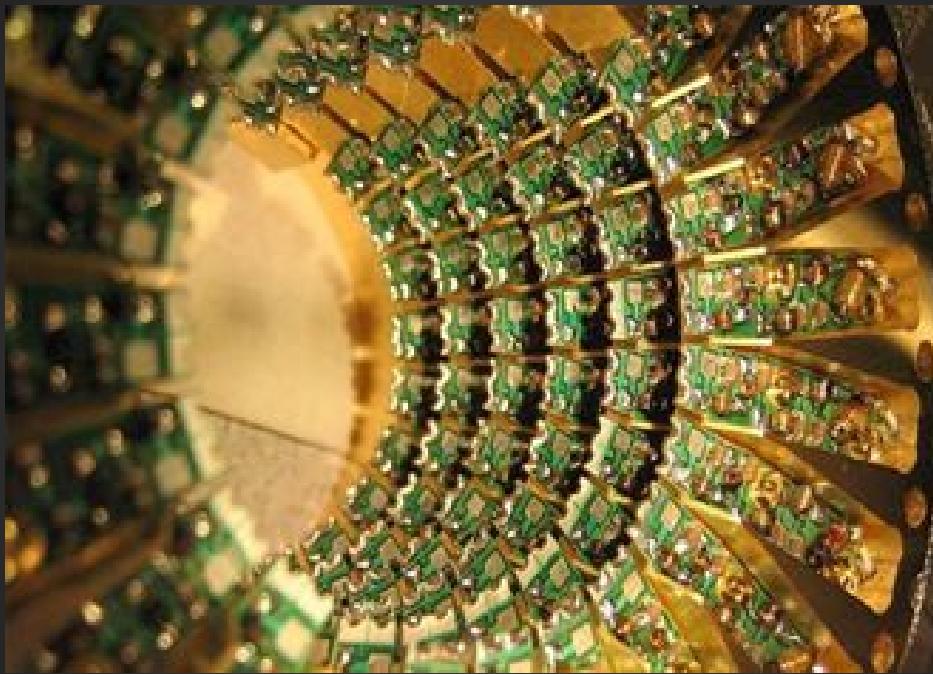


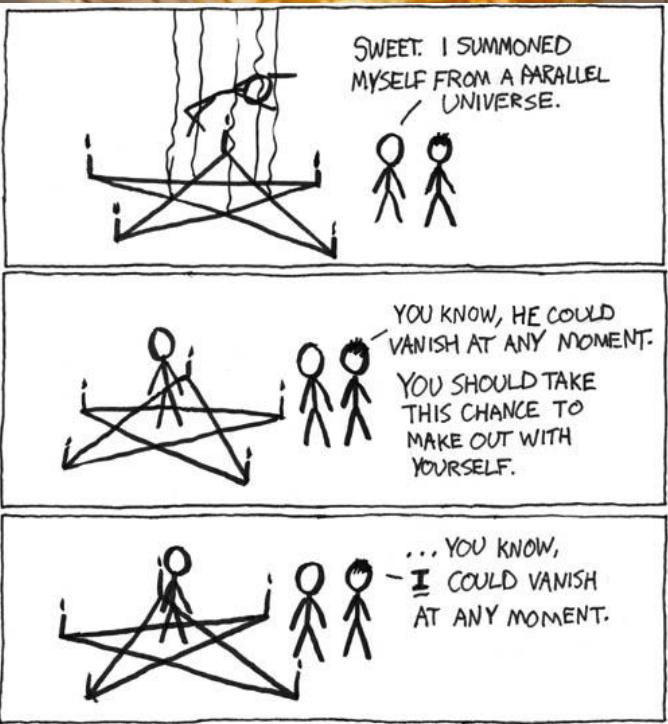
quantum roots of alternate reality narratives in games

PAX-West Sep. 2016

brian kirkby

bkirkby@kirkby.org
<http://bkirkby.github.io/>
[@therealpheirce](https://twitter.com/therealpheirce)





It's me-you, from the future! I just finished Quantum Break. And it's pretty cool.

Thanks, dude.

Yeah, the Quantum was broken for a while but it got fixed.



Alternate Universe

[Main](#)[Laconic](#)[Quotes](#)[Create New ▾](#)

"Penny, while I subscribe to the many worlds theory which posits the infinite number of Sheldons in an infinite number of universes, I assure them am I dancing."

— Sheldon Cooper, *The Big Bang Theory*

A story in which the characters we know are seen in a reality somehow different, often disturbingly so. If they can access alternative universes at the same time, that's [The Multiverse](#)

Sometimes everyone has an [Evil Twin](#). Other times, everyone

https://en.wikipedia.org/wik/Category:Video_games_featuring_parallel_Universes

WIKIPEDIA

The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikipedia store

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools
What links here
Related changes
Upload file
Special pages
Permanent link
Page information
Wikidata item

Print/export
Create a book
Download as PDF
Printable version

Category:Video games featuring parallel universes

From Wikipedia, the free encyclopedia

This is a list of **video games** that feature **parallel universes**.

Subcategories

This category has the following 10 subcategories, out of 10 total.

C

- ▶ [Capcom Versus \(series\)](#) (1 C, 11 P)

D

- ▶ [Digimon video games](#) (28 P)
- ▶ [Drakengard](#) (11 P, 15 F)

K

- ▶ [Kamen Rider video games](#) (8 P)
- ▶ [Kingdom Hearts](#) (2 C, 24 P)

M

R

- ▶ [Megami Tensei](#) (3 C, 37 P, 4 F)
- ▶ [Myst games](#) (8 P)

S

- ▶ [Rifts \(role-playing game\)](#) (11 P, 3 F)

V

- ▶ [Silent Hill](#) (3 C, 16 P)

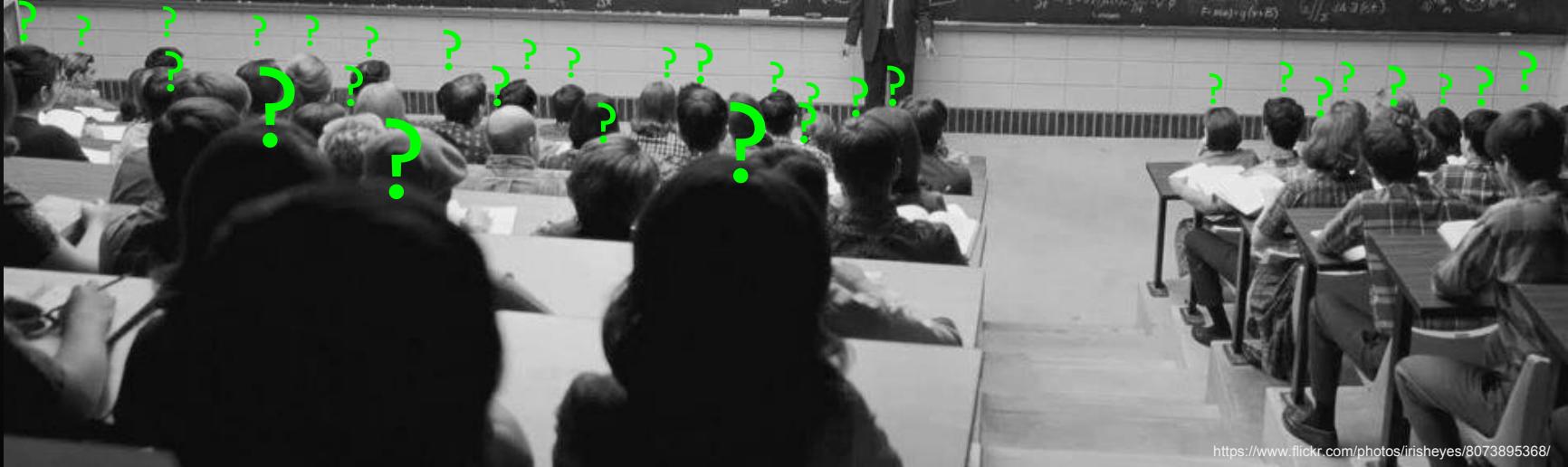
A

Pages in category "Video games featuring parallel universes"

The following 91 pages are in this category, out of 91 total. This list may not reflect recent changes ([learn more](#)).

