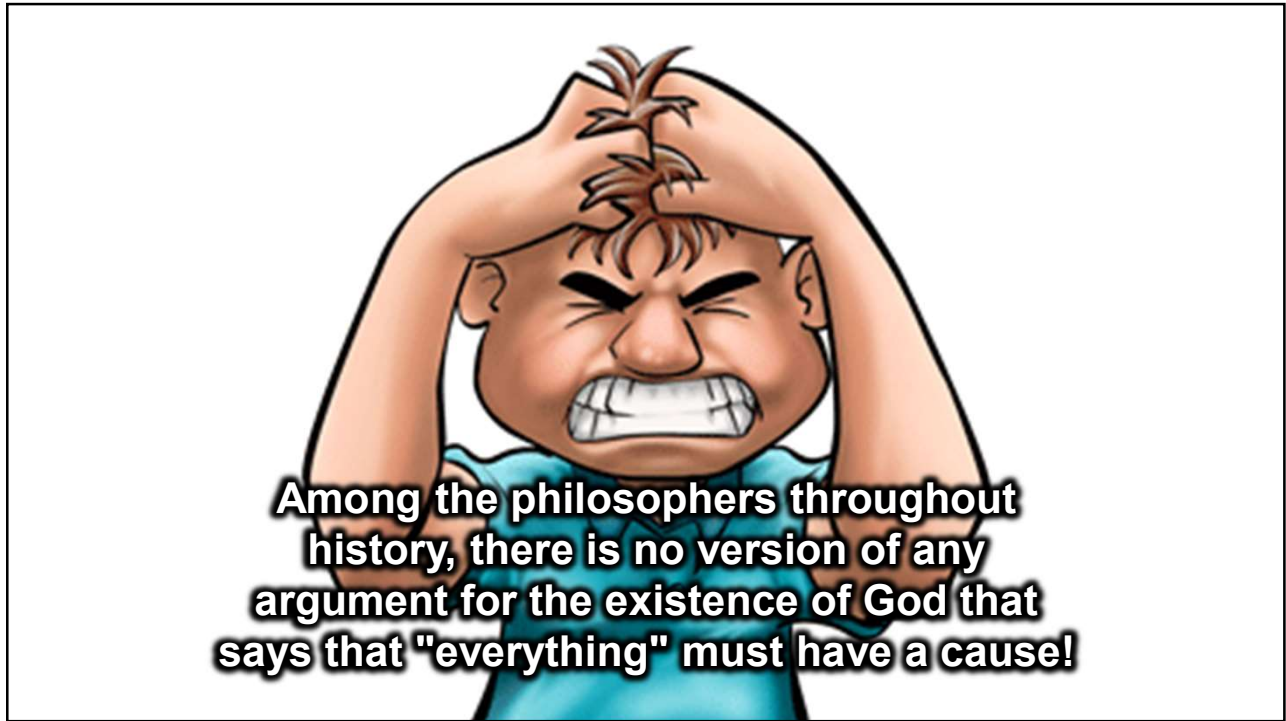


89

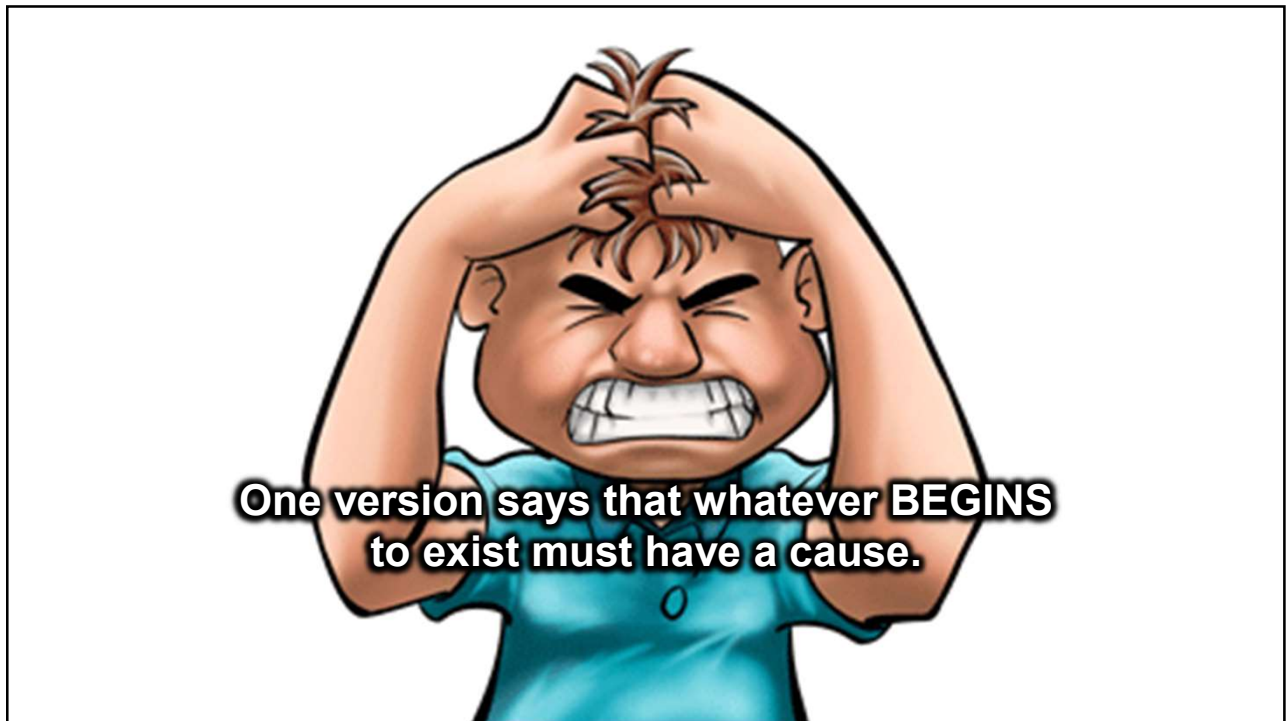


