

Elizabeth Anscombe, 1919 - 2001

Causation and Determination

Pushing or Proving?

What is free will?

- I have free will if my actions are “up to me”.
 - They’re not forced onto me by some external cause.
 - I have *control* over my own actions.
- What does this mean, exactly?
 - Is it that only I *cause* my actions?
 - Or that only I *determine* my actions?
 - (What’s the difference?)

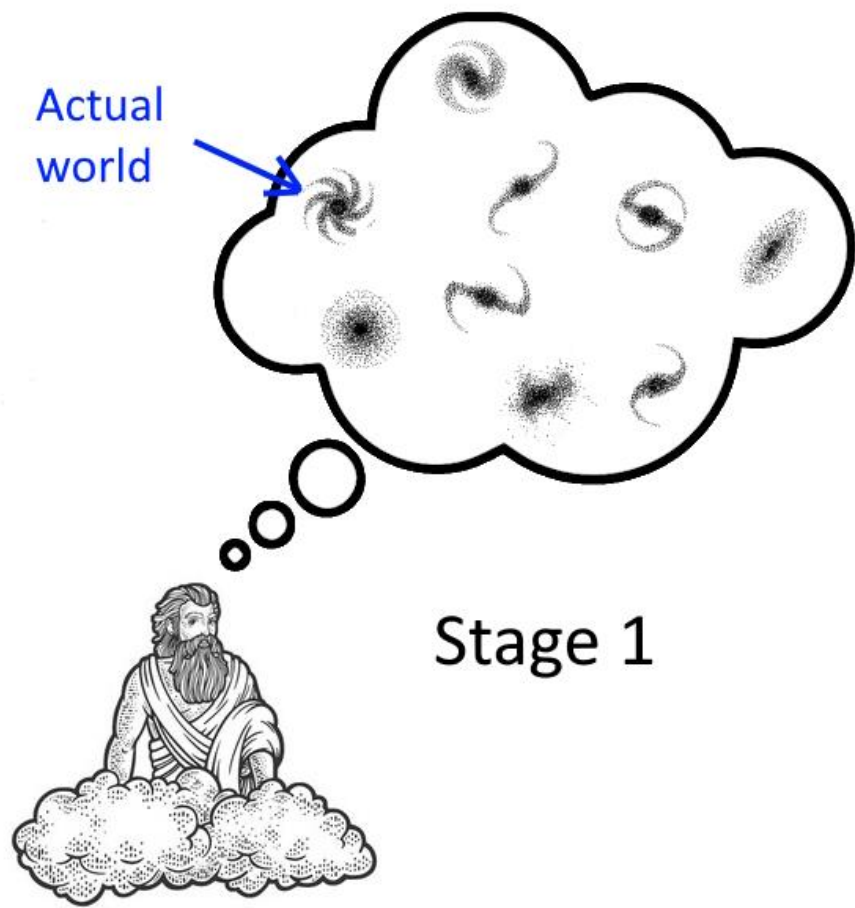
Causation = Determination?

- Causation (or “efficient” causation)
 - “**C** caused **E**” means **C** brought **E** about, or made it happen. A cause, we might say, is a *source* of the effect.
- Determination (or “physical” determination)
 - If **C** determines **E**, then the laws of physics dictate that **E must** occur, given that **C** occurs.

“There is something to observe here, that lies under our noses. It is little attended to, and yet still so obvious as to seem trite. It is this: **causality consists in the derivativeness of an effect from its causes.** This is the core, the common feature, of causality in its various kinds. Effects derive from, arise out of, come of, their causes. For example, everyone will grant that physical parenthood is a causal relation. Here the derivation is material, by fission. **Now analysis in terms of necessity or universality does not tell us of this derivedness of the effect; rather it forgets about that.** For the necessity will be that of laws of nature; through it we shall be able to derive knowledge of the effect from knowledge of the cause, or vice versa, but **that does not show us the cause as source of the effect.** Causation, then, is not to be identified with necessitation.”

