



# Laplace's Demon

A hand is shown from the bottom, cupping a miniature solar system. The central star is a bright, glowing orange-yellow sphere with a textured surface. Surrounding it are several planets of various sizes and colors, including blue, grey, and brown. The background is a dark, starry space with a faint blue glow on the left side. The overall scene is a metaphor for the vastness of the universe and the smallness of human existence.

# The Problem of Evil

**“...Work on gravitation [by Newton, 1643-1727] presented mankind with a new world order, a universe controlled throughout by a few universal mathematical laws which in turn were derived from a common set of mathematically expressible physical principles.**

**Here was a majestic scheme which embraced the fall of a stone, the tides of the oceans, the moon, the planets, the comets which seemed to sweep defiantly through the orderly system of planets, and the most distant stars.**

**This view of the universe came to a world seeking to secure a new approach to truth and a body of sound truths which were to replace the already discredited doctrines of medieval culture. Thus it was bound to give rise to revolutionary systems of thought in almost all intellectual spheres.**

**And it did...” (Kline 1967, 359; interpolation is mine).**



1814

de la Maison BIZOUARD  
Boulevard BEAUMARCHAIS 15.  
de Jean-Beausire et Materiel à VENDRE



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# Storytime!

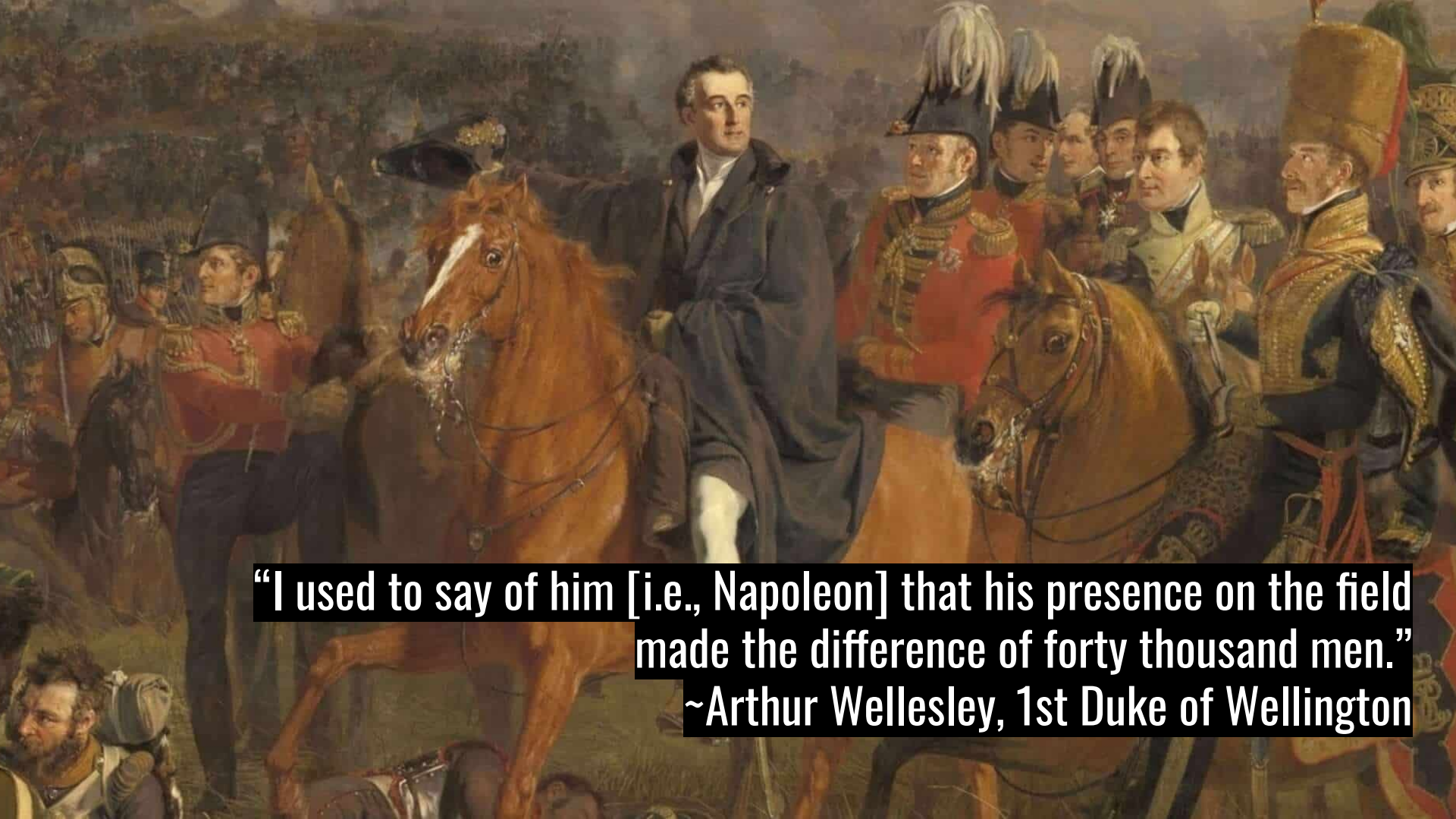




**French Revolution, 1789-1799**



**Napoleon Bonaparte, 1769-1821**



**“I used to say of him [i.e., Napoleon] that his presence on the field made the difference of forty thousand men.”  
~Arthur Wellesley, 1st Duke of Wellington**



**“Using the methods developed by military historians... it is possible to do a statistical analysis of the battle outcomes.”**





“Taking into account various factors, such as the numbers of men on each side, the armaments, position, and tactical surprise (if any), the analysis shows that Napoleon as commander acted as a multiplier, estimated as 1.3.”