- [Life Is Strange](#)
- [The Longest Journey](#)

$$\begin{aligned} & \text{Chalkboard filled with complex mathematical equations, diagrams, and graphs.} \\ & \text{Topics include:} \\ & \quad \text{Mechanics: Free Body Diagrams, Vector Addition, Equilibrium conditions like } \sum F_x = 0, \sum F_y = 0, \sum M = 0. \\ & \quad \text{Electromagnetism: Ampere's Law, Faraday's Law, Lenz's Law, Maxwell's Equations.} \\ & \quad \text{Quantum Mechanics: Schrödinger Equation, wave functions, energy levels.} \\ & \quad \text{Thermodynamics: Ideal Gas Law, Specific Heat, Heat Transfer, First Law of Thermodynamics, Second Law.} \\ & \quad \text{Calculus: Derivatives, Integrals, Series expansions.} \\ & \quad \text{Algebra: Solving systems of equations, inequalities, functions.} \\ & \quad \text{Trigonometry: Trig identities, periodic functions.} \\ & \quad \text{Statistics: Mean, Median, Mode, Standard Deviation.} \\ & \quad \text{Probability: Bayes' Theorem, Combinatorics.} \end{aligned}$$





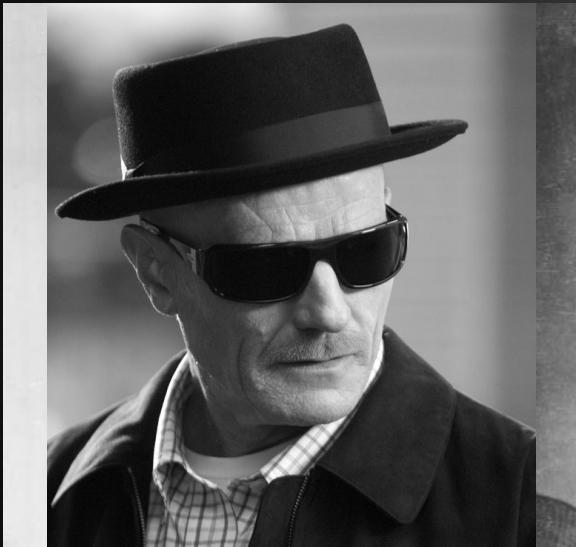
if quantum mechanics hasn't profoundly
shocked you, you haven't understood it yet

Niels Bohr



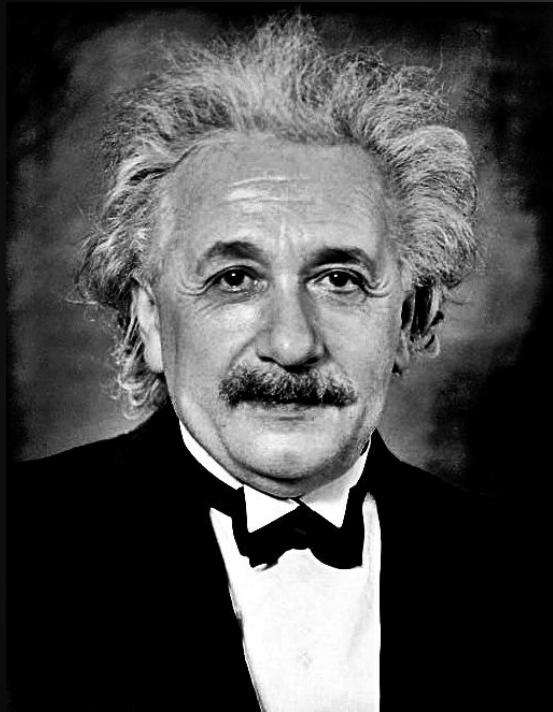
science cannot solve the ultimate mystery of nature.
and that is because, in the last analysis, we ourselves
are a part of the mystery that we are trying to solve

Max Planck



not only is the universe stranger than we think, it is
stranger than we can think

Werner Heisenberg



as i have said so many times, God does not play
dice with the world

Albert Einstein

(“stop telling God what to do” -- Niels Bohr)



i think i can safely say that nobody understands
quantum mechanics

Richard Feynman



a good [mental] fight with [quantum mechanic] propositions
is probably psychologically necessary if you are ever to get
on top of the subject

David A. B. Miller

what is light?