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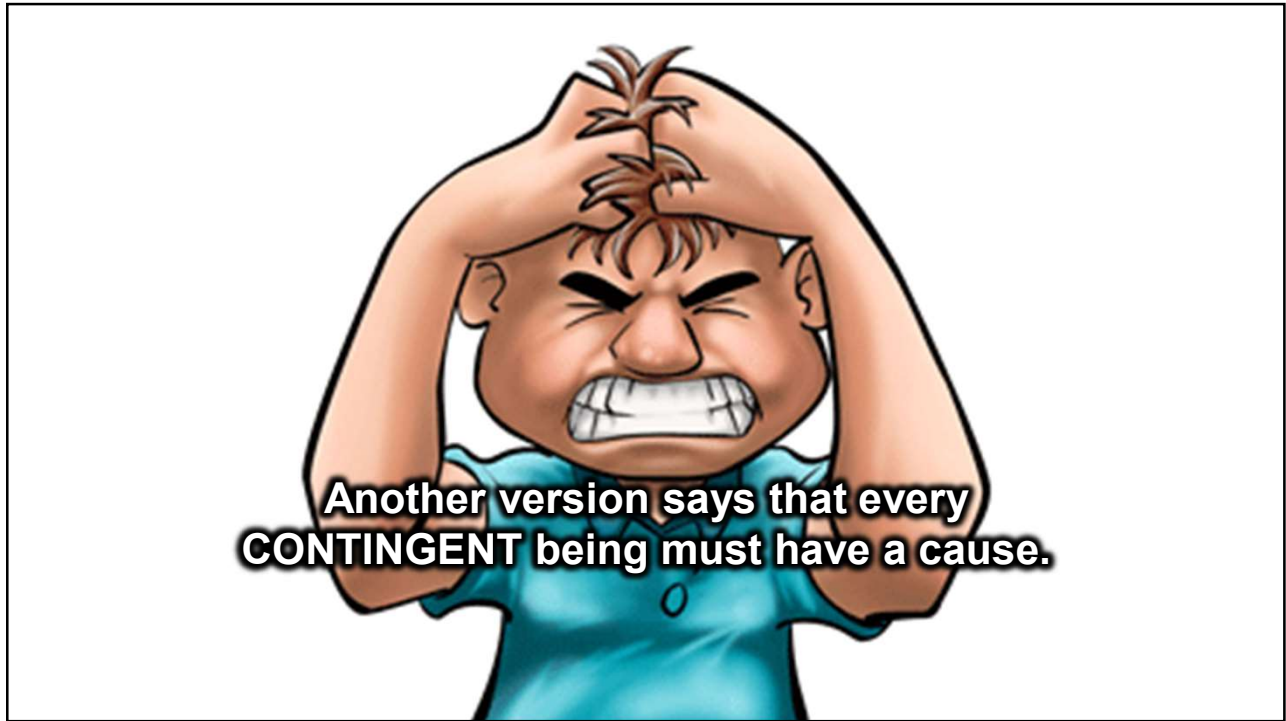




