

**On The Refutation Of Determinism
And
The Justification Of Punishment**

Essay written by

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1. Introduction

For the “Pathways to Philosophy“ program by Dr. Geoffrey Klempner I chose to write my first essay on the following topic:

“In the light of the critique of “free will“, can blame and punishment ever be rationally justified? [...]”

To answer this question appropriately, I thought about Determinism first.

Determinism always seemed to me as a mental shortcoming of some or the other kind. I was keen to refute it. I was somehow sure that we own “free will“.

That is why I settled to argue against Determinism. And, to be honest, for the last week, it has been quite tough. On a few days, I felt like I was able to defeat Determinism. On even more days, I somewhere detected a mental shortcoming in my own arguments.

Succeeding the time I spent on theorizing Determinism, I can boldy claim that I might have figured out a theory to refuse its idea. I present my thoughts in the following sections.

In “Critique of Determinism“ Determinism is reviewed interwoven in its historical net of narratives. It is then further theorized the question whether cause and effect chains necessarily need to lead to Determinism, and I will finally deny this.

I will then refuse that our decisions may be determined by our physical components.

In “Free Will“, it’s further theorized whether we could be determined by our mental environment. I will refuse this idea, too. To end this section, I will suggest my statement of how and why we possess free will.

In “The Justification of Punishment“, I finally strive to close the circle to the initiating question. I try to justify punishment and further explain its benefits for the individual and it’s society.

2. Critique of Determinism

2.1 Determinism in its historical net of narratives¹

Every theory must be regarded as interwoven in the current net of narratives stated as generally true by most people. As the net of narratives changes in different environments, different centuries, different societies etc., hardly any idea is regarded as true in every period of time.

Determinism itself is woven in a net of narratives in which, in my opinion, a linear way of thinking is dominant. For example, history and the development of today's culture is thought linear. One event is suggested to succeed the last, and often to improve concerning the latter. Even more dominant in today's net of linear thought narratives is the idea of cause and effect. Every event, or cause, is suggested to be linked to an outcome, or effect. It's no surprise to me, that Determinism was developed in a net of narratives where linear thinking and the law of cause and effect states the fundamental blocks where our mind is built on.

Opposed to this, take philosophical systems in India, like Buddhism, for example.

As there is not a linear, but a rather circular way of thinking, Determinism would sound pretty strange in this net of narratives.

I don't want to argue that one philosophical way of thinking is superior to the other.

Nevertheless I want to make the point that for me in today's culture a linear way of thinking, dominated by overvalued cause and effect chains, is too dominant and a breeding ground for ideas as Determinism.

Furthermore, it seems conceivable to me, that though there are unarguably many cause and effect chains in nature, this does not necessarily imply that all history of humankind, our societies, our culture, our planet and our universe, are dominated by cause and effect.

I imagine our universe as no line. In my opinion, it should be rather imagined as a field of popping up materials, recombining, defining objects and, lucky us, living things per accident. Of course cause and effect is often there to link things together or produce greater outcomes – but this does not imply that all of the universe is determined by cause and effect and does not necessarily imply Determinism.

For the sake of this point I started from, I always sought to refuse Determinism as I somehow felt it would only fit in the linear narratives dominant in western culture today, but not in every explanation of the principles our universe is based on.

¹ The whole idea came to me after having read the works of Yuval Noah Harari. If you are interested in this, you might want to have a look in his books.

2.2. Does “cause-effect-connection“ necessarily lead to Determinism?

As I stated above, a lot of processes in nature are in fact cause and effect driven.

To refuse the presence of Determinism in the universe and further in human behavior, I want to make a few points.

First, we can not disembodify the claims of skepticism. If we regard many effects preceded by single or more combining causalities, we can never claim surely that the cause is necessarily followed by the effect and truly caused by it.

As David Hume famously claimed: though the sun may have risen every day we were on earth – we can never be sure whether it will rise the next morning again.