or





1678







<https://www.flickr.com/photos/almostinfamous/27667692301>



1672 / 1704

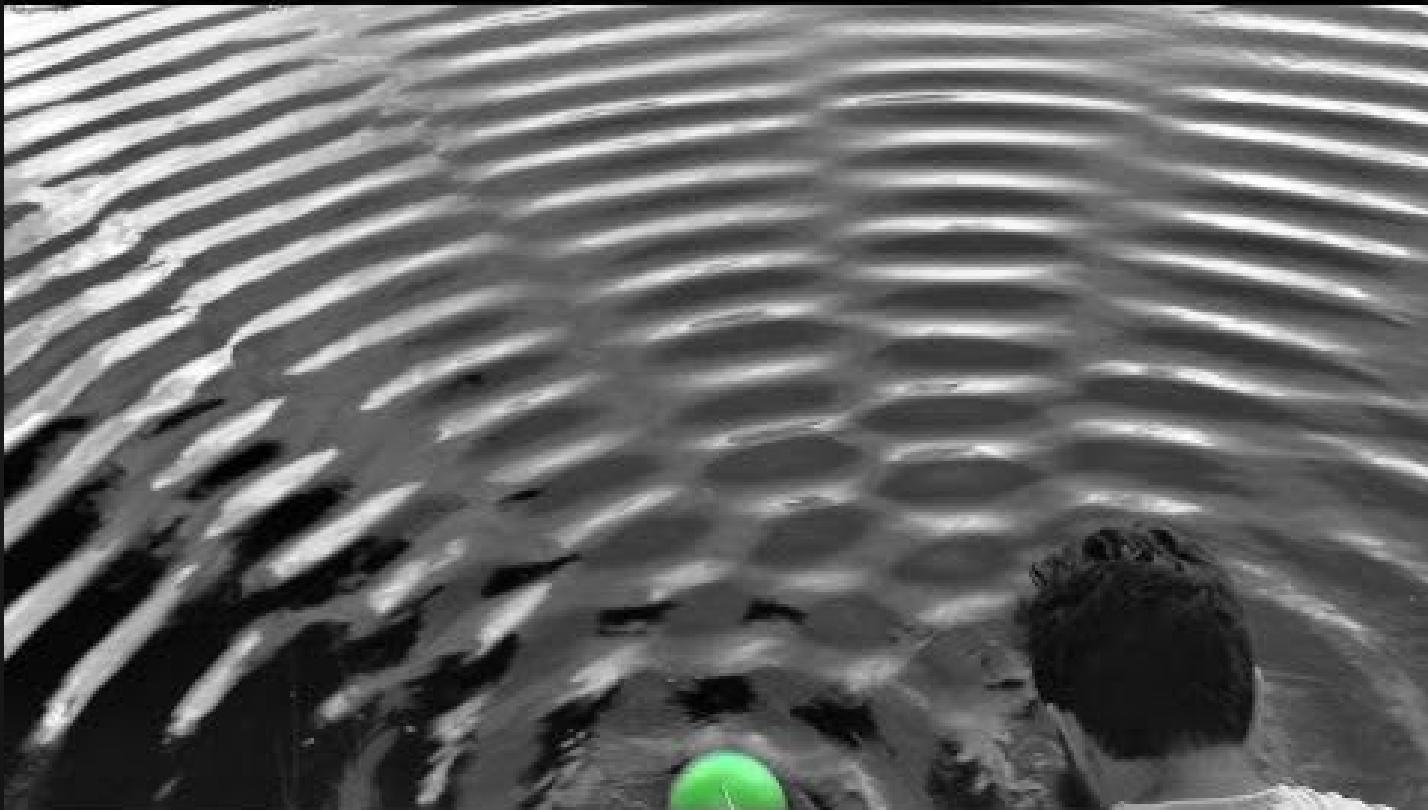




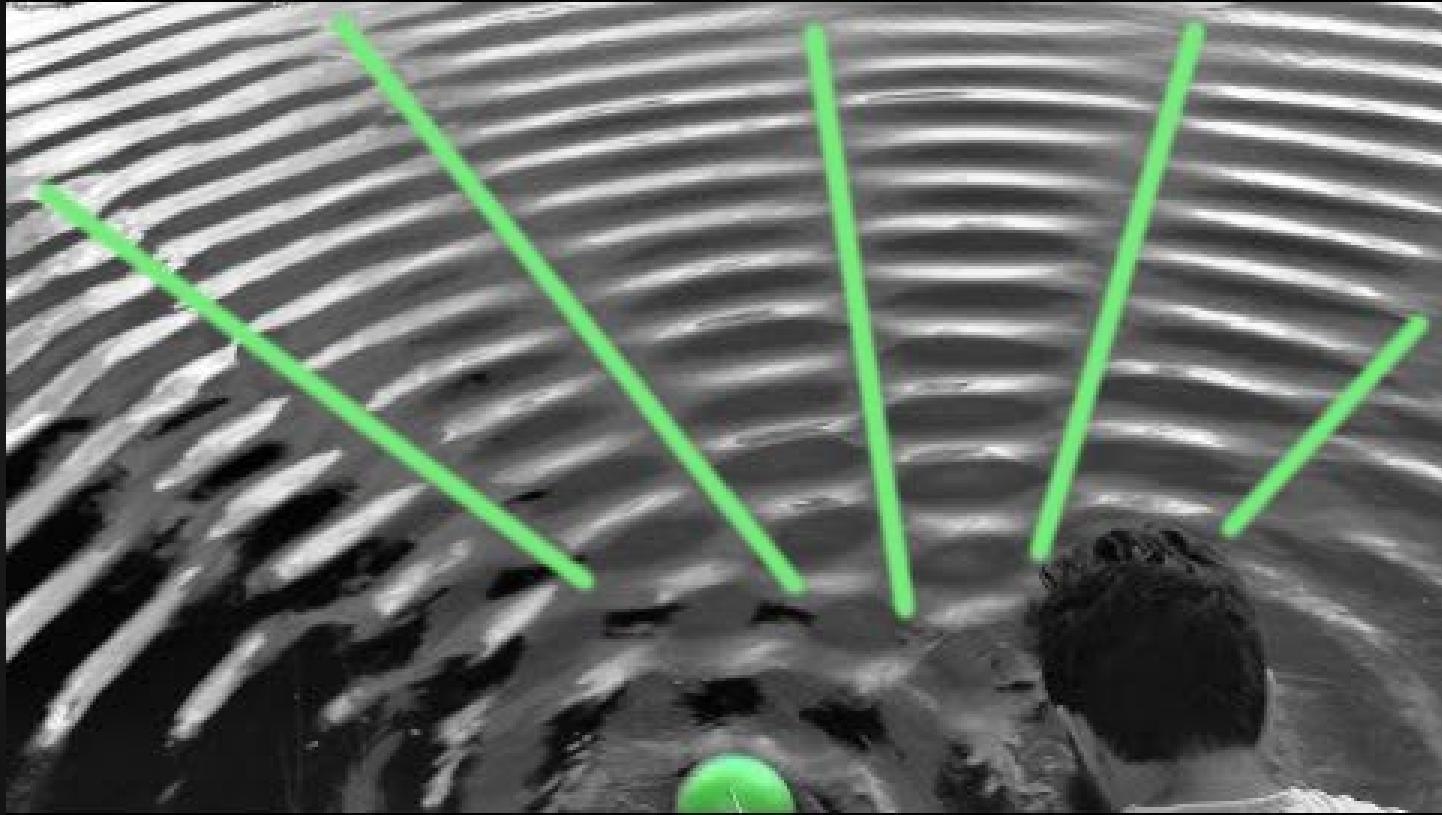


1803

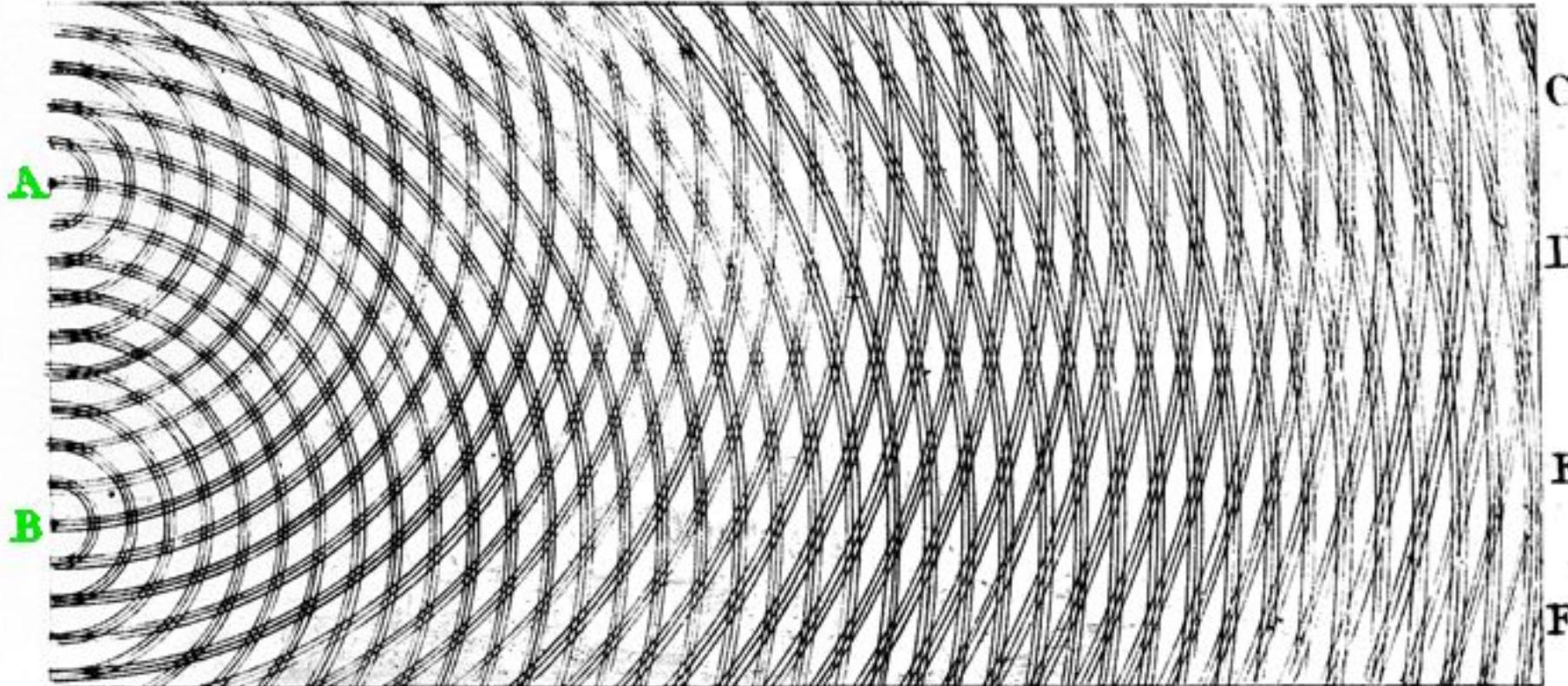




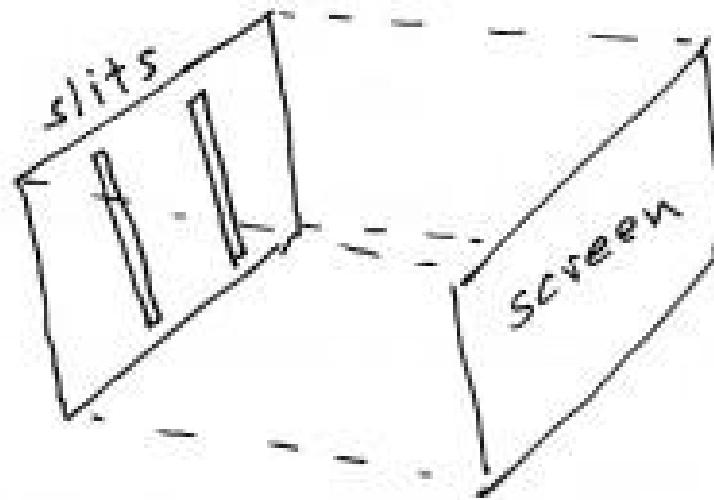
Veritasium : <https://www.youtube.com/watch?v=luv6hY6zsdo>



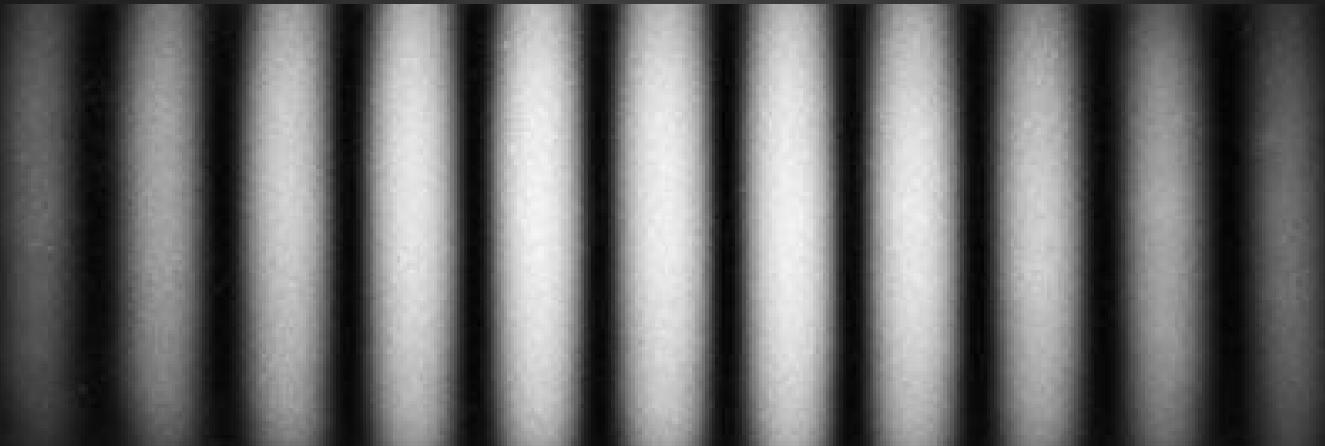
Veritasium : <https://www.youtube.com/watch?v=luv6hY6zs0>

