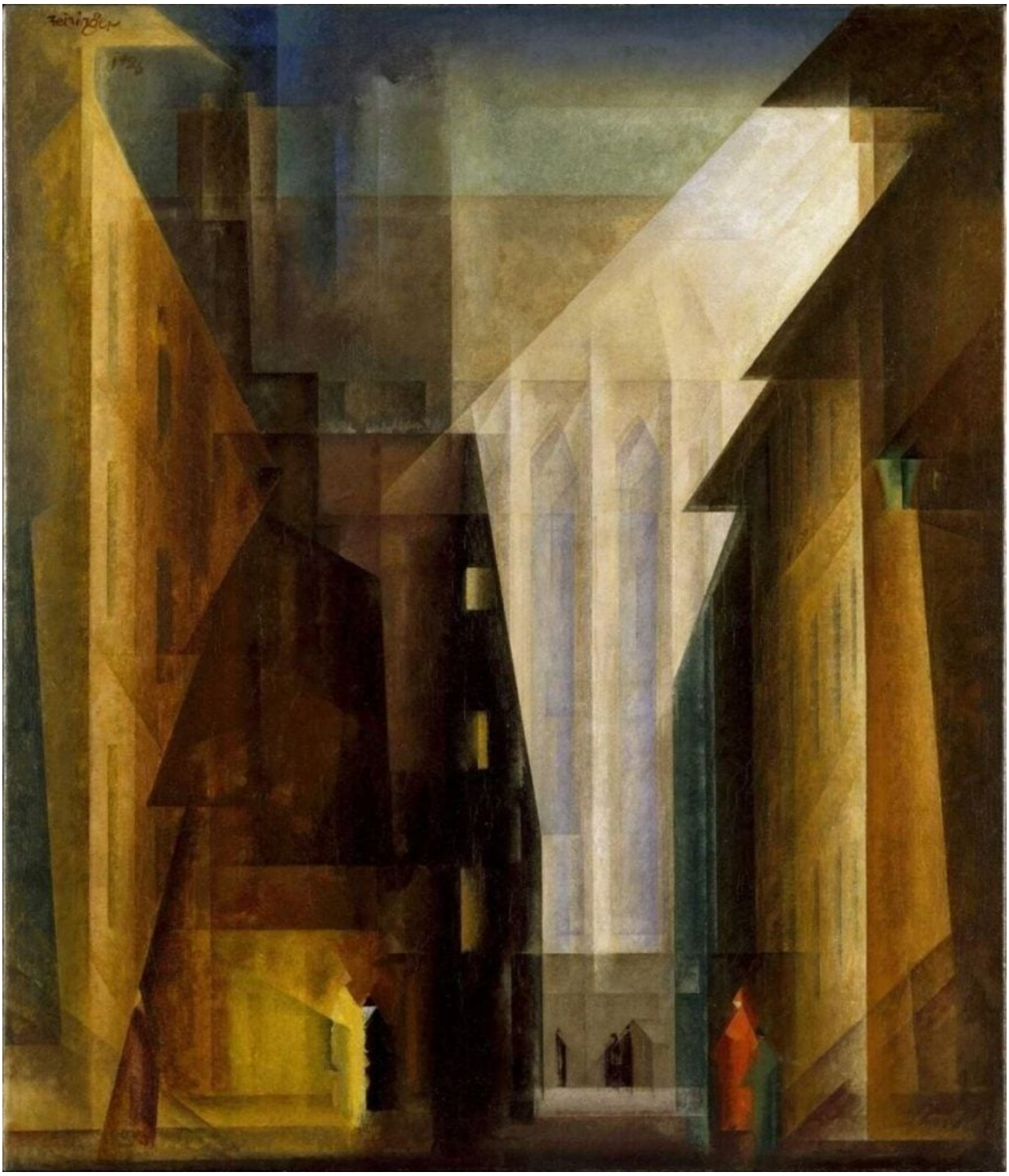
Why Freewill is No Mirage

The forever debate surrounding freewill continues.

by Andy Thomas (July 2025)



The Church of the Minorites (Lyonel Feininger, 1913)

We're here, there, not here, not there, swirling like specks of dust, claiming for ourselves the rights of the universe. Being important, being nothing, being caught in lives of our own making that we never wanted. Breaking out, trying again, wondering why the past comes with us, wondering how to talk about the past all. **Jeanette Winterson, Lighthouse Keeping**

Introduction

In this, I argue that freewill is meaningful.