- Anscombe, *Causality and Determination*, 1971

Leibniz's God creates the World



Determinism



Pushing and Proving

1. If Fred ate that rotten fish yesterday, then he is sick today.
2. If Fred is still in bed, then he is sick today.

In (1) eating rotten fish 'pushes' Fred to be sick.

In (2), being in bed doesn't 'push' Fred to be sick. It *proves* Fred to be sick.

Causal chains

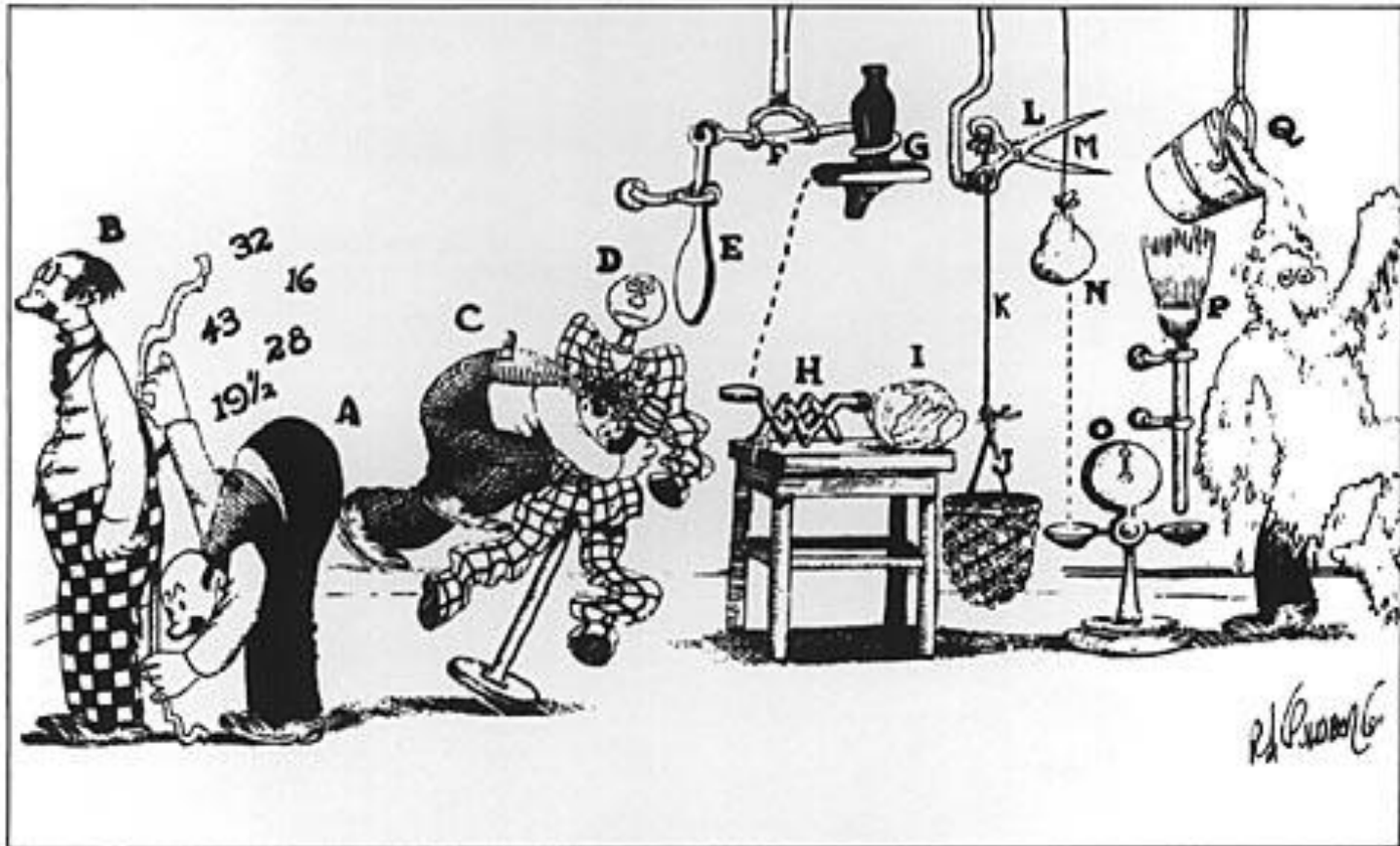


Causal vs. logical chains

- Causes and effects are often arranged into a sequence, or “causal chain”. Like a series of falling dominos, each event in the chain causes the next.
- Logical consequences (proofs) can also have such a chain structure. A , therefore B , and hence C , from which it follows that D ...
 - **The premises “force” the conclusion to be true.** (This is just an analogy.)