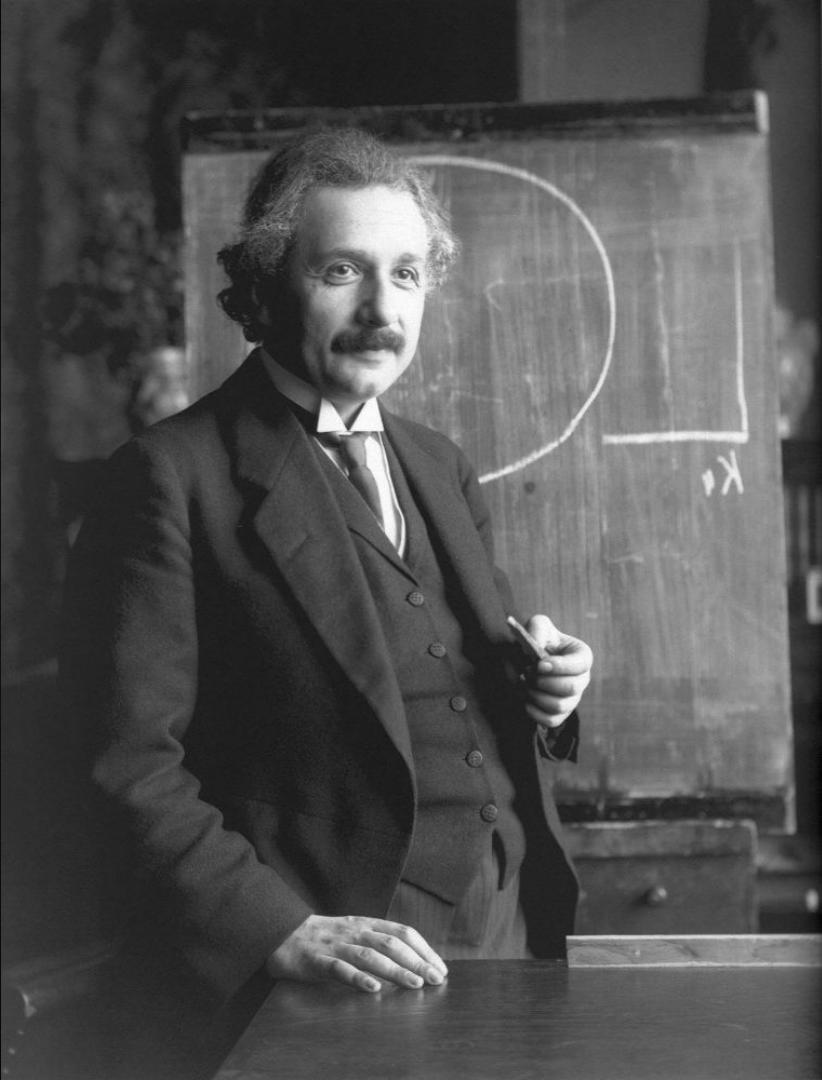



source



interference





1905



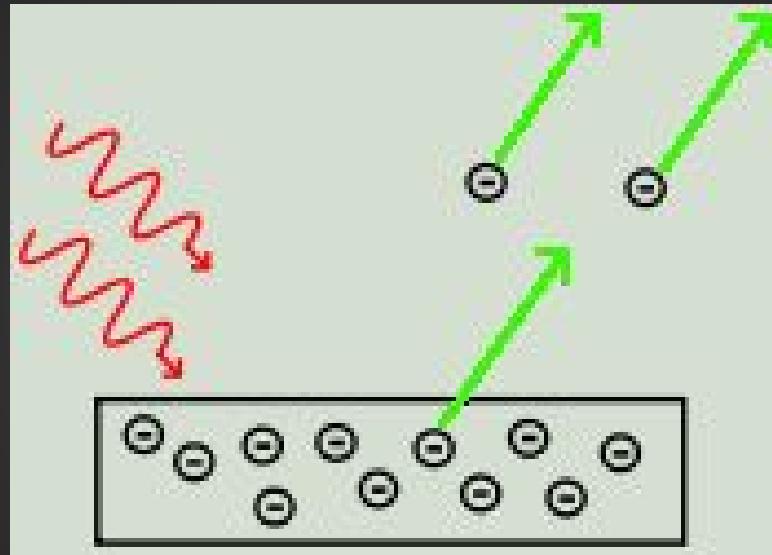