This piece was written, in part, as a response to Armando Simón's recent essay, Free Will is a Mirage, published in *New English Review*, June 2025. It is also a piece I had been planning to write for sometime and I'm grateful to Armando for providing me with the impetus to put fingers to keys to make it happen.

I do not deny that we live in a universe with physical laws. Rather, I suggest that there is a complex interplay between physical laws and freewill which is poorly understood.

Simón's is an argument predicated on determinism, which he declares to be proven. I wish to be fair to him, and understand that he is writing from a perspective of psychology. Nevertheless, I must it take it that what he is referring to is "strict determinism," or something very close to it as far as human beings are concerned, as anything less opens up the possibility for freewill.

In his essay, he makes use of many anecdotal examples of behaviour without apparent freewill to support his position.

One of these stood out to me for rather personal reasons, but I mean no disrespect to Simón nor do I intend any appeal to emotion in raising it here. He writes:

> *“Addicts are an example of persons who have no free will. The same with alcoholics.”*

It is certainly true, in terms of probabilities, that there is little down for alcoholics.

Several months ago, I watched my best friend die a lingering and agonising death. He died in the same hospital ward I watched my mother die, in exactly the same way, some ten years previous.

My friend believed himself to be a rational man who should be in control of himself. In my own case, I accepted that I had run out of logic, and reached out to something outside of myself for help—some 25 years ago now. This, I believe, is the reason I am alive today, whereas my friend is not. I have been sober for most of my adult life now.

The power that alcohol has to take away choice is beyond words. But I realised that I still had a choice, and took it. It was a choice my friend denied himself, at least until it was far too late.

I find it amusing, although seemingly contradictory to my own argument, that the moment I run into trouble with my own freewill, I hand it over while muttering such things as, “God’s will, not mine.” Nevertheless, we continue…

In another example of apparent lack of freewill, Simón exclaims:

> *“In America, ask a brainwashed college student to analyze his/her thoughts, and you see how much they are lacking in free will.”*

No, I would not agree that this is an example supporting the non-existence of freewill, but merely its absence in the individual. It is an example of freewill that has been crushed.

I would contend that what Simón is describing are people who have been overwhelmed by the loss shared certainties hitherto a feature of daily life. In the modern world, with its technological and social upheaval, alienation, media manipulation and hidden agendas, it is increasingly hard to know what to believe, or even what is real and what is not.

We must all contend with such **uncertainty**, and the fear thereof.

Uncertainty is psychologically stressful and, powered by on-line bubbles, many will gravitate to things which may be proclaimed safely with **absolute certainty** rather than understanding, which is either lacking or dangerous where we do have it, no matter how bizarre or demonstrably false such certainties may be in the future. The truth is that when our world is flooded with too much uncertainty, we are all overwhelmed at some point, and must cling something.

It is certainly the case that, when armed with the perception of absolute certainty, irrespective of any truth value, freewill becomes difficult or impossible. This is the very essence of what determinism upholds.

In recent times, it is commonplace for people to declare themselves simply to be: “following the science”, “looking at the data” or “running the numbers”. These are examples of what, perhaps, Hannah Arendt may have described as people

refusing to think.

In other examples, I would agree that our choices may be constrained, or appear constrained, to such an extent that we must suffer terribly if we wish to break free of said constraints.

In still others, we may never realise that was ever a choice to begin with.

My view, also contrary to Simón's, is that our society is one which wishes to believe that determinism applies everywhere or, at least, that it should do.

While accepting universal physical laws, I reject faith in determinism.

Three Inconclusive Reasons

The primary tenet of a freewill argument would seem to rest in the successful refutation of the idea that we live in a strictly deterministic universe, since its universal laws apply to that which goes on inside our brains. This, it also seems, is a rather difficult thing to do conclusively.

Additionally, there is a much deeper assertion against freewill which goes something like this: If we don't live in a deterministic universe, then we live in an indeterminate one in which some things are just random. As such, we are still compelled in our thoughts and actions, but sometimes without reason.

Either way, so the argument goes, there is no freewill.

When setting out to demonstrate the invalidity of the former, I had originally intended to provide FOUR scientifically grounded reasons, the first three of which are listed below:

1. Chaos theory (Butterfly effect)
2. Heisenberg's uncertainty principle
3. Quantum mechanics

The second two may be combined, since the uncertainty principle stems from early quantum mechanics, but for reasons of clarity, I will treat them separately.

The problem I saw with these as counter arguments is that they do not necessarily show the universe to be strictly non-deterministic, but merely that the future is unknowable to us. It is arguable whether the third, quantum mechanics itself, conclusively proves non-determinism or not, as we shall see.