**“In other words, the presence of Napoleon was equivalent to the the French having an extra 30 percent of troops...”**



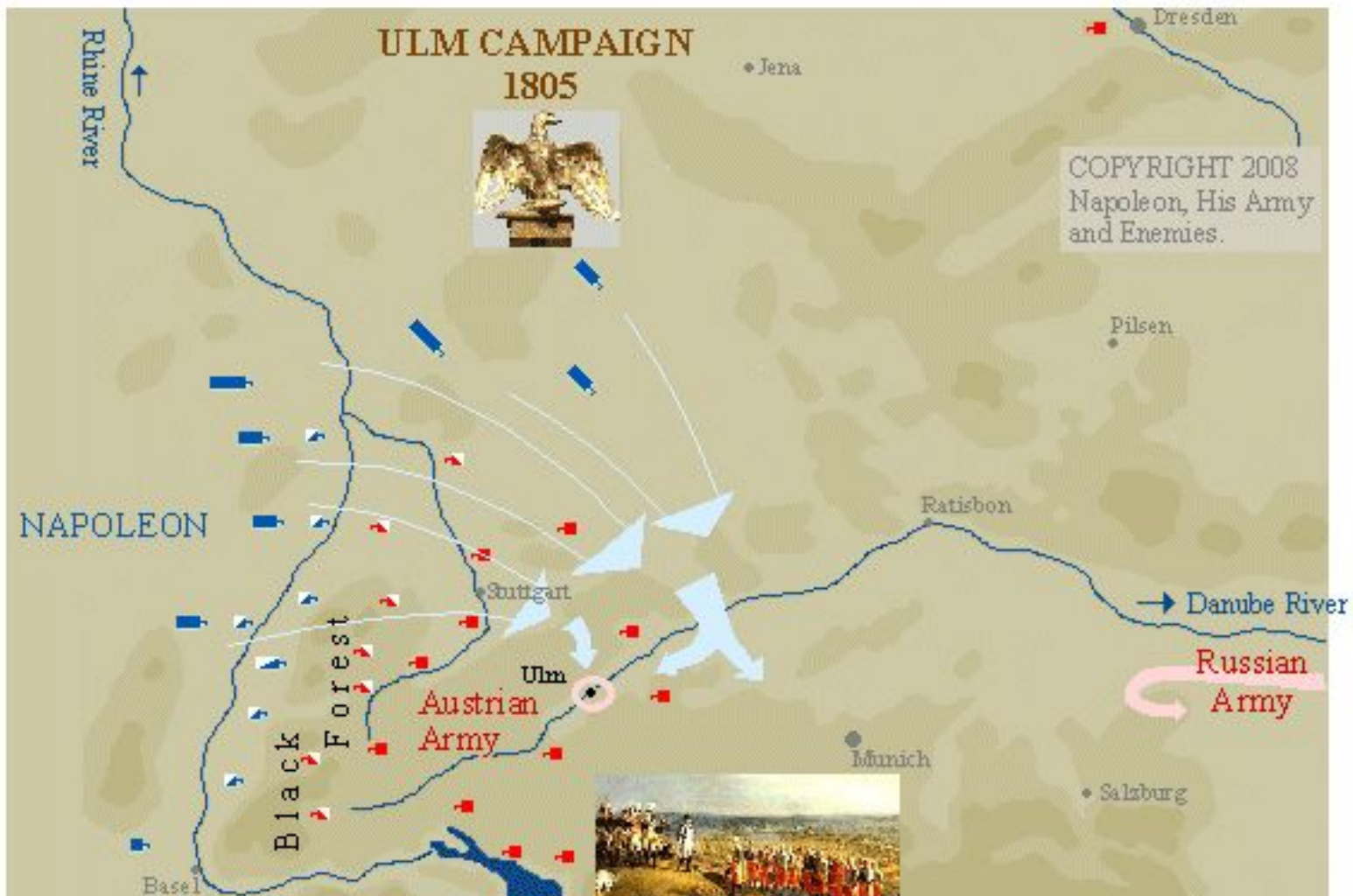


“Most likely, all of these factors were operating together, and we cannot distinguish between them with data.

We do know, however, that the presence of Napoleon had a measurable effect on the outcome” (Turchin 2007: 314-15).

# ULM CAMPAIGN 1805

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Napoleon, His Army  
and Enemies.







