

# Causation and Free Will

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## Abstract

This paper looks at the basic philosophic positions on free will and suggests that there is a difference in usage of the term "determinism" between hard and soft determinists. The term "freewillism" is introduced, which is defined as the view that events can be caused by willed choices. Instead of "soft determinism", "hard determinism" and "libertarianism" the terms "soft freewillism", "(hard) determinism" and "hard freewillism" are used. Hence there is only one form of determinism, and the issue is resolved.

This change is allied to an expansion of the questions by which the philosophic positions are distinguished to allow a correlation between the questions on free will and questions on causality. This suggests a mapping of the main philosophic positions on free will to the types of causation:

- (Hard) determinism correlates to event-event causation, and is not compatible with free will.
- Indeterminism correlates to random causation, which is also incompatible with free will.
- Freewillism allows all three types of causation (event-event, random and agent):
  - Hard freewillism (libertarianism) allows indeterminate (libertarian) free will.
  - Soft freewillism allows determinate free will.

The evidence supporting the three types of causation is then considered.

## Introduction

In a Wikipedia article <sup>[1]</sup> it is suggested that the basic philosophical positions on the problem of free will can be distinguished by the answers to two questions:

1. Is determinism true?
2. Does free will exist?

The positions are:

- Compatibilism (soft determinism)
- Hard determinism
- Libertarianism

We will consider this view of the basic philosophic positions, but first we need to set out the terminology and premises we will use:

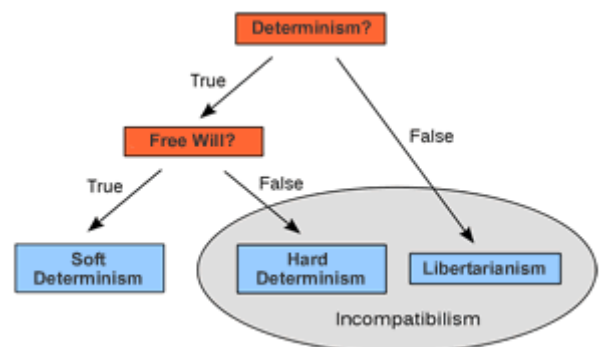
## Terminology

*Free Will* - The ability of sentient beings to make choices of their own volition.

*Causation* - The view that events happen because of specific factors, including chance.

*Determinate* or *deterministic* - A choice where there is only one genuinely realizable option, or an event that will happen or has happened.

*Indeterminate* or *indeterministic* - A choice where there is more than one genuinely realizable



option, or an event that may or may not happen.

*Determinism* - The view that events are caused by an unbroken sequence of prior events.

*Indeterminism* - The view that events happen by chance.

*Freewillism* - The view that events can be caused by willed choices.

*Incompatibilism* - The view that free will is not compatible with determinism.

## Premises

1. There are three types of causation:

- *Event-event* - Events that are caused by previous events in an unbroken "domino effect".
- *Random* - Events that happen by chance. Random events do not follow any pattern, and all possibilities are equally likely to occur.
- *Agent* - Events that are caused by sentient beings making willed choices.

Note: The types of causation are not necessarily exclusive.

2. Event-event and random causation are not willed.

Note: It follows from this that, to be compatible with free will as a causal factor a philosophical view must allow that agent causation is real.

## The Basic Positions

In the Wikipedia article, determinism is defined as the view that all current and future events are causally necessitated by past events combined with the laws of nature. Compatibilism is taken to be synonymous with soft determinism. Neither determinism nor indeterminism are regarded as positions in the debate about free will.

However, there is a problem with this definition. It can be argued that being "causally necessitated by past events combined with the laws of nature" only supports the type of choices that are made by a conventional computer program (not a neural net).<sup>[2]</sup> Such choices do not merit the term "free will", because they are neither free nor expressions of the machine's will. They are wholly determined by external factors, and the machine has no will. This is not a problem for hard determinism, because that position denies that free will is real anyway, but it is a problem for soft determinism.