Causes *often* determine their effects

- A physical chain of causes and effects is (much of the time) *also* a logical chain of premises and conclusions.



Causes *often* determine their effects

- Given the first event in the causal chain, you can *infer* the second event, and from that infer the third, and all the way along.
- Each event both *physically* and *logically* forces (pushes and proves) the next one.

Effects can also determine their causes!

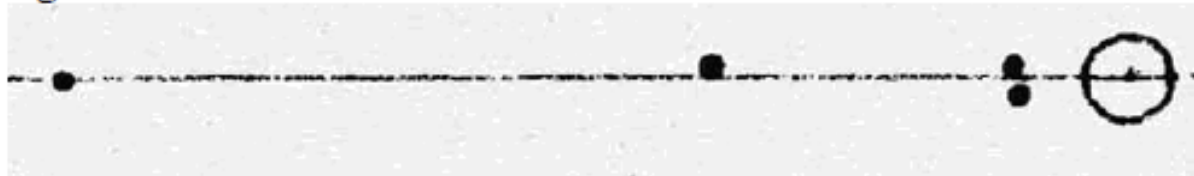
- The present state of the solar system determines its state five years ago, as the earlier state can be *inferred* from the later one, using Newton's laws.
 - But the present state didn't *cause* the past state! Rather, the past state caused the present state.



Stellarium “predicting” past events.

Stellarium's "retrodiction"

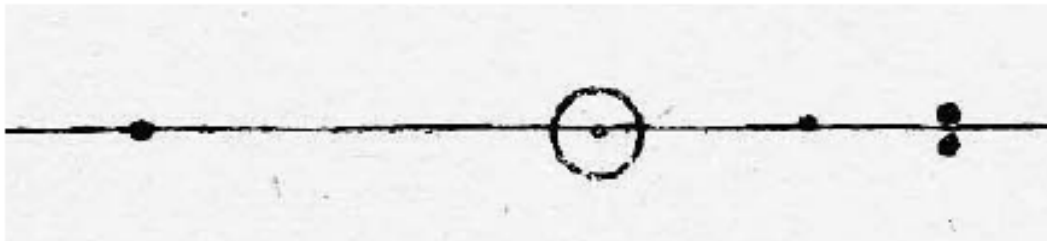
Figure 1



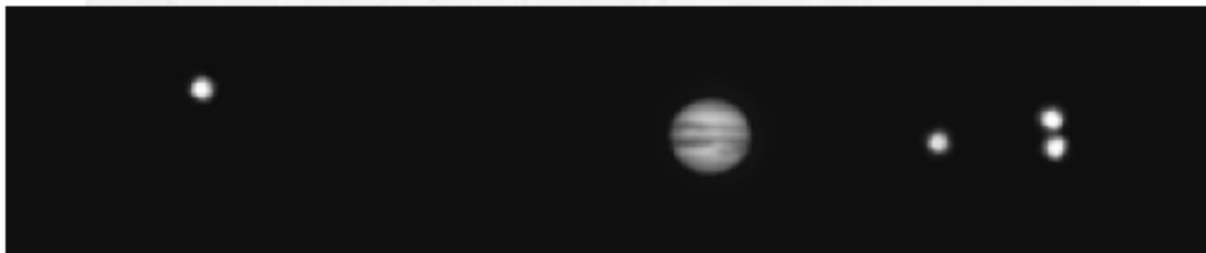
Galileo
25 March 1613 H 0.5
(*Opere* Vol. 5 p. 241)



Stellarium
25 March 1613
12:56:00 EST
FOV 0.367°



Galileo
12 March 1613 H 5
(*Opere* Vol. 5 p. 241)



Stellarium
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Frankfurt examples

- Fred is in a room with two exit doors, and wants to leave. He picks one of the doors (call it Door 1), opens it, and walks out.
- Fred thinks he made a free choice to leave by Door 1, but what he doesn't know is that *I secretly locked Door 2*, the other door, after he entered the room.
- If he had tried to open Door 2 he would have failed, and been forced to use Door 1 instead.