The fourth reason is of the deepest possible significance and remains valid. We will come to that in due course.

In the case of the first reason, chaos theory merely tells us that predicting the future is mathematically intractable in many given domains. Specifically, in order to know the future, we must measure everything and calculate everything with infinite precision, which we cannot do.

The leading founder of the theory, described it thus:

> *Chaos: When the present determines the future but the approximate present does not approximately determine the future.* (Edward Lorenz)

Those domains under which we cannot predict the future may be entirely deterministic and extraordinarily simple, such as a double pendulum. Others may be complex, such as the weather,

or involve living things and people.

The domains under which *we can* successfully predict the future are often referred to in the context of “engineering.”

The modern expectation that all things should be measurable and knowable (if it can be measured, it can be managed) has repeatedly given rise to the tragic mistake of applying engineering techniques to non-engineering domains, and especially to people. This has never worked in terms of sustainability or happiness, as the only way to put people into predictable domains is to crush them, which ultimately collapses the system in which we live. If you seek examples, look no further than ideological utopias of the past, or modern surveillance capitalism.

Irrespective, chaos theory applies to strictly deterministic systems and does not, itself, show there is anything about the universe which is inherently non-deterministic.

Whereas chaos theory implies we cannot calculate some things unless we have infinite precision, the uncertainty principle (reason two) implies we cannot measure things with infinite precision either. It would seem that the universe imposes limits on what we are allowed to know.

Taken together—the uncertainty principle and chaos theory—the future is always unknowable to us, *in principle*, not just in practice. Unfortunately for my argument, I do not hold that the uncertainty principle proves that, under the hood, the universe is ultimately non-deterministic.

The third reason, quantum mechanics, is more vexing because, being a theory based in probabilities, it may seemingly offer a way out of the trap of determinism and is commonly invoked as such. However, as we get down to scales below that of atoms, solid reality evaporates and all we are left with are mathematical abstractions which are open to interpretation.

In fact, there are several common interpretations of quantum mechanics, with the one most people are familiar known as the “Copenhagen interpretation.”

In this interpretation, it is postulated that there is no hidden machinery under the hood and thus, at the base level, causality is absent and the universe behaves entirely randomly.

Given this, the possible argument against freewill that, at the macroscopic level, quantum indeterminism has no effect because of “the law of averages” does not hold. We have already described how nature may cascade tiny perturbations up into the macroscopic realm due to the butterfly effect. Moreover, consider how a few quantum events occurring in an experiment may influence the ink in some scientific paper discussing quantum mechanics itself, thus cascading up into the minds of many macroscopic beings.

If we fully accept the Copenhagen interpretation or something equivalent, we indeed have a universe grounded in non-determinism, but one which may still be argued to be meaningless because that is how we think of randomness.

There are, unfortunately for freewill, numerous interpretations of nature at this level, including the de Broglie–Bohm theory, also known as “Bohemian mechanics.” In this, it is posited that there are indeed hidden variables under the hood which behave purely deterministically. However, in principle, we can never observe these or know their initial conditions; we just declare that they must exist.

In my reckoning, this simply moves randomness from one place to another in order to preserve the notion of determinism. However, it important to understand that, in both cases, we are dealing with abstract interpretations, and both interpretations deliver the same results which appear to agree with reality. There is, to my knowledge, no scientific

experiment which has conclusively demonstrated the veracity of quantum mechanics over Bohemian mechanics.

The Copenhagen interpretation is often used over other interpretations because of its relative simplicity and because of the thinking established by its pioneers.

But who is to say which one is correct and which one is not? Or, if either are correct at all?

Since I would like to go deeper than merely making assertions which may neither be proved or disproved, let us accept for the moment that an argument for freewill based on quantum mechanics may fall within the same camp as the first two.

In other words, it assures us only that the future is unknowable. There is no need, at this stage, to invoke what some may derisively call “quantum woo”.

The Fourth Reason

Before we move on to the fourth reason, it is perhaps worthwhile to revisit what determinism, in its purest form, actually means.

The idea stretches back to antiquity, but was epitomised by 19th century French mathematician, Pierre-Simon Laplace, who expressed in terms of an “intellect” capable of submitting all particles and all forces to analysis.

For such an intellect, he surmised: *“nothing would be uncertain and the future just like the past would be present before its eyes.”*

There is a very practical problem with this idea, namely that the computation necessary for it may require more resources than contained in the universe itself. But let us not get side-tracked by such trivialities.