91

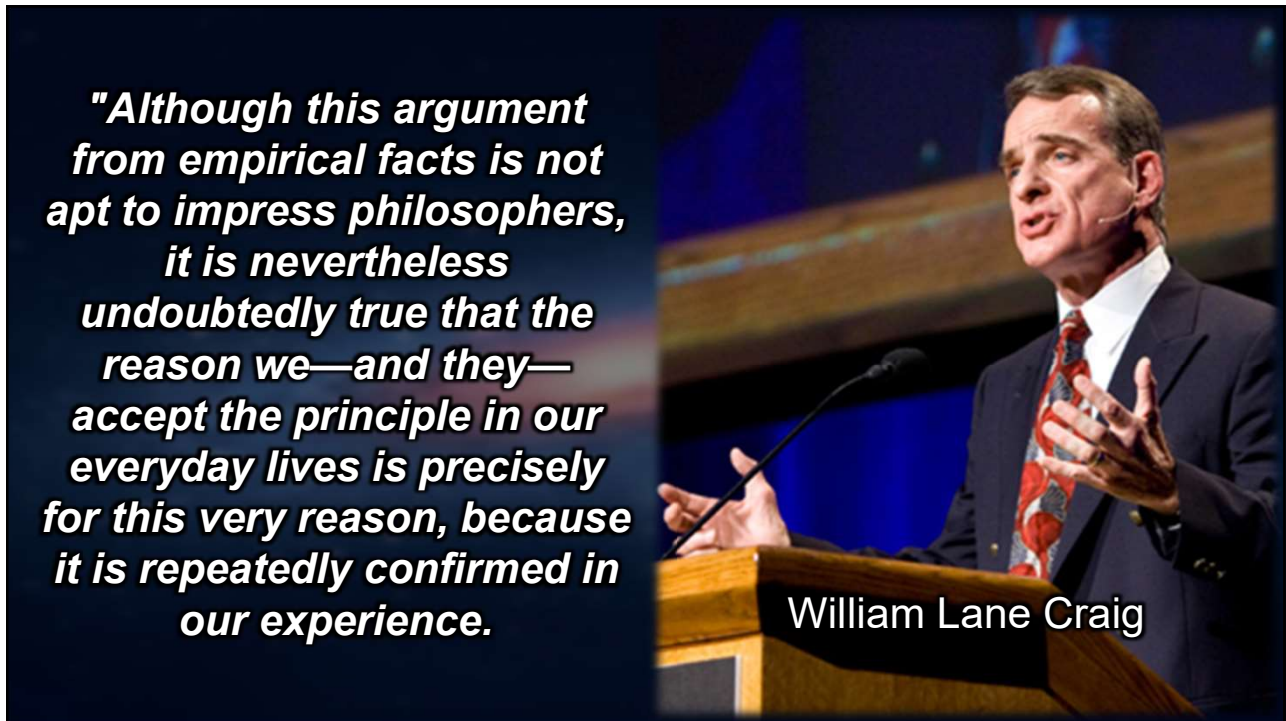


92



**Another version says that every  
CONTINGENT being must have a cause.**

93



***"Although this argument  
from empirical facts is not  
apt to impress philosophers,  
it is nevertheless  
undoubtedly true that the  
reason we—and they—  
accept the principle in our  
everyday lives is precisely  
for this very reason, because  
it is repeatedly confirmed in  
our experience.***

**William Lane Craig**

94



***"Constantly verified and never falsified, the causal proposition may be taken as an empirical generalization enjoying the strongest support experience affords."***

[William Lane Craig, *The Kalam Cosmological Argument* (London: The Macmillan Press, LTD, 1979), 145.]



William Lane Craig

95

**Conclusion:** Therefore, the universe has a cause of its existence.

96

# ∞ Three Alternatives ∞



97

**The Universe is uncaused.**

*Response*

*This is impossible since everything that has a beginning needs a cause.*

98



**The Universe is self-caused.**

*Response*

*This is impossible since to be self-caused is a contradiction.*

99

**The Universe is caused.**

*Response*

*This is the only reasonable option.*

100

# ∞ Objections ∞

101



102



103

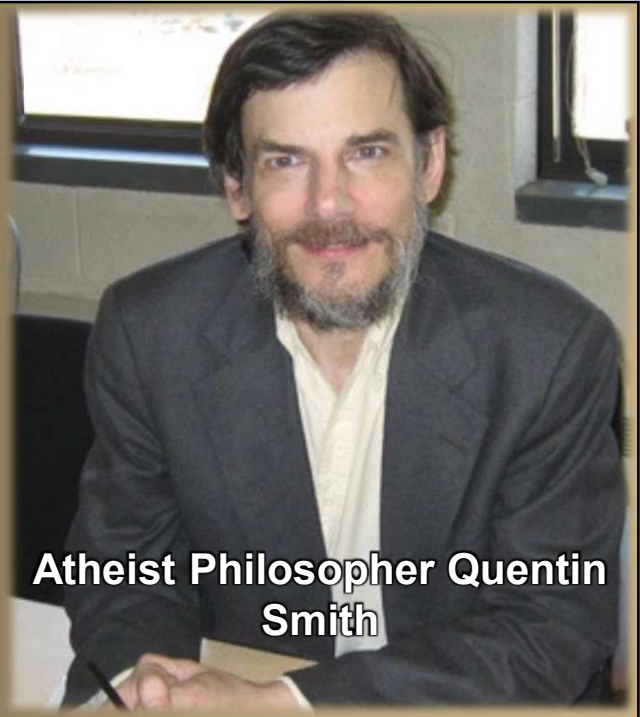


104



***It belongs analytically to the concept of the cosmological singularity that it is not the effect of prior physical events. ... This effectively rules out the idea that the singularity is an effect of some prior natural process.***

[Quentin Smith, "The Uncaused Beginning of the Universe," in William Land Craig and Quentin Smith, *Theism, Atheism and Big Bang Cosmology* (Oxford: Clarendon Press, 1993), 120]



**Atheist Philosopher Quentin Smith**

105



**Is there more than one God?**

106



107