Door 1

Door 2



- What we should notice here is that my action L of locking Door 2 *determined* that Fred would leave through Door 1. But L played no part in bringing it about that Fred left through Door 1.
- (There is no causal process connecting the two events.)
- L *determined* exit through Door 1, but L didn't (even partially) *cause* it.

Part 2

Three views of free will

Free will

- **The will** = the part of our mind that makes choices, decisions, etc.
- A **voluntary** action is one that proceeds from our will, i.e. a voluntary action is *chosen*.
 - *No one denies that we make choices*, in the sense of undergoing a psychological process that results in a decision.
 - The will *exists*, on all accounts.
 - The question is whether the will is *free*.

The challenge of determinism

- The different views of free will are responses to the challenge of 17th century physics, which seemed to show that the world is deterministic.

- A deterministic world is like a rail yard.
- Rail lines do fork, of course, but **only one fork can actually be followed at a given time.**



Illusory alternative possibilities

- “... according to determinism, although it may often **seem to us** that we confront a sheaf of possible futures, what we really confront is something like this:” (Peter van Inwagen)



The “Garden of Forking Paths”

- An indeterministic world is sometimes illustrated by the “garden of forking paths”.
- Imagine walking through a garden along paths that occasionally fork. You have to decide which fork to take. Both forks are genuinely open to you, so that if you take (for example) the left fork, then you could have taken the right fork. And vice versa.

The Garden of Forking Paths



Three views about free will

1. Hard Determinism/ Hard incompatibilism
 - Determinism is true, so free will is an illusion
 - (And if determinism is false, free will is still an illusion.)
2. Compatibilism / Soft determinism
 - Determinism is (or might be) true, but this is compatible with free will
3. Libertarianism
 - Free will exists, and it requires *indeterminism* (real forking paths).

1. Hard Determinism. Our actions have deterministic causes, so *we have no free will*.

E.g. Baron d'Holbach, Ted Honderich, Jerry Coyne, Sam Harris



2. Compatibilism:

Free will is compatible with determinism

(e.g. David Hume, W. T. Stace, Daniel Dennett, Steven Pinker)



3. Libertarianism: We're free if we're able to choose from multiple possible futures. (And we have such freedom, at least sometimes.)

E.g. Peter van Inwagen, Robert Nozick, Robert Kane, G. E. M. Anscombe.