**Pierre-Simon de Laplace, 1749-1827,  
proponent of determinism**



# DILEMMA #4

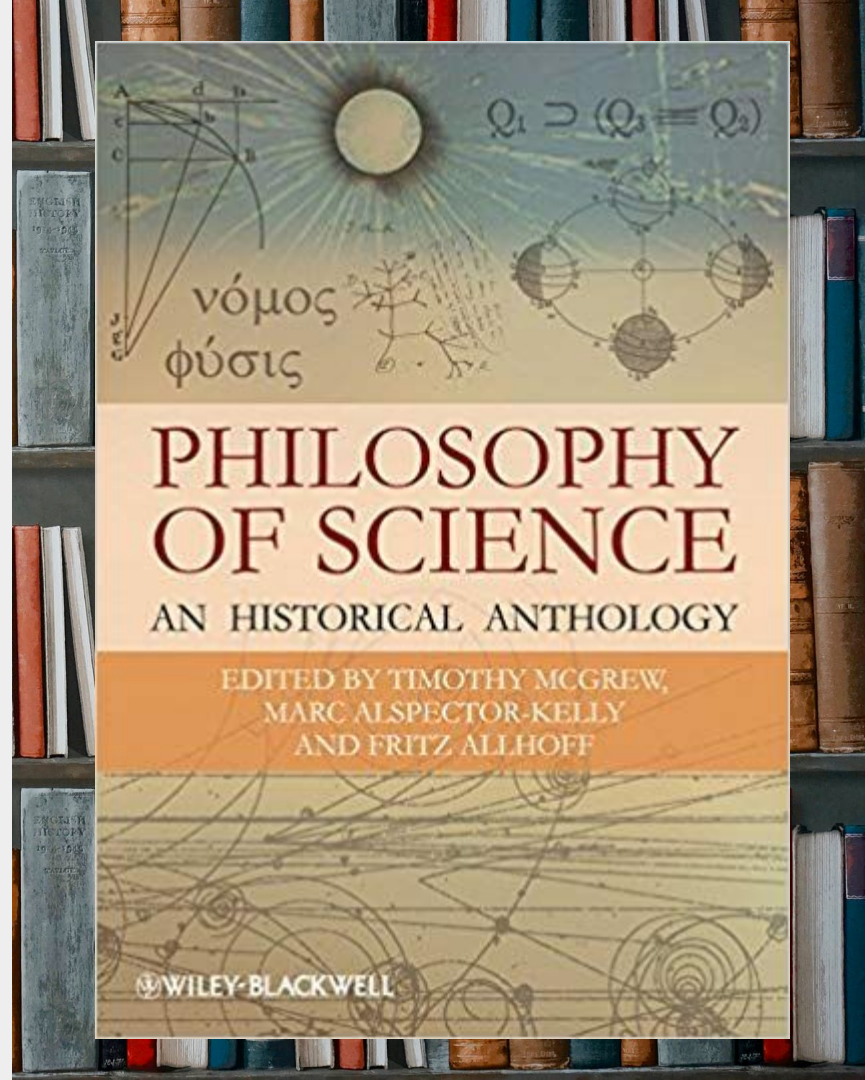
Do we have free will?



“We ought then to consider the present state of the universe as the effect of its previous state and as the cause of that which is to follow.

An intelligence that, at a given instant, could comprehend all the forces by which nature is animated and the respective situation of the beings that make it up, if moreover it were vast enough to submit these data to analysis, would encompass in the same formula the movements of the greatest bodies of the universe and those of the lightest atoms.

For such an intelligence, nothing would be uncertain and the future, like the past, would be open to its eyes” (Laplace, writing in 1819 and quoted in McGrew et al. 2009: 251).



S | D E B A R


PAMELA HUBY

GREEK ETHICS

KEY TEXTS

Classic Studies in the History of Ideas

**“Epicurus was the originator of the freewill controversy, and that it was only taken up with enthusiasm among the Stoics by Chrysippus, the third head of the school” (Huby 1967: 358).**



**The Problem of Free Will:  
Important Concepts**

# Determinism

Determinism is the view that all events are caused by prior events in conjunction with the laws of nature;

i.e., it's the view all events are **forced upon us** by past events plus the laws of physics.

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# The Classical Problem of Free Will

This problem is generated by three claims that, at first glance, seem to all be true:

1. Determinism is true.
2. Humans have free will.
3. Determinism and free will are incompatible.

# Three Solutions

Each of the traditional solutions to the PoFW entails denying one of the claims mentioned.

Here are the 3 solutions:

- A. Hard Determinism denies that humans have free will (claim #2).
- B. Libertarianism denies that determinism is true (claim #1).
- C. Compatibilism denies that free will and determinism are incompatible (claim #3).

# Hard Determinism

Hard Determinism is the view that:

- a. free will and determinism are incompatible,
- b. determinism is true, hence
- c. humans do not have free will.





# **Hard Determinist:**

Physical laws (gravity, strong/weak nuclear forces, electromagnetism) determine the behavior of all objects. Our brains are just physical objects. So their inner workings must conform to physical law. But our brains also produce our choices. So our choices, then, are determined by physical laws. Free will is an illusion.