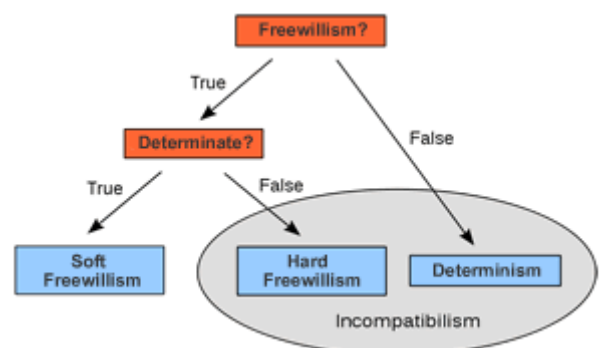
This suggests that, for soft determinism to be compatible with free will, a different definition of determinism is required. However, I suggest that it is possible to resolve this by introducing the term "freewillism". Freewillism is defined as the view that events can be caused by willed choices.

The basic questions relevant to freewillism are:

1. Is freewillism true?
2. Is free will restricted to one realizable alternative (determinate)?

The positions then are:

- Soft freewillism (instead of soft determinism)
- Hard freewillism = libertarianism
- (Hard) determinism = hard determinism



Two of the three positions correlate to the original ones, and the problem with the definition of determinism is resolved as there is only one version of determinism. Thus (hard) determinism becomes a position in the discussion of free will. Furthermore, we can include indeterminism in the debate by expanding the questions to:

1. Is determinism true?
2. Is indeterminism true?
3. Is freewillism true?
4. Is free will restricted to one realizable alternative (determinate)?

The reason for revising and expanding the questions is that it allows correlation to the causal questions given below...

## Analysis

The questions that classify the types of causation are:

1. Is event-event causation real?
2. Is random causation real?
3. Is agent causation real?
4. Is agent causation restricted to one realizable alternative?

There being four yes/no questions, the total number of combinations is  $2^4$  i.e. sixteen, which are shown in the left table.

However, we can simplify this table. If the answer to question 3 is No, question 4 is irrelevant, which we will denote by a hyphen on the middle table (rows a to d and i to l).

This reveals that there are four pairs of identical combinations in the table, so the unique combination reduces to twelve in the right table (rows a to h and m to p).

Furthermore, if the view that agent causation is real allows event-event and random causation to be real, but does not require them to be so, this reduces the combinations to six (rows a to d plus e and m).

Hence, focusing the basic questions on freewillism, and including questions on determinism and indeterminism, reveals:

1. The mapping between the types of causation and the main philosophic positions on free will is:
  - (Hard) determinism correlates to event-event causation, with no free will.
  - Indeterminism correlates to random causation, with no free will.
  - Freewillism allows all three types of causation (event-event, random and agent):
    - § Hard freewillism allows indeterminate (libertarian) free will.
    - § Soft freewillism allows determinate free will.
2. Two additional philosophic positions are revealed, neither of which are compatible with free will:
  - "Non-causalism" that recognizes no form of causation, e.g. eternalism.
  - "Non-freewillism" that allows event-event and random but not agent causation.

Q: 1 2 3 4	Q: 1 2 3 4	Q: 1 2 3 4
a) N N N N	a) N N N -	a) N N N -
b) Y N N N	b) Y N N -	b) Y N N -
c) N Y N N	c) N Y N -	c) N Y N -
d) Y Y N N	d) Y Y N -	d) Y Y N -
e) N N Y N	e) N N Y N	e) N N Y N
f) Y N Y N	f) Y N Y N	f) Y N Y N
g) N Y Y N	g) N Y Y N	g) N Y Y N
h) Y Y Y N	h) Y Y Y N	h) Y Y Y N
i) N N N Y	i) N N N -	
j) Y N N Y	j) Y N N -	
k) N Y N Y	k) N Y N -	
l) Y Y N Y	l) Y Y N -	
m) N N Y Y	m) N N Y Y	m) N N Y Y
n) Y N Y Y	n) Y N Y Y	n) Y N Y Y
o) N Y Y Y	o) N Y Y Y	o) N Y Y Y
p) Y Y Y Y	p) Y Y Y Y	p) Y Y Y Y

Q: 1 2 3 4	
a) N N N -	"non-causalism"
b) Y N N -	(hard) determinism
c) N Y N -	indeterminism
d) Y Y N -	"non-freewillism"
e) - - Y N	hard freewillism
m) - - Y Y	soft freewillism

# Evidence

It is all very well theorizing that there are three types of causation that are linked to the philosophic positions on free will, but is there evidence that they actually relate to reality?