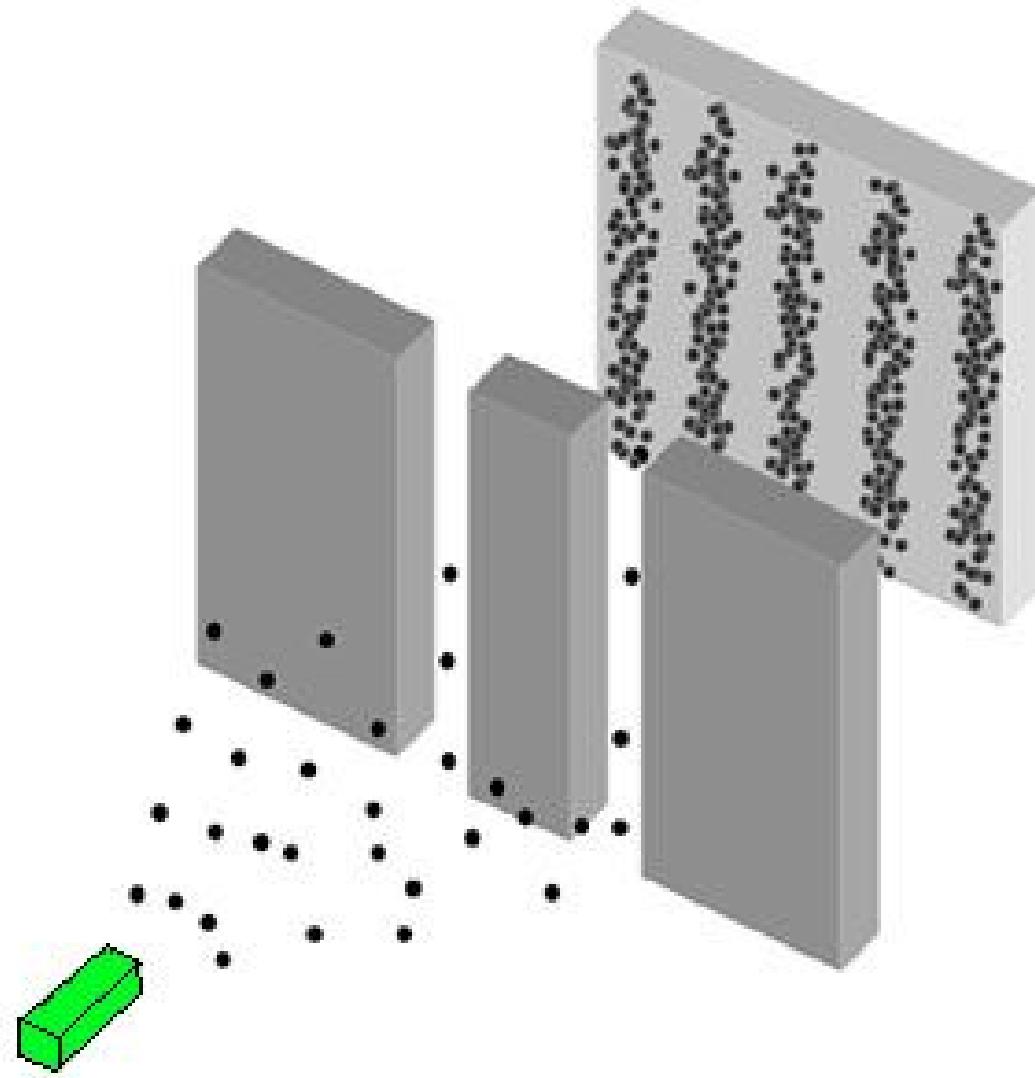
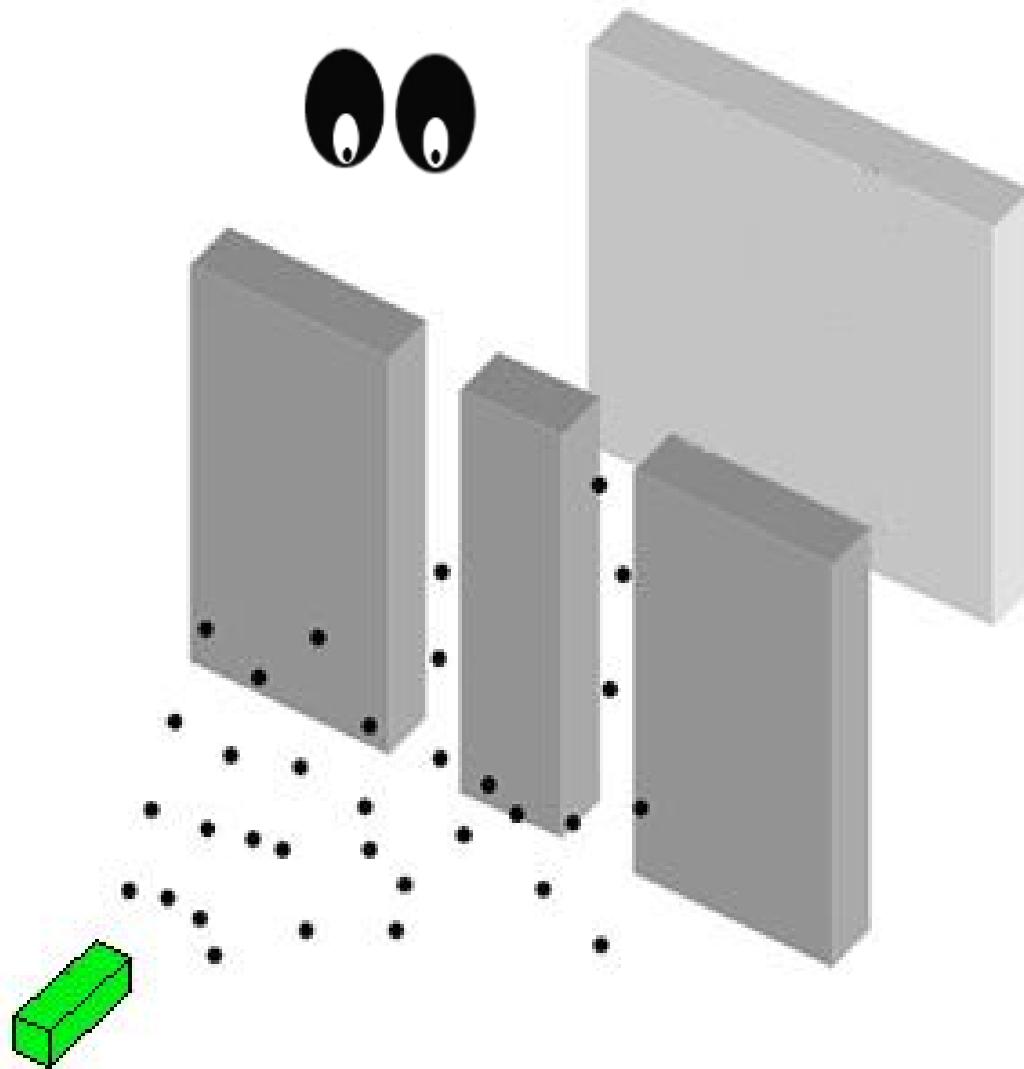
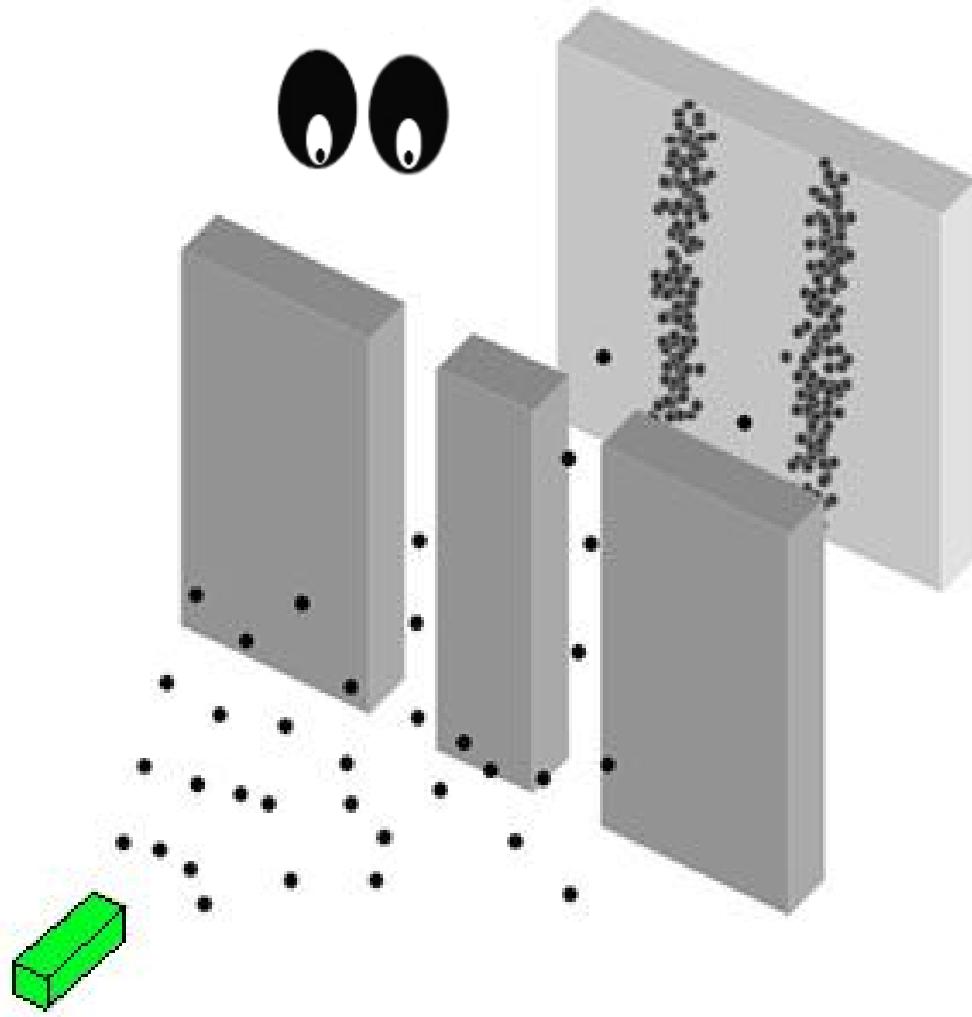