# Libertarianism

Libertarianism is the view that humans:

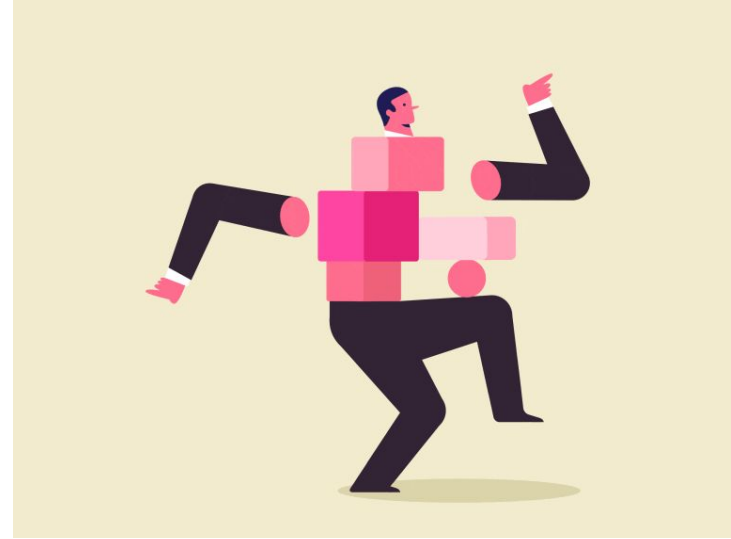
A. do have free will;

moreover, their choices are both:

B. not determined, and

C. not random;

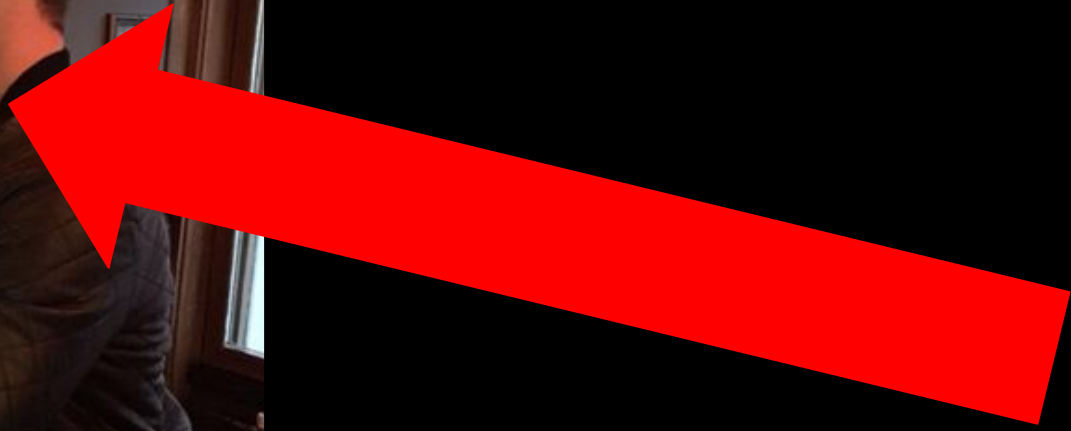
Hence, D. determinism is false.



E1 → E2 → E3

**HARD DETERMINISM**

The image features a black background. In the center, there is a sequence of three white events labeled 'E1', 'E2', and 'E3' from left to right. Each event is connected to the next by a white arrow pointing to the right. Overlaid on this sequence is the text 'HARD DETERMINISM' in a large, red, bold, sans-serif font that has a distressed, stamp-like appearance. The text is slanted upwards from left to right, following the general direction of the arrows.

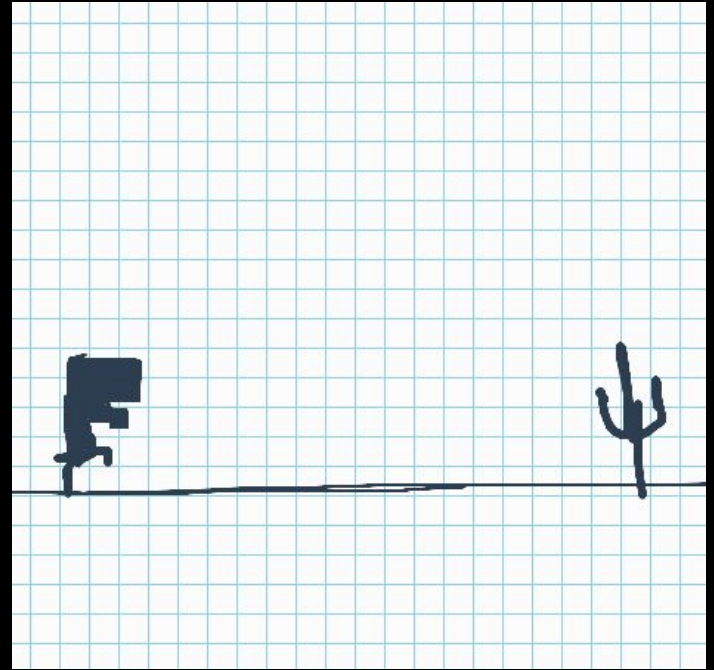


## The Libertarian says...

That action was a free choice.  
It was not determined to happen.  
That individual chose to do it.  
That shows that not all events are  
causally necessitated.  
In the very least, our choices are not  
determined.  
Determinism is false.



INFORMAL  
FALLACY  
OF THE  
DAY



# Begging the Question

This is a fallacy that occurs when an arguer presents an argument for a conclusion and one of the premises supporting the conclusion is the conclusion itself.

**RCG:** Shakira is my gf.

**Dude:** Dude, that's like not true. Why should I believe that?

**RCG:** Cuz she's my gf, bro.

**Joe:** God exists.

**Fred:** Why believe that?

**Joe:** Because God exists.

—





## Standard Form(?)

1. My view.
2. Therefore, my view

## Begging the Question?

Libertarian: Determinism (which leads to the view that humans don't have free will) is false.