The Dilemma of Determinism

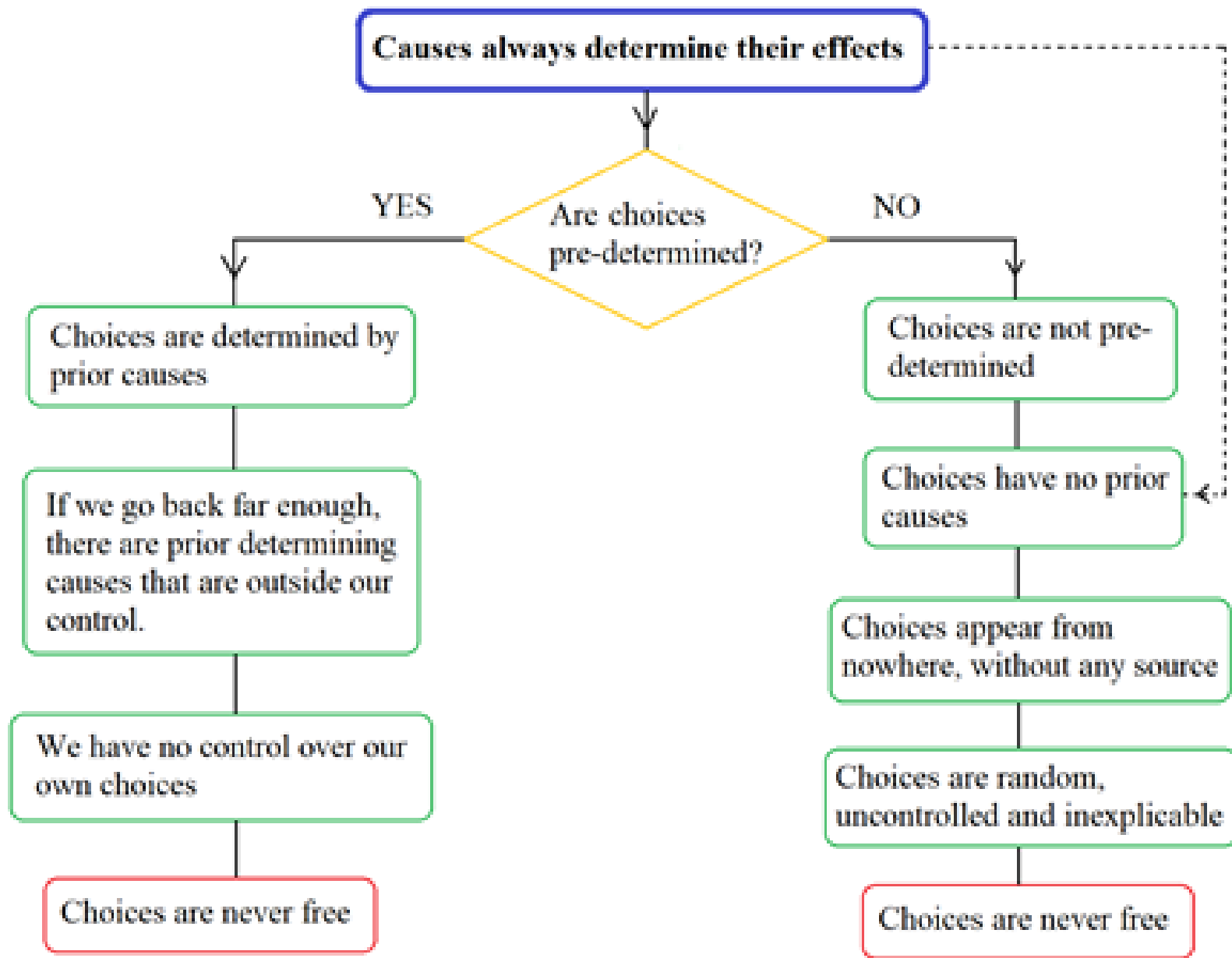
- In some cases, causes determine their effects.
- But do causes *always* determine their effects?
- The assumption that causes *always* determine their effects seems to entail that there is no free will.

The horns of a dilemma

Bad option

Equally bad option





The consequence argument

- The left-hand horn of the dilemma, where our choices are caused by prior events, leads to a lack of control according to the *consequence argument*. (See the paper by Peter van Inwagen.)



‘Untouchable’ facts

- An “untouchable” fact (for me) is one whose obtaining (or otherwise) is **outside the scope of my *possible* causal influence**.
 - I can have *no control at all* concerning an untouchable fact, no matter how lucky I am.
 - Facts concerning events before I existed are untouchable for me.
 - Facts about the laws of physics are untouchable for every human being.

The consequence argument

1. The **laws of physics**, and **events that occurred before I was born**, are untouchable for me.
2. Those facts logically entail complete descriptions of my actions. (If determinism is true.)
3. If a fact P is untouchable, and Q logically follows from P, then Q is untouchable.

∴ My own actions are untouchable for me.

The Source Argument

1. Free will requires that I be the ***ultimate source*** of my actions. A free action *originates with me*, we might say, so that I am *ultimately responsible*.
2. If causal determinism is true, then there are earlier events (before I was born) and laws of physics which, together, are a determining *cause* of my actions.

∴ My actions have a source which controls them completely, and over which I have no control at all.

∴ *I do not control my actions*, and have no free will.

The Source Argument

- The prior events and laws of physics seem to act like a 'control box' for a person, like for a remote-controlled car. Or like the strings for a puppet.
- There is (arguably) *no relevant difference* between prior determining causes of my actions, and a control box. In both cases I am not the ultimate source of my actions.
- (Is there a relevant difference?)