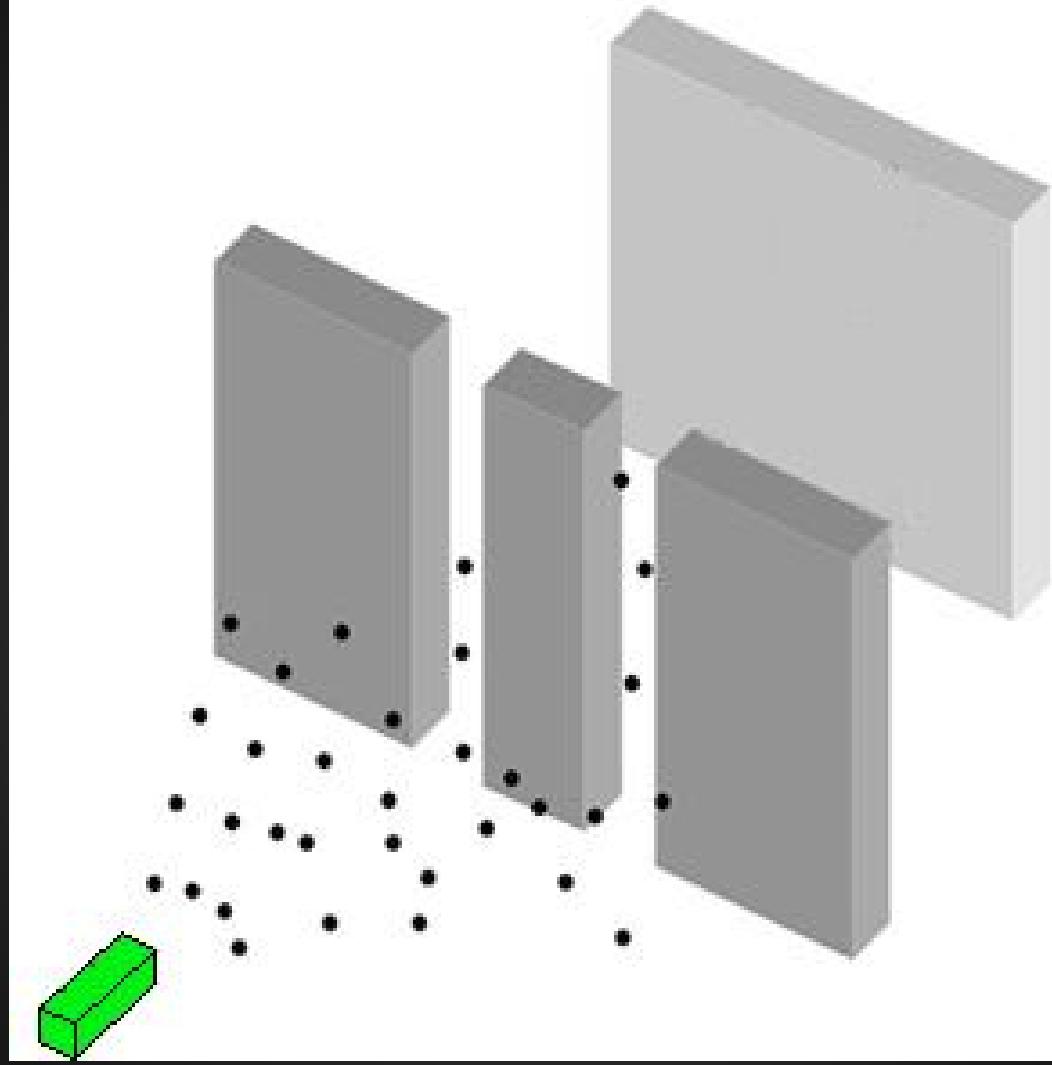
Image courtesy Wikimedia Commons

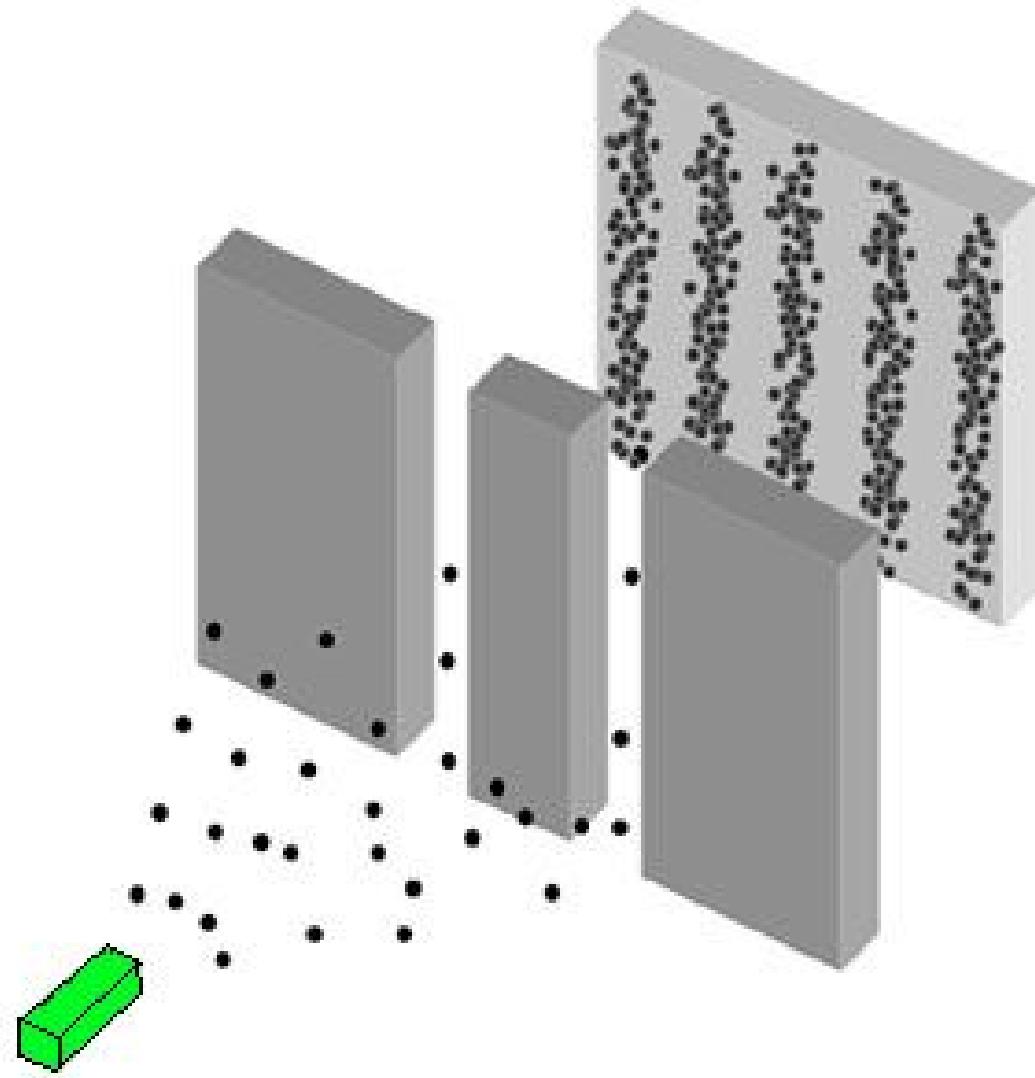


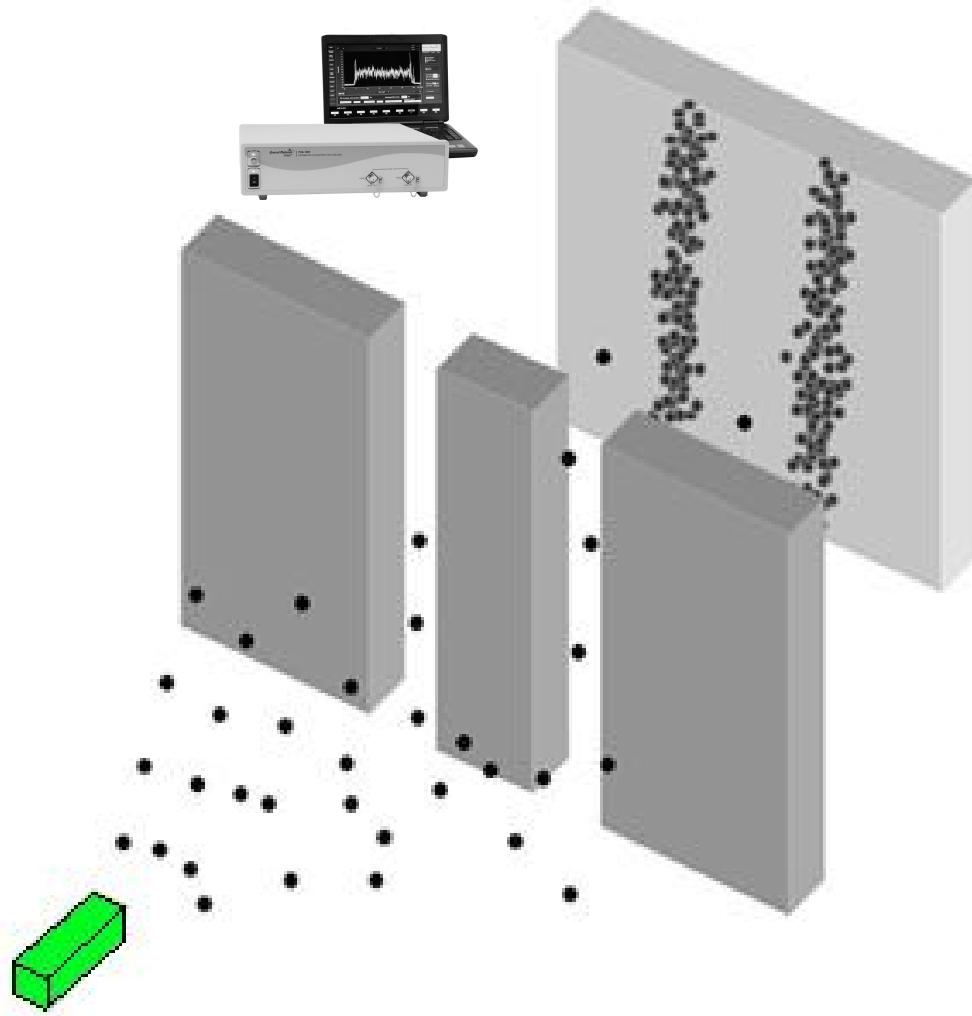


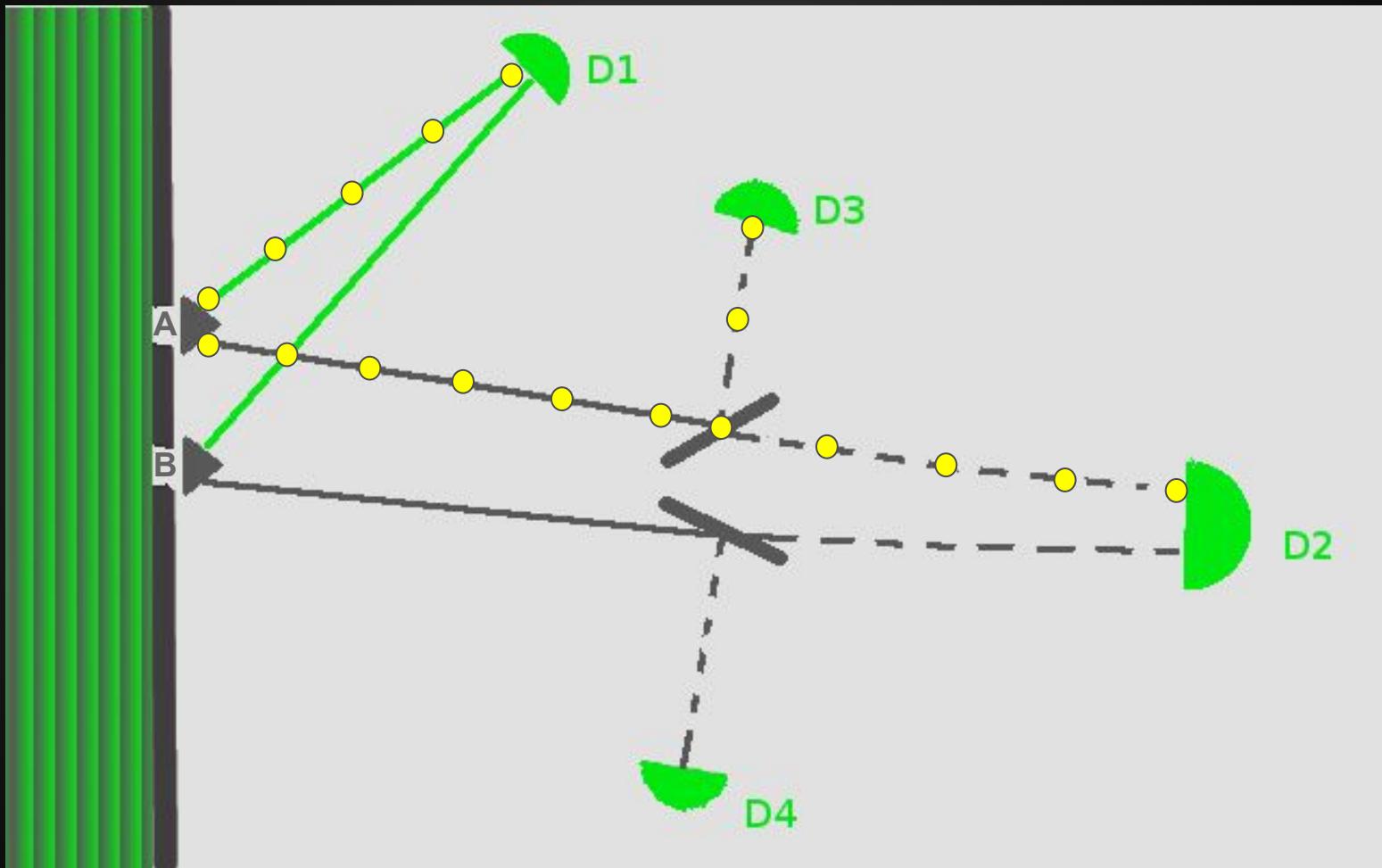








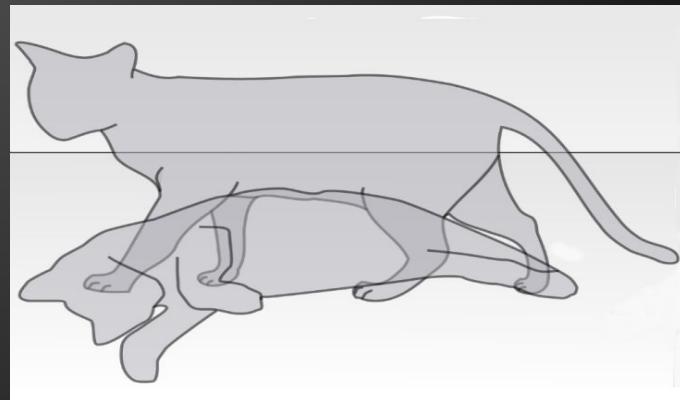
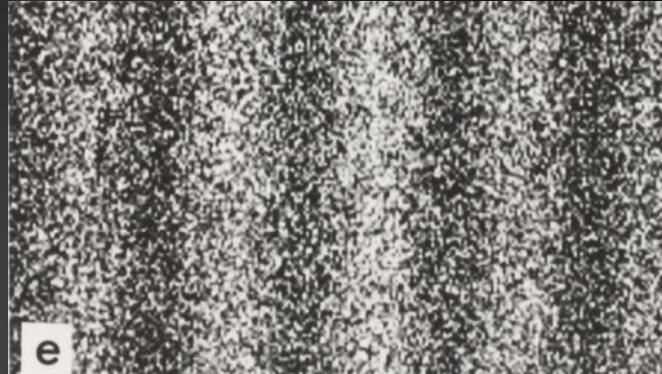