Dude: Why?

Libertarian: Cuz I have free will, duh.





E1



E2



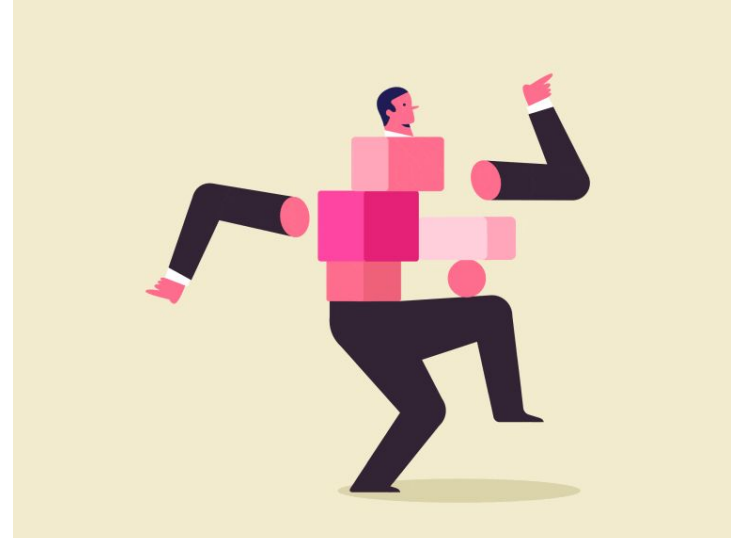
E3

Except for human choices

# Compatibilism

Compatibilism is the view that humans:

- A. do have free will; but that
- B. free will requires some sort of determinism, and hence
- C. free will and (some sort of) determinism are compatible.



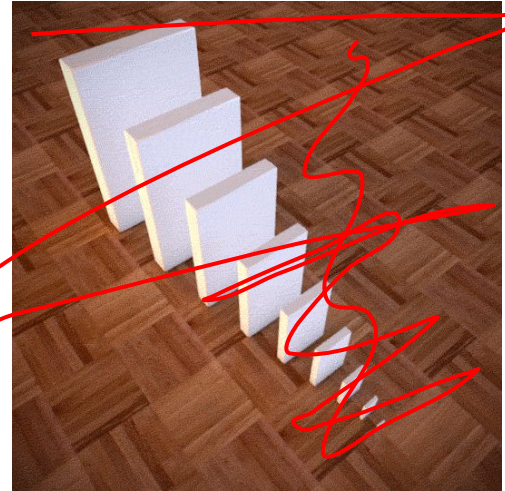
It is, perhaps, easier to see the differences between compatibilist and libertarian notions of free will when they are applied to the idea of moral responsibility...

## Some Libertarian thinkers, following Kant...

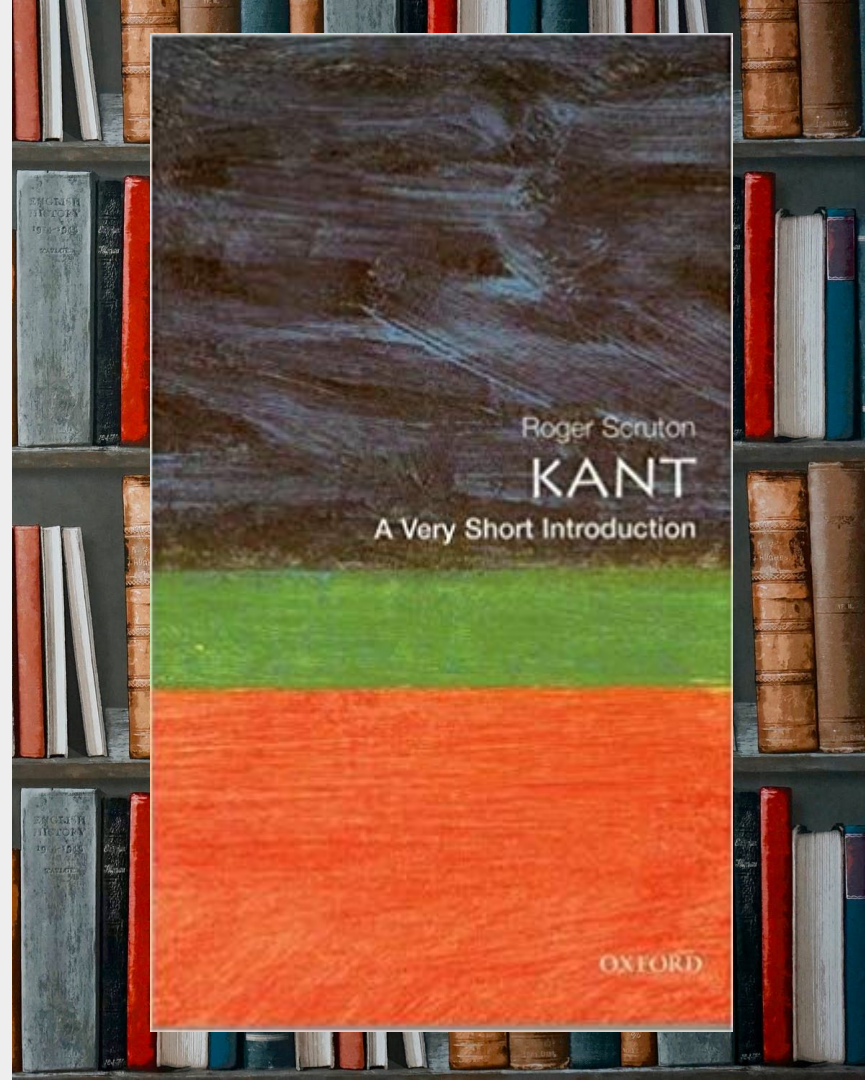
argue that only non-determined choices are compatible with moral responsibility.