The other horn

- If we reject the view that free actions are caused by prior events, then what?

The “erratic and jerking phantom”

“For let us suppose it is true, and some of my bodily motions—namely, those that I regard as my free acts—are not caused at all ... We shall thereby avoid picturing a puppet, to be sure—but only by substituting something even less like a man ...an erratic and jerking phantom, without any rhyme or reason at all.”

(Richard Taylor, *Metaphysics*, 1974. -- p. 403 in our textbook)

“Indeterminism does not confer freedom on us: I would feel that my freedom was impaired if I thought that a quantum mechanical trigger in my brain might cause me to leap into the garden and eat a slug.”

- (J. J. C. Smart)

Uncaused events

- If an event has no cause, then it is without a source. It “comes from nowhere”. In particular, the event doesn’t come *from me*.
- But in that case, I surely have no control over it. (Nor does anything else have any control over it.)
- The event is absolutely uncontrolled, hence arbitrary, irrational, accidental, random, capricious, glitchy, haphazard, lucky, etc. Not free!

Responses to the dilemma of determinism

1. Hard determinism (hard incompatibilism)
 - See? I told you!
2. Soft determinism (compatibilism)
 - You're using the wrong definition of 'free will'.
3. Libertarianism
 - The dilemma is based on a false assumption that causes always determine their effects.

“Incompatibilism”

- Hard determinism and libertarianism appear to be opposing extreme views, with compatibilism in between.
- But hard determinism and libertarianism agree on one point, that *free will is incompatible with determinism*. They are both forms of incompatibilism.
- They both accept van Inwagen’s consequence argument, or something like it.