Furthermore, correlation can perpetually occur. We might find stimulus A always followed by reaction B - but we can for sure never claim that we measured every little piece of information which might be relevant. Who can with absolute certainty say that he did not miss one actually causing element and refuse that stimulus A might only be correlational to this element?

Second, we should not mistake often watched cause and effect chains for Determinism in the big view. As I stated above, Determinism is interwoven in a net of predominately linear thought narratives. In my opinion, though we witness many cause and effect processes in nature, this does not necessarily imply that every cause and effect process is linked to all the others and that this leads to a deterministic universe.

In human beings, many physical components of our selves, in our mind as well, are of course driven by cause and effect processes. Somehow every complex system needs these processes to further develop. But though our brain is driven by cause and effect processes, this does not imply that we are physically determined.

I want to stress a few points which I regard as misunderstood. I will draw a little figure of possible mental processing below and explain it in the following.

The stimulus A, or cause A, will lead to information B, or effect B, transported in the perceiving mind. There, it will be subconsciously computed, computation C, or processed, and will then likely lead to decision D.

Stimulus A → Information B → Computation C → Decision D
(cause A) (effect B)

If we think the mind compound of A and B leading to D, we could be in fact driven by physical Determinism. Nevertheless, even between A and B, I want to emphasize a few points which in my opinion lower the likeliness of Determinism a lot.

As I stressed above, how can we be sure that cause A always leads to cause B?

Or that cause A in fact is not the cause, but the correlation with another not discovered yet cause? If A may always cause B, how can we assure that it's not dependent on other stimuli to occur simultaneously? Imagine stimuli not of the physical kind we did not discover yet? And, assumed A constantly causes B, how can we then conclude that all our future decisions D will always be influenced in that way? Last, how should we assure that A is not cast at random, and that, in this chaos, our free will is hidden?

In the following, I will show that in fact processes in the mind are occurring by chance.

I will then, in "Free Will", argue how this entropy, despite Hume's claim that we can not account random actions to our own glory, makes up our free will.

2.3. Refutation of physical Determinism

For centuries, philosophers and thinkers as popular as Rene Descartes and Ivan Pavlov, have imagined our mind as an input-output device.

You put in sensory stimulation and get out reactions such as muscles contracting.

Today's neuroscience proved this view deeply wrong.

Stanislas Dehaene, a cognitive neuroscientist from France, claimed that "Autonomy is the primary property of the nervous system."²

He figured out, that our brain is never passively submitted to its environment, but generates and preserves its own relevant stochastic patterns of activity.³

But how should our brain be able to randomly trigger itself?

Dehaene argues, that "early on in evolution, neurons acquired the ability to self-activate and spontaneously discharge a spike. Filtered and amplified by brain circuits, this excitability turns into purposeful exploratory behaviour. Any animal explores its environment in a partially random manner, thanks to hierarchically organized "central pattern generators"-neural networks whose spontaneous activity generates rhythmic walking [...]. I contend that, in the primate brain and probably in many other species, a similar exploration occurs inside the brain, at a purely cognitive level. By spontaneously generating fluctuating patterns of activity, even in the absence of external stimulation, the global workspace allows us to freely generate new plans, try them out, and change them at will if they fail to fulfill our expectations. A Darwinian process of variation followed by selection occurs within our global workspace system."⁴

2 Dehaene, *Consciousness and the Brain: Deciphering How the Brain Codes our Thoughts*, published 30.01.2014, p. 188

3 Dehaene, p. 188

4 Dehaene, p. 189

Our brain is able to activate itself randomly, because excitability is a natural, physical property of nerve cells. Therefore, every membrane potential for each neuron undergoes endless fluctuations in voltage, due to the random release of neurotransmitters at some of the neuron's synapses.⁵ Dehaene concludes, that "in the final analysis, this randomness arises from thermal noise, which constantly rocks and rolls our molecules around. One would think that evolution would minimize the impact of this noise, as engineers do in digital chips, when they set very distinct voltages for 0s and 1s, so that thermal noise cannot offset them. Not so in the brain: neurons not only tolerate noise but even amplify it-probably because some degree of randomness is helpful in many situations where we search for an optimal solution to a complex problem."⁶