For example, Robert Kane argues that an agent can be ultimately responsible for a decision if, leading up to her decision, there were some free actions by her that were not causally determined.

Kane calls such “regress-stopping” actions “self-forming actions” (see Clarke and Capes 2017, section 2.3).



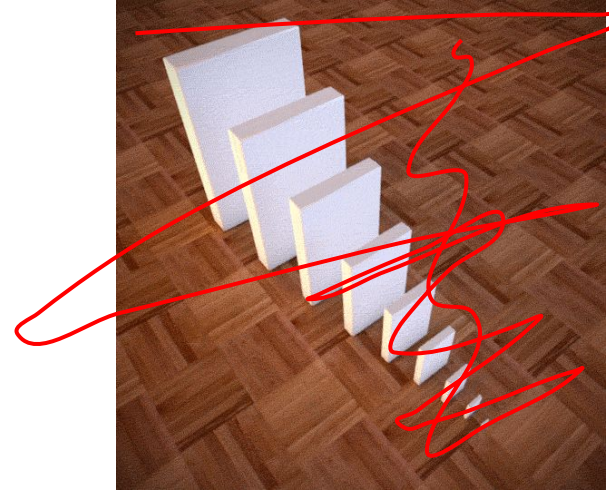
**“Freedom is the ability to be governed by reason” (Scruton 2001: 81).**



## Compatibilists...

argue that free will needs some kind of determinism in order to be coherent.

For example, Dan Dennett argues that “the practice of making oneself so that one **could not have done otherwise** is a key innovation in the evolutionary ascent through design space . . . to human free will” ([2003](#): 216, emphasis added; see also [Mele 2005](#)).







Susan Wolf (1980) is another compatibilist...

Imagine an action that's truly indeterminate.

'Indeterminate' means that no one can  
predict it.

This means that even the person doing the  
act would be surprised by the action.

This is nonsense. That isn't free will.  
Real free will and moral responsibility  
require a determinism *of some sort*.



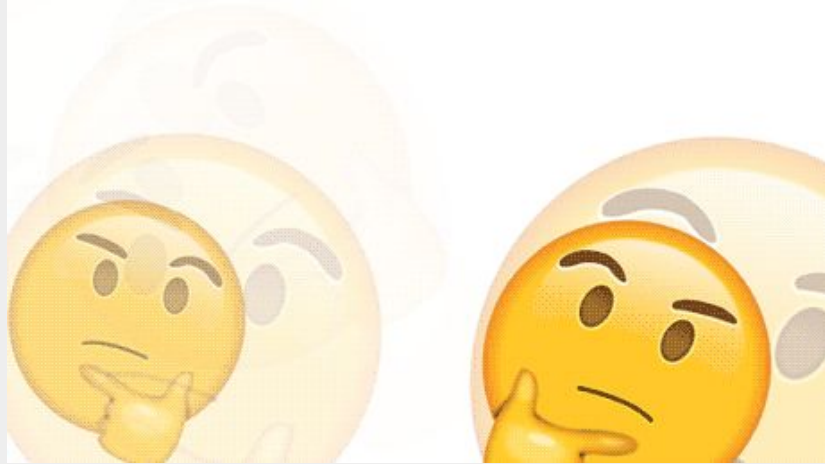


*Food for thought...*

Scientists have now made remote control rats. When animal welfare activists voiced concern, Professor Sanjiv Talwar of the State University of New York, one of the leading roborat researchers, dismissed the concerns, arguing that “the rats actually enjoy the experiments. ‘After all,’ explains Talwar, ‘the rats work for pleasure and when the electrodes stimulate the reward center in their brain, the rat feels nirvana.’”

To the best of our understanding, the rat doesn't feel that somebody else controls her, and she doesn't feel that she is being coerced to do something against her will. When Professor Talwar presses the remote control the rat *wants* to move to the left, which is why she moves to the left. When the professor presses another switch the rat *wants* to climb the ladder, which is why she climbs the ladder.

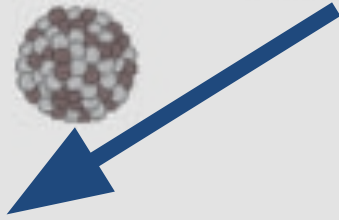
After all, the rat's desires are nothing but a pattern of firing neurons. What does it matter whether the neurons are firing because they are stimulated by other neurons or because they are stimulated by transplanted electrodes connected to Dr. Talwar's remote control. If you ask the rat about it, she might well have told you, ‘Sure I have free will. Look. I want to turn left and I turn left. I want to climb a ladder and I climb a ladder’” (Harari 2017: 288-9).