Libertarianism



Free will is incompatible
with determinism

Free will exists

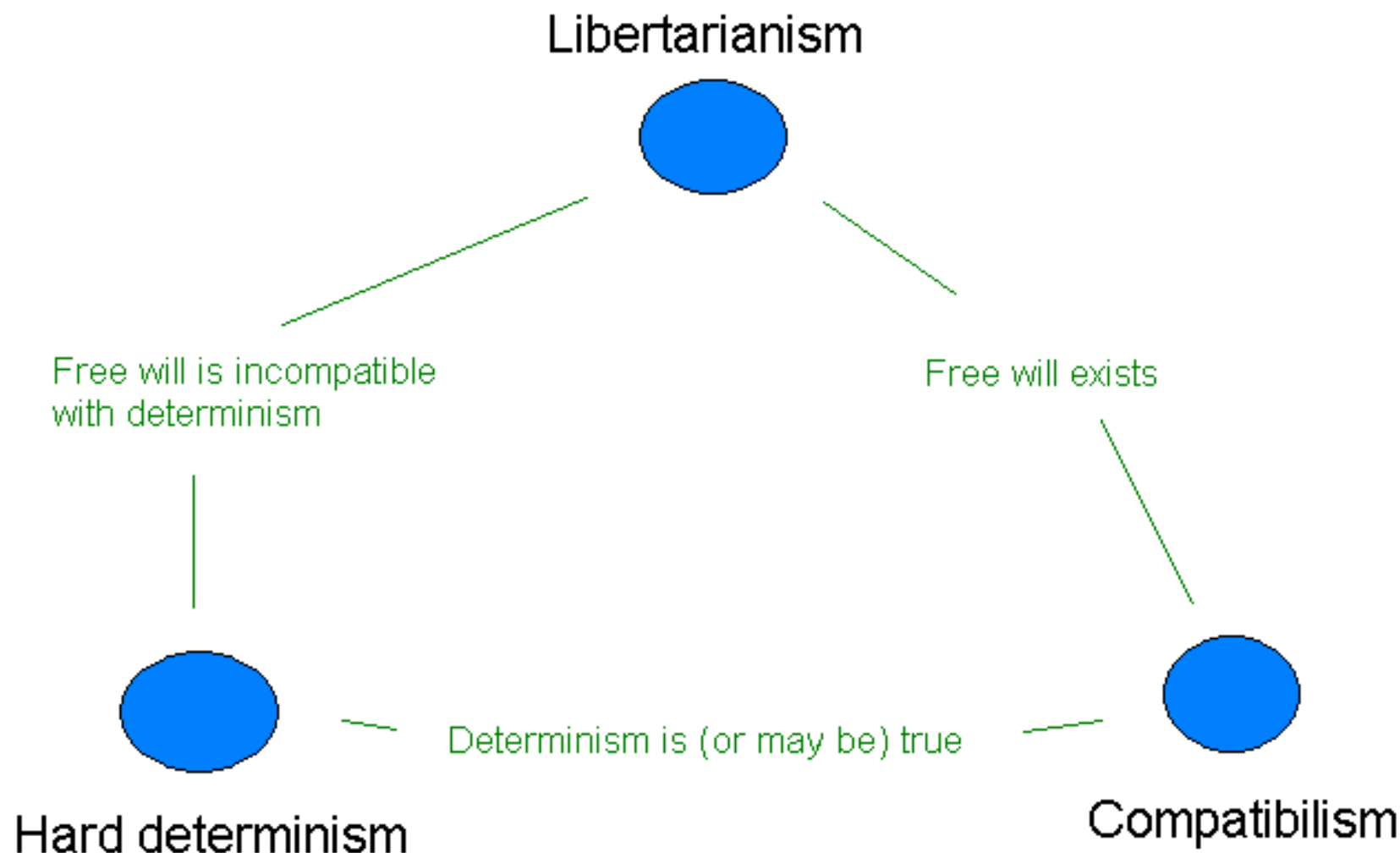


Determinism is (or may be) true



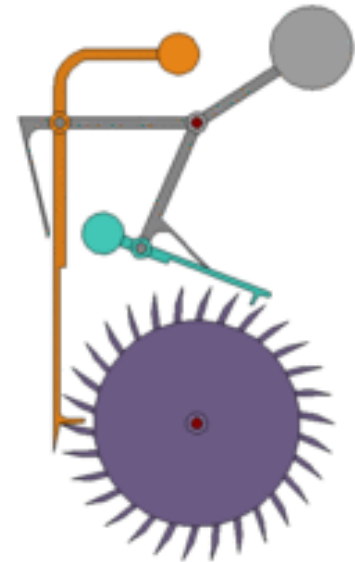
Hard determinism

Compatibilism



How *could* anyone have free will?

- I think Harris and Pinker are right that no *machine* (or physical system) could have free will.
- Libertarians will therefore have to reject physicalism (and so accept *some* form of dualism).
- If free will requires a non-physical substance (or properties) then *we won't be able to understand it*, at least not in the way we understand a machine.



Robert Nozick on the intelligibility of FW

“... we want to know how [free will] works.

According to the view currently fashionable, we adequately understand a psychological process only if we can simulate that process on a digital computer. ...

Any process of choosing an action that *could* be understood in this sense would appear not to be a process of free choice. ...

Sam Harris on free will being a mystery

- Harris had a conversation with a rabbi about free will. When pressed for details on how free will works, the rabbi replied that the workings of the human soul are “a mystery”.
- Harris reports being “furious” at this “ugly tangle of ignorance and superstition”
 - “A claim this empty, expressed with such evident self-satisfaction, causes some small part of me ... to hope that a distant asteroid will just be nudged out of its orbit and set on a collision course with earth.”

Indeterministic causation

- Russellian monism seems to open the door to causation being (in some cases) indeterministic.
- Why? Because a concrete system cannot be precisely represented in abstract terms.
 - Even the best mathematical model of it will be *incomplete*.
- If some of ‘inscrutables’ (the aspects left out) are *causally relevant*, then such a system *must* be indeterministic, even though everything that happens within it is caused.

Is intentionality physical?

- Note that Pinker, in the video, *assumes* that decisions guided by intentionality (rational understanding) can be represented abstractly, e.g. in purely physical terms.
- This claim is rejected by dualists (e.g. Pascal, Leibniz, Descartes).
- If the dualists are correct, and intentionality is non-physical, then libertarianism is in good shape, while determinism in general (both hard determinism and compatibilism) are false.