Dehaene ends his thought process then with the following sentence:

"It is humbling to think that the "stream of consciousness", the words and images that constantly pop up in our mind and make up the texture of our mental life, finds its ultimate origin in random spikes sculpted by the trillions of synapses laid down during our lifelong maturation and education."⁷

To sum up: due to thermal noise, nerve cells can randomly charge and emit action potentials, often strong enough to cause global ignition, and possibly consciousness, in our mind.

Due to this fact, I refuse Determinism in its physical style of argumentation.

We can not be determined by physical processes, when these physical processes actually occur randomly due to thermal noise.

Still, this theory is not able to refuse the idea that we could be determined by our mental circumstances, our traits and our previous decisions. Furthermore, we need to face Hume's claim that random processes can't account to our self.

I will seek to do so in the following.

3. Free Will

In my figure above I imagine stimulus A as the outer or inner stimulus causing information B to be delivered to the mind. I reprint the figure here:

Stimulus A → Information B → Computation C → Decision D
(cause A) (effect B)

5 Dehaene, p. 190

6 Dehaene, p. 190

7 Dehaene, p. 190

Our mind is composed of our subconsciousness and our consciousness.

I consider our subconsciousness as kind of our big data collector and processor of them. Our subconsciousness gathers data (sometimes data we are not aware of consciously, this will be important later), processes and memorizes it.

When the need for a decision arises, our subconscious mind rapidly reviews all memorized data and calculates probabilities for which option we should go. The decision itself may be occasionally conscious, particularly when listing up rational thoughts against each other, and sometimes subconscious, when fast decisions are required. Above, subconscious processing equals computation, C. We could name it gut feeling, too.⁸

I consider our consciousness as our global workspace, where many activated neural networks are linked together and process the most important pieces of data (for the interested reader, I can suggest the enlightening works of Stanislas Dehaene on this topic I quoted above, of which I took the global workspace theory)⁹.

The consciousness can, after data is processed and computed by C, further decide (decision D above).

To summarize, in my view the subconsciousness runs over all relevant data, figures out probabilities to which an alternative will match our needs, and favors this option then with positive feelings.

Based on this proposition, we need to further theorize decisions.

In my suggestion, a decision is made out of many elements. I figured out three determined and two free elements of decisions.

1. determined element: inherited traits by gene expression
2. determined element: learned behavior or learned traits by watching examples
3. determined element: information we perceive

The second and third element contain experience, personal circumstances and previous decisions as well.

4. free element: the information we expose ourselves to
5. free element: the decision we actually opt for

1., 2., and 3. make up our subconscious mind.

Let's build it right up from the beginning of a life for a better understanding.

8 For the interested reader, I suggest the works of Gerd Gigerenzer on this topic

9 Dehaene, Consciousness and the Brain: Deciphering How the Brain Codes our Thoughts, published 30.01.2014

A child is born.

It has not been shaped by culture or education yet. It hasn't made any experiences and no built impressions. Furthermore, it hasn't abstract ideas yet.

Instead of this, the basic character of the child is encoded in its genes. It may be kind of angry, preferably calm, sort of extrovert, slightly introvert and on. I call this the first determined element of a decision. It is, at least in our days, in which genetic engineering is not possible yet, and I stress the word "yet" here explicitly, unarguably determined. No one can change the trait he got by genetic heritage.

In its first years, the child experiences a lot. It processes experiences to impressions and abstracts ideas from them. Furthermore, the child learns by example from its parents, its teachers and on. These traits acquired by copying behavior of its social environment are determined as well, as they are dependent on the actual social environment the child is born into. I name this as the second determined element of a decision. Taken decisions and memorized experiences can be categorized in here as well.