## Event-Event Causation

There is plenty of evidence of event-event causation. Indeed the "laws of physics" would be incoherent if the universe did not behave, on a macro scale, in a determinate manner. So although this does not *prove* that event-event causation is ontologically real, it is a strong indication. It underlies scientific realism, which is the view that the universe exists outside our perception of it, and that the "laws of physics" describe that reality.

## Random Chance

There are plenty of examples, like the roll of dice, which are thought to be random, but it is questionable whether they are truly so. The reason is that determinate systems can give unpredictable results if all the variables are not known. Hence if all the variables were known for a particular roll of dice, the outcome could, in theory, be predicted.

Also, it is possible to define statistical rules as to how truly random systems behave, but it is known that pseudo-random (determinate) systems can emulate such behaviour. So the evidence that a system may behave statistically in a random manner is not conclusive.

Perhaps the case for random chance being real rests on the way that the universe behaves at the atomic scale. Quantum Mechanics suggests that if a single unstable atom is placed in a controlled environment, it cannot be predicted how long it will take for the atom to decay. Only the probability of decay within a given time can be calculated. However, the mere fact that the probability *can* be calculated suggests that, in a probabilistic sense, the process is determinate.

## Agent Causation

In general, we intuitively believe that we have free will and act as causal agents, but is that correct? After all, the universe around us behaves in a determinate way, and we, including our brains, are physically part of that universe. So how can we be causal agents if our brains are determinate systems? Because of this, many philosophers think that free will, as a causal agent, is illusory. So what evidence is there?

The strongest evidence of free will as a causal agent may be technology. This is because the creation of technological artifacts usually involves intent. So the artifacts are intentionally designed in a sense that natural objects are not. Plants are not intentionally designed to metabolize carbon dioxide into oxygen to produce an atmosphere that is breathable by us. Evolution is not intentionally designed to produce human beings.

It could be argued that the real reason why it is almost certain that many man-made artifacts could not arise in absence of an intelligent designer is simply because there is no easy evolutionary path whereby such artifacts could arise by chance. It has nothing necessarily to do with the intended purpose. But whether this is true or not does not change the fact that many artifacts do have an intended purpose in a way that no natural objects do.

For example, if the first person to land on a newly discovered planet found dense jungle, empty beaches, and untilled soil, would she conclude that was natural? Yes. But if she found a nuclear power station, cars and all the trappings of a metropolis, would she conclude that was natural? No. She would conclude that she was in the presence of alien technology. The products of sentient beings. *Why? Because the artifacts are intentionally designed.*

Furthermore it is clear that such design is not possible under (hard) determinism because, in that scenario, free will is not a causal factor. So this evidence is for free will and agent causation, but against (hard) determinism.

However, there remains the question of hard and soft freewillism. In both cases intentional design is theoretically possible, as the cause is our free will. Also, in both cases there is only one outcome. I.e. All choices are determinate once they are made. The difference is whether we could have chosen otherwise.

The problem is that we never experience exactly the same circumstances again. Hence it is not possible to demonstrate that, in those circumstances, you could choose otherwise. So, although the evidence for agent causation seems strong, it remains conceivable that free will is deterministic.

## References

<sup>[1]</sup> Wikipedia - Free Will: [http://en.wikipedia.org/wiki/Free\\_will#In\\_western\\_philosophy](http://en.wikipedia.org/wiki/Free_will#In_western_philosophy)

<sup>[2]</sup> Stanford Encyclopedia of Philosophy - Arguments for Incompatibilism:  
<http://plato.stanford.edu/entries/incompatibilism-arguments/#ClaArgForInc>

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