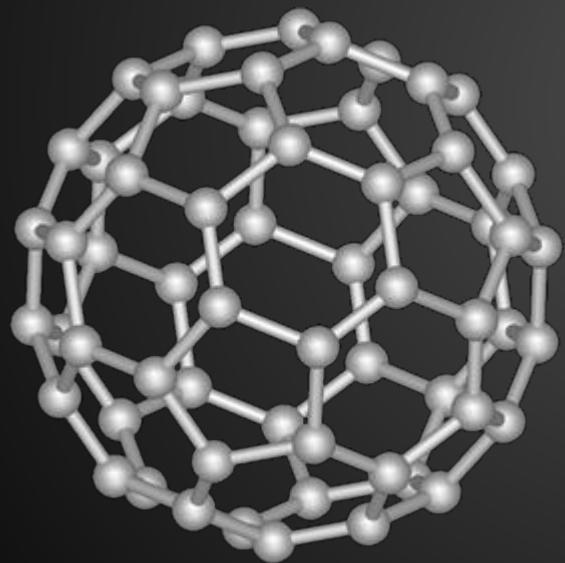
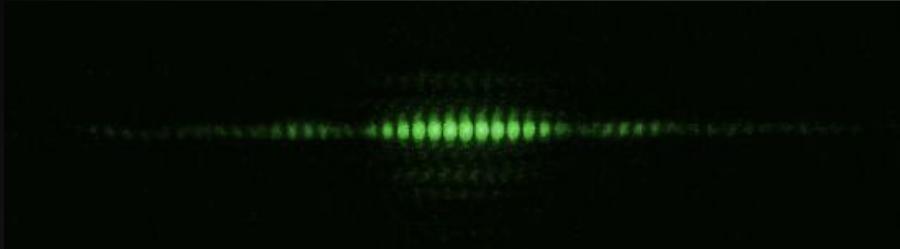






science cannot solve the ultimate mystery of nature.
and that is because, in the last analysis, we ourselves
are a part of the mystery that we are trying to solve