Data collected by our subconsciousness is the third determined element of a decision, because when we perceive an information, even when we seem to not get aware of it, we can not decide to not gather it subconsciously.

To sum it up again: As I proposed above, our subconscious mind is determined by traits, be them genetic or learned, experiences, decisions, and information we perceive.

Dehaene himself found it "humbling to think that the "stream of consciousness", the words and images that constantly pop up in our mind and make up the texture of our

mental life, finds its ultimate origin in random spikes sculpted by the trillions of synapses laid down during our lifelong maturation and education."¹⁰

He suggests that our mind originates randomly out of connections between synapses built during our life.

To call the devils advocate on this view: though our nerve cells may activate randomly, they can exclusively activate based on the three determined elements,

mentioned above, that formed specific neural networks – isn't this the proof of Determinism then? Are we determined by our traits and our past experiences?

I refuse this view. Despite we can not influence whether data once perceived is gathered or not, we can instead decide, if we want to enable us to perceive information of a certain kind at all.

To give an example: When I socialize in pretty precarious social environments, I can not decide to not gather the information I perceive, though I might not like the ideas they transfer. For sure I will further process and memorize the narratives presented to me then. I will treat the decisions I took in this environments and the thoughts I formed. Ultimately, I will once decide based on them.

Instead of this, if I choose to change my social environments and join another one, I can thus alter the information my subconsciousness gathers.

This is the most important point in my whole argument. Therefore I want to repeat it again.

I can not choose which information I process – but I can decide to which content I expose myself. I will process this data then automatically.

Explained in the figure above: We assume A causes B again. Our traits, be it genetical or learned, are determined as well. Our previous experiences and decisions are unchangeable, too. But, what everybody can imagine instinctively that is free now, is which content we expose ourselves to in the future.

Therefore, thermal noise and random nerve cell activation refuses physical Determinism. Freedom to choose which information we expose ourselves to refuses what I call mental Determinism.

Further, I argue that we are not settled in the final decision as well. I conceive our gut feeling to calculate the best option possible and ultimately suggest it to us, colored in positive feelings. Whether we decide according to our feelings or refuse them, is up to us. But I am assure, that decisions that are always taken against our feelings will never be able to satisfy and match our needs as options favored by our passion will.

To end this section I want to quote Hume:

“Actions are, by their very nature, temporary and perishing; and where they proceed not from some *cause* in the character and disposition of the person who performed them, they can neither redound to his honour, if good; nor infamy, if evil.”¹¹

As I reasoned above, even though we may not be able to choose the content we process, we can decide to which knowledge we expose ourselves to.

Therefore, actions taken by our mind based on our previous experiences proceed from some cause in our character, namely the choice of exposure we made in our past.

Ultimately, I argue, our actions can redound to our honor and or infamy.

4. The Justification Of Punishment

As mentioned above, I refuse Determinism and affirm responsibility for our actions.

Based on my reasoning, I suggest blame and punishment as overall justified.

Even more, when blaming or punishing people for bad actions they opted for, we get the chance to expose them to different social environments and adjust exactly the free element in decisions I figured out above.

Regarded in this light, I reject punishments practiced regularly in the medieval age and unfortunately, today, as cruel blame and punishment will never be able to change the actual data a person constructs his decisions on.

I claim that punishment, though it might as well be meant to bring a certain feeling of justice and peace to the victims, always needs to contain elements that address the information perceived by the punished.

We should aim to abolish pointless methods of punishment, namely actually all relying on blame, on physical violence and death penalties as they are not able to truly improve the database the suspect computes its decisions on.

Going further, we should establish programs utilizing the aspect of exposing people to content that will improve their internal data. But, as nothing in human history can entirely be painted black or white, we should be pretty careful while applying this idea as it could bring tremendous problems to our world - imagine one being obliged to indoctrinate himself, or herself, with fascist or whatever dangerous mindset.