More recently, physicist, Sabine Hossenfelder, in a 2021 Youtube video, did an exemplary job at paraphrasing Laplace in a modern context:

> *These [physical] laws have the common property that if you have an initial condition at one moment in time, for example, the exact details of the particles in your brain and all your brain's inputs, then you can calculate what happens at any other moment time from those initial conditions. This means, in a nutshell, the whole story of the universe in every single detail was determined already at the Big Bang. We're just watching it play out.* (Sabine Hossenfelder, Youtube, You don't have free will, but don't worry)

In short, strict determinism means that absolutely everything is **predetermined**—at the very start of things—at the Big Bang.

This startling claim should not be under-appreciated. Unless proponents of strict determinism wish to entertain the idea that something, or someone, predetermined everything, it implies that everything we see in the cosmos—everything we see around us and everything going on in our minds—is the result of some extraordinarily unlikely and meaningless metaphysical accident aeons ago.

If, on the other hand, determinism is not strictly enforced, then we have something else, say partial or *adequate determinism*, which opens up the possibility for freewill.

For strict determinism to hold, we can see now that all the information necessary to describe the state of the universe—for all time—must have been present at its very inception, whatever that inception was.

If we were to find, however, that the amount of information in the universe is not static or decreasing, but is actually **increasing**, then strict determinism would necessarily be violated because everything needed to describe the universe's unfolding could not have all been present at the start.

Indeed, this brings us to the fourth reason, and it was what cosmologist, David Layzer, found in the 1970s.

Due to the natural tendency for entropy to increase, it has long been envisaged that the universe will ultimately suffer some form of "heat death" in which no further thermodynamic processes are possible. Entropy is a measure of disorder, with **information** defined as "negative entropy."

What Layzer showed was that, while universal entropy is increasing, as required by the second law of thermodynamics, it cannot equalise at the same rate as the universe expands [*].

This opens up a window in which an increasing amount of new information must come into existence, resulting in the formation of complex informational structures, which is what we observe in terms of the stars, planets and our very selves.