Some argue that this whole debate is a merely verbal dispute, i.e., a pseudo-problem (see [Chalmers 2003](#)).

The background of the entire image is a repeating pattern of small, brown and white spheres, resembling a molecular or atomic structure, scattered across a light gray background.

BIG BANG



DESIRE → CHOICE → ACTION

**Compatibilists are OK with calling this free will...  
Libertarians are not.**



**Question:**  
**Is determinism true?**



**“The first flowering of modern physical science reached its culmination in 1687 with the publication of Isaac Newton’s Principia, thereafter mechanics was established as a mature discipline capable of describing the motions of particles in ways that were clear and deterministic.**

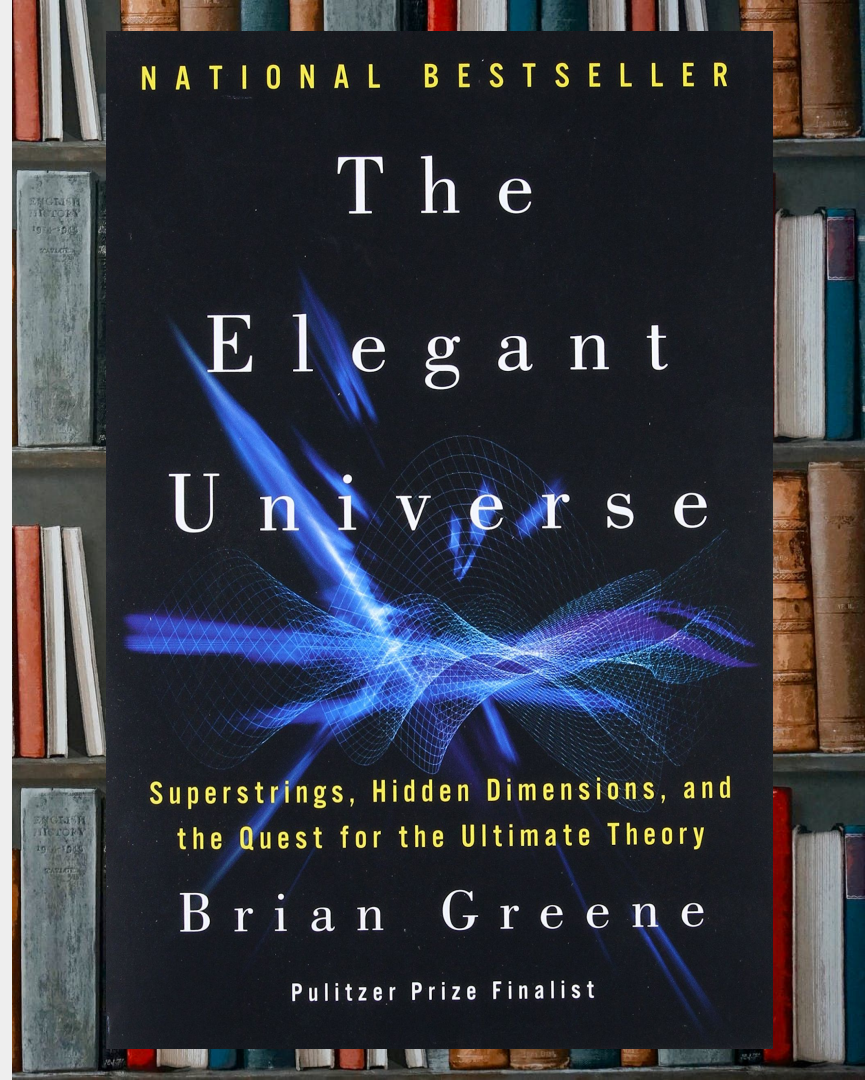
**So complete did this new science seem to be that by the end of the 18th century the greatest of Newton’s successors, Pierre Simon Laplace, could make his celebrated assertion that a being equipped with unlimited calculating powers and given complete knowledge of the dispositions of all particles at some instant of time could use Newton’s equations to predict the future and to retrodict, with equal certainty, the past of the whole universe.**