Max Planck





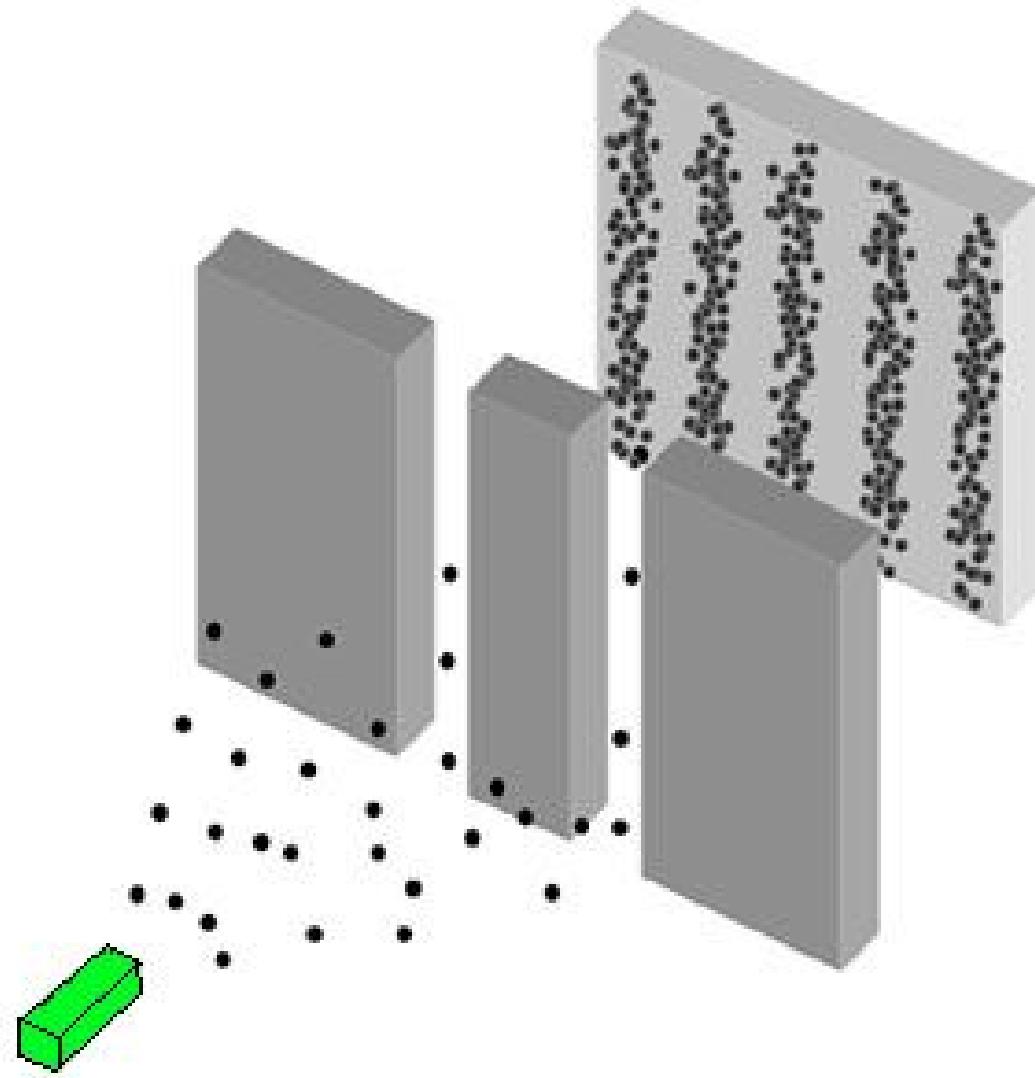
1956

Relativistic State Interpretation

can be called the theory of the "universal wave function," since all of physics is presumed to follow from this function alone. There remains, however, the question of whether or not such a theory can be put into correspondence with our experience.

The present thesis is devoted to showing that this concept of a universal wave mechanics, together with the necessary correlation machinery for its interpretation, forms a logically self consistent description of a universe in which several observers are at work.

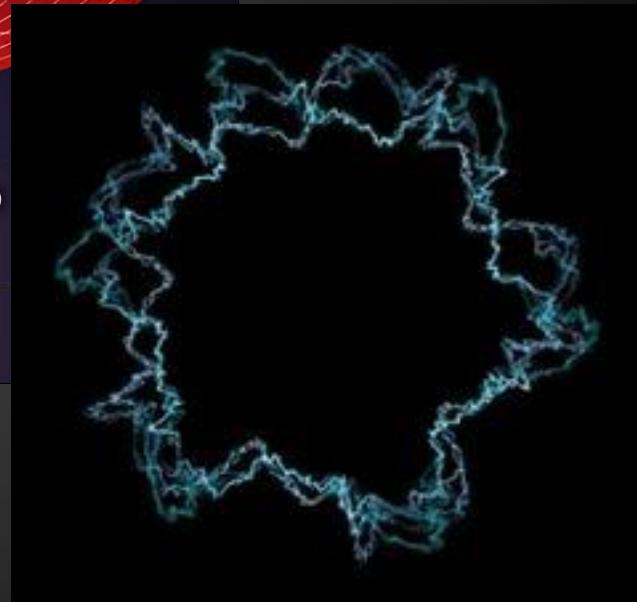
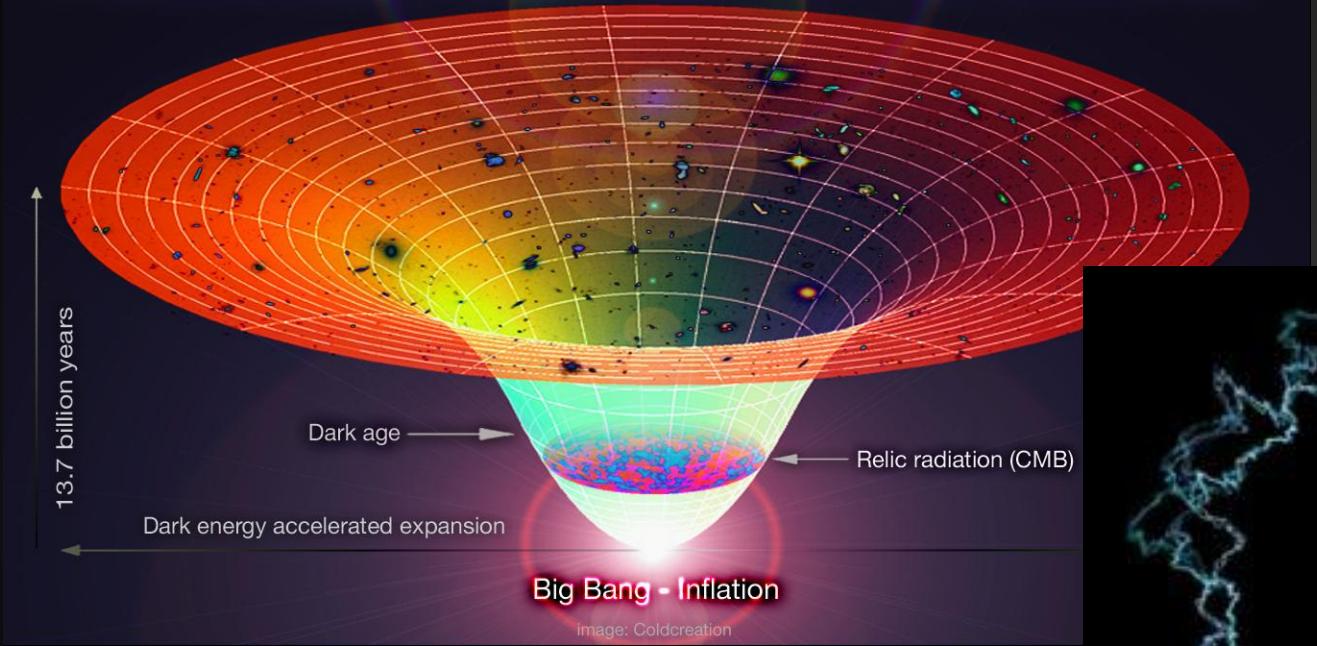
We shall be able to introduce into the theory systems which represent observers. Such systems can be conceived as automatically functioning machines (servomechanisms) possessing recording devices

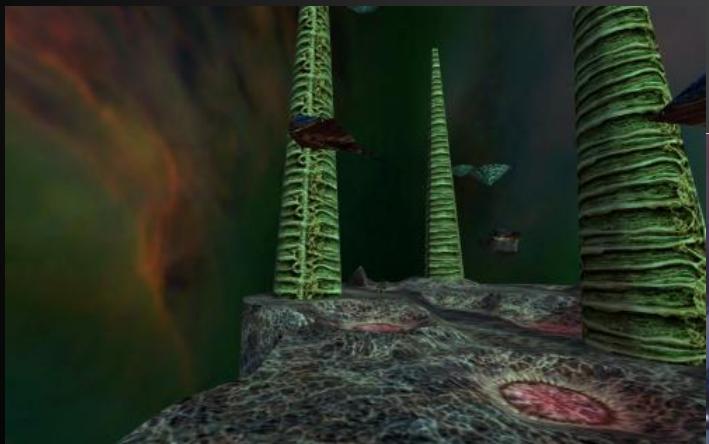




<https://www.flickr.com/photos/chingster23/11937781733/>
VISION012.DAFTART.COM

Accelerated Expansion of the Universe





brian kirkby (bkirkby@kirkby.org)
<http://bkirkby.github.io/>
@therealpheirce

special thanks to:

patrick gradie
dale anderson
brian anderson

questions?

references

- Quantum: Einstein, Bohr, and the Great Debate about the Nature of Reality, Manjit Kumar, ISBN-13: 978-0393339888
- The Original Double Slit Experiment, Veritasium, <https://www.youtube.com/watch?v=luv6hY6zsd0>
- Quantum Mechanics for Scientists and Engineers, David Miller, <https://lagunita.stanford.edu/courses/Engineering/QMSE01/Autumn2015/about>
- Delayed-choice Quantum Eraser, Wikipedia, https://en.wikipedia.org/wiki/Delayed_choice_quantum_eraser
- Quantum Eraser/Delayed Choice Experiment, Hythloday71, <https://www.youtube.com/watch?v=KnpCH9VRvPg>
- Many-worlds Interpretation, Wikipedia, https://en.wikipedia.org/wiki/Many-worlds_interpretation
- Parallel Worlds, Parallel Lives, EELS, <https://vimeo.com/58603054>
- Hugh Everett III, Wikipedia, https://en.wikipedia.org/wiki/Hugh_Everett_III
- Newton vs. Huygens, Christian-Albrechts-Universität zu Kiel, <http://www.tf.uni-kiel.de/>
- Eternal Inflation, Wikipedia, https://en.wikipedia.org/wiki/Eternal_inflation
- Photoelectric effect, Wikipedia, https://en.wikipedia.org/wiki/Photoelectric_effect
- Wave-particle duality, Wikipedia, https://en.wikipedia.org/wiki/Wave%20%93particle_duality
-