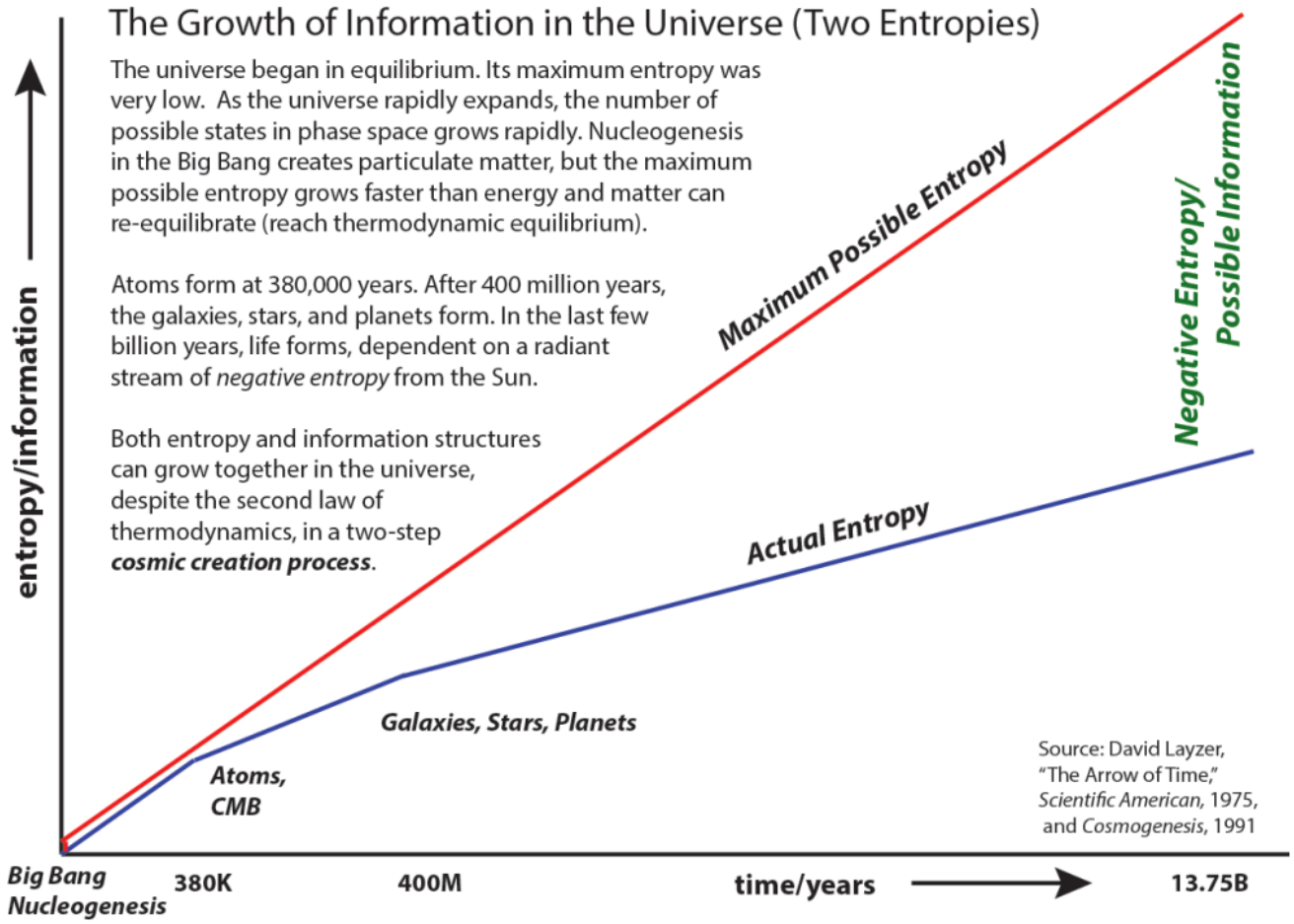


Image Credit: The Information Philosopher

Consider, for example, that over a period of ten years of so, we replace most of the atoms in our bodies. Consider also that, as we look inside atoms, what we find is empty space.

Then just what are we?

Material stuff? Or informational structures?

In any case, we do not live in a strictly deterministic universe but one of adequate determinism—one with a future that is very much open.

Entropy and information are closely related concepts which would take much work to unpack. But is it not curious that when AI large language models are fed with synthetic data, i.e. output from other models, their entropy increases resulting in so called model collapse?

In any case, the focus of the AI world is now on human sourced information, prior to 2022, that is untainted by the spew from generative models.

What is it about the human mind which is able to either generate, or tap into, information? And what is it about AI, running on deterministic computers, which means that it cannot?

And can we be so certain that the randomness exhibited at the fundamental levels of existence is truly meaningless, rather than embodying some form of information only present in the truly unknowable which reality, and *only Reality*, is permitted to decode?

On the Nature of Freewill

In classical information theory, itself derived from the concept of entropy, information is assumed to exist in isolation, without the need for any conscious mind to either create or know. Moreover, it is defined in terms of abstract probabilities.

But are not probabilities themselves merely a way to quantify the unknown?

Does not knowledge itself ultimately require a knower?

What is obvious about probabilities, at least once you can see it, is that while they may appear to be cold, hard and scientific, they are based entirely on what you know or don't know and are, therefore, personal to you.

If you are holding three kings in a game of cards, then the probability of drawing another king from the deck is very different for you than for your opponent. Your opponent may, of course, reach forward, snatch your cards and turn over the deck, but this very act of acquiring absolute knowledge

collapses the game.

When we reach for absolute knowledge within reality, we lose all hope, purpose and meaning. We lose ourselves in a "game" which has become pointless.

As mathematician and historian Jacob Bronowski famously said at Auschwitz, as he stood, ankle deep, in the pond into which had been flushed the ashes of his family:

> *When people believe that they have absolute knowledge, with no test in reality, this is how they behave. This is what men do when they aspire to the knowledge of gods.* (Jacob Bronowski, *Ascent of Man*, 1973)

So far, I have been careful to claim only that freewill is not a mirage, but is meaningful in a universe in which our futures are unknown and, in principle, open. If we define freewill in this way, have I demonstrated this?

But what of a stricter definition of freewill, such that we are the ultimate source of our own thoughts?

Accepting the universe's role in making freewill possible through non-determinism, we are seemingly faced with contradiction in which agency may be reduced to cosmic events. For example, am I writing these words, or does the information within them ultimately originate from the universe itself?

For what it's worth, since knowing is personal, I choose freewill for myself, as permitted by universal laws. My freewill is granted to me by God, on whom my existence is contingent.

You are free, I guess, to choose for yourself.

[*] For more information on this, see: https://informationphilosopher.com/solutions/scientists/layzer/

See also David Layzer's book, *Cosmogenesis : the growth of order in the universe*

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Andy Thomas is a programmer, software author in the north of England. He is interested in the philosophical implications of science, the nature of nature, and the things in life which hold 'value.' You can find his writing here.

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