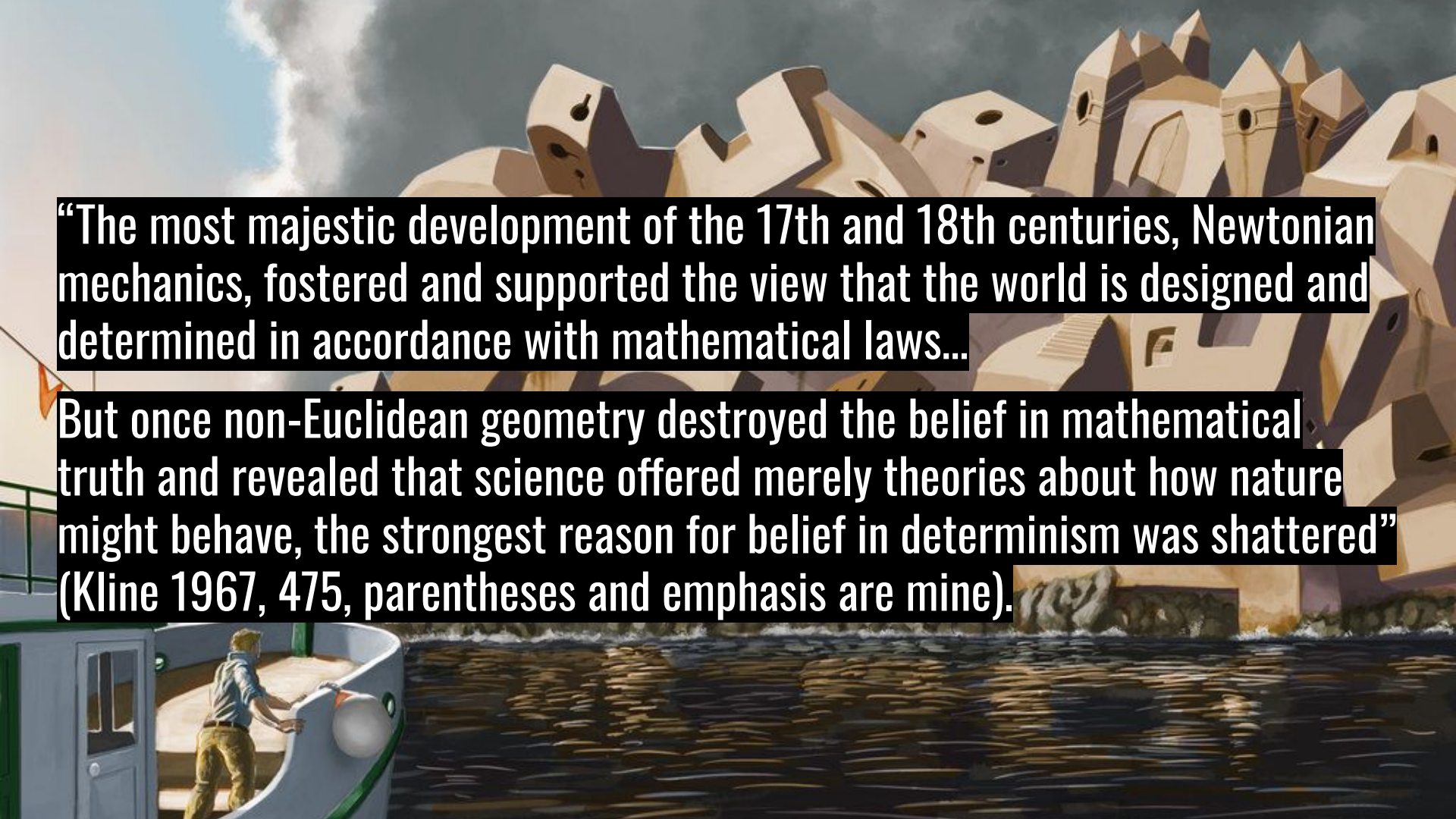
**In fact, this rather chilling mechanistic claim always had a strong suspicion of hubris about it” (Polkinghorne 2002, 1-2).**

The status of determinism was called into question (or possibly refuted) by the advent of quantum mechanics.

“We have seen that Heisenberg’s Uncertainty Principle undercuts Laplacian determinism because we fundamentally cannot know the precise positions and velocities of the constituents of the universe.

Instead, these classical properties are replaced by quantum wave functions, which tell us only the probability that any given particle is here or there, or that it has this or that velocity” (see Greene 2000, chapter 13; see also Holt 2019, chapter 18).



The background is a stylized, low-poly illustration of a coastal town. The buildings are tan with dark, angular roofs and some have small circular windows. In the foreground, a blue boat with a white cabin and a green stripe is on the water. A person in a blue shirt and tan pants is standing on the boat, looking towards the town. The sky is blue with some white clouds.

**“The most majestic development of the 17th and 18th centuries, Newtonian mechanics, fostered and supported the view that the world is designed and determined in accordance with mathematical laws...**

**But once non-Euclidean geometry destroyed the belief in mathematical truth and revealed that science offered merely theories about how nature might behave, the strongest reason for belief in determinism was shattered” (Kline 1967, 475, parentheses and emphasis are mine).**



INDETERMINISM

The image shows a sequence of four gray letters, E1, E2, E3, and E4, arranged in an upward-sloping line from left to right. White arrows connect them in a zig-zag pattern: E1 to E2 (upward), E2 to E3 (downward), and E3 to E4 (upward). A separate white arrow points horizontally to the right from E3. A large, red, hand-drawn-style word "INDETERMINISM" is superimposed diagonally across the letters.



**Question:**  
**Does it matter?**

# The Dilemma of Determinism

1. If determinism is true, then our choices are determined by factors over which we have no control.
2. If indeterminism is true, then every choice is actually just a chance occurrence; i.e., not free will.
3. But either determinism is true or indeterminism is true.
4. Therefore, either our choices are determined or they are a chance occurrence; and neither of those is free will.





**“The electrochemical brain processes that result in murder are either deterministic or random or a combination of both. But they are never free.**

**For example, when a neuron fires an electric charge, this either may be a deterministic reaction to external stimuli or it might be the outcome of a random event, such as the spontaneous decomposition of a radioactive atom. Neither option leaves any room for free will.**

**Decisions reached through a chain reaction of biochemical events, each determined by a previous event, are certainly not free. Decisions resulting from random subatomic accidents aren't free either; they are just random” (Harari 2017: 284).**

