

Ein Argument, dass der Wille des Menschen frei ist

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English translation:

An argument that the will of man is free

Summary. Conclusive evidence for the free will of man is presented. It shows that we are free in a very far-reaching sense. The argument is presented in the context of decision-making, which is of a paradigmatic nature for the discussion about freedom to act and free will.

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Introduction

The problem of free will is a classic problem of philosophy of mind. It has been discussed -- with differing emphases -- since antiquity. Over time many arguments for and against free will have been developed. On the one hand there are authors who speak out for the free will of man, thus advocating "theories of the free self". At the other end of the opinion spectrum we find authors who argue that free will does not exist or is merely fictitious.

The "majorities" in this debate have changed over time. For example, Pothast writes (1987, p. 9): "[There] is a curious contrast between the popularity of proofs of freedom in recent times and the popularity of a (perhaps crudely formulated) determinism in the 18th and 19th centuries. [...] There was a popular philosophical materialism that contained a tenet that stated -- despite many differing opinions among authors -- that the actions of persons were determined and in this sense not free. To put it cautiously it is not entirely clear how, in less than 100 years, we have arrived at a situation that is almost the reverse. Philosophers who maintain that the actions of men are determined and conclude from this that they are not free are a tiny minority."

In the last 15-20 years prevailing opinion appears to have shifted significantly once again. Now it is the natural scientists, and the faction of philosophers who sympathise with them, who are calling into question free will. They advocate a position that one could designate "physiological determinism" and that can be characterised as follows: the neuronal processes occurring in the brain are deterministic. Since the cause of every action is the immediately preceding overall condition of the brain, our behaviour is (in this sense) determined.

In the words of Wolf Singer (2001): „We are familiar with the field of natural science, which is developed from the third person perspective, and the socio-cultural field, in which meaningful attributions are discussed: value systems, social realities that can only be experienced and portrayed from the first person perspective. That the content of the latter, i.e., of the socio-cultural field develops from the processes of the former, the field of natural science, must be taken as a given by a neuro-biologist. As such, seen from a third-person perspective, that which the first-person perspective describes as free will has to be defined as an illusion. But I don't think that 'illusion' is the right word since we actually do experience ourselves as free" (emphasis added by the author of this article.)

The Structure of Proofs of Freedom

How can free will be proved or disproved at all? This chapter examines the structure of the possible chains of reasoning:

1) Direct Proofs. First of all it is possible to argue directly for human free will or the lack of it. For example, a person may in general choose between several courses of action, and precisely this capacity can be designated as 'free will'. The problem of such proofs is, in addition to the lack of precision of the concepts, (what do we mean by free will?), also the persuasiveness of the causal chain offered. What human capacities, characteristics or actions can lead us to conclude the absolute existence of "free will"? No author has yet provided a generally accepted solution to this puzzle.

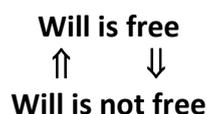
2) Indirect proofs. Here one begins with the assumption that one would like to disprove. For example, many jurists and philosophers interested in ethics advocate a theory of the free self. Theologians, too, have argued for the freedom of the individual for centuries in order ultimately to be able to make human beings responsible for their sins. There is now a raft of arguments, indicators and observations that contradict this notion of freedom. It is often sufficient to argue in a sophisticated enough manner since, upon closer observation, it is possible to perceive deterministic elements in many 'free' decisions or actions. If free will is so convincingly undermined, one may conclude -- as desired -- that the will of man is not free. Thus we have the following:

Assumption: Will is free! ⇒ Contradiction; thus Will isn't free after all!

The actual problem is, however, that one can proceed in precisely the opposite way too: one starts with a theory of determined-ness that allows free will little or even no leeway, e.g., the aforementioned 'popular materialism'. Then one propounds a series of arguments as to why the determined-ness may not go so far. For example, there are many situations in which it is not immediately obvious what will happen but where it is only possible to state the likelihood of something happening. If in such a situation a person has to choose between alternatives then he is not a completely determined protagonist and one may conclude -- as desired -- that the will of man is free. That means one argues as follows:

Assumption: Will is not free! ⇒ Contradiction; thus Will is free after all!

3) Undecidability. If one is of the opinion that the direct proofs are not convincing and the indirect proofs ultimately lead one to move round in circles such as



then the only conclusion to be drawn is that it is not possible to decide the issue using the hitherto known arguments and conceptual means.

4) Experimental results. Criticism of free will is often also based on experiments that the neuro-biologist Benjamin Libet conducted in the mid 1980s. He instructed the subjects of his experiments to make a spontaneous decision to move their finger or wrist within a certain time frame. Moreover, the subjects were asked to note, with the help of a dot on the screen of an oscilloscope circulating like the hand of a clock, the position of the moving dot when they became aware of the conscious decision to move their finger or wrist. So much for the first-person perspective.

Physiologically speaking a movement is preceded by a so-called neuronal readiness potential in the cortex whose presence can be proven with the help of an EEG (electroencephalogram).

So our notion of free will would lead us to expect that first of all the decision is made, then comes the onset of the readiness potential and then the motor action can be observed. Thus we would have the following:

Decision ⇒ Readiness Potential ⇒ Action

In fact, Libet was able to prove that the readiness potential was present *before* the subject made the conscious decision; he observed the causal chain

Readiness Potential ⇒ (Presumed) Decision ⇒ Action

The obvious interpretation of this result is that the brain had already decided to act before this determination made itself evident as subjective will. The presumably conscious decision would actually hardly be more than a rationalisation *a posteriori*. It is definitively not the primary cause of the action, even though it may appear so from the first-person perspective.

Our introspection, which quite emphatically argues in favour of ‘free will’, faces considerable difficulties as soon as it confronts a third-person perspective that has been underpinned with findings from natural science. The supposedly free protagonist gets tangled up in the tight network of causal relationships, and even with simple decisions, this protagonist supposedly plays no significant part. That means: “The dethroning of man as a free-thinking being is the end we shall reach” as Gerhard Roth (2000) puts it. Gerhard Vollmer (2000) shares this view: “Soon it will not only be the neuroscientists who will have to accept that there is no such thing as traditional free will.”

5) Causes, decision-makers, alternatives. The structure of the argument of Libet’s experiments can be used to present possible concepts of freedom in greater detail. One of the situations in which freedom plays a crucial role is certainly the following:



External conditions and inner predispositions influence (⇒) as causes a decision-maker who can choose between several (at least two) alternatives. The causes alone do not determine what will happen; it is the decision-maker who ultimately chooses one of the options (→).

Concepts of Freedom

How can the above structure be used to substantiate freedom?

Strategy 1: watered down concepts of freedom, especially “freedom of action“. We provide a series of examples: (All emphasis on this and following pages has been added by the author of this article.)

1. “According to Locke, free will is based on the ability to pause before acting and to **consider** what one should do in the situation in question, which reasons are there to choose one or the other alternative.“ (See Beckermann 2006, p. 298.)
2. Hume has the following opinion: “by freedom we can only understand: power to act or not to act depending on the **resolution of the will.**“ (see Beckermann 2005, p. 116.)
3. Beckermann (2005, S. 112) argues that a decision is free if three conditions have been met:
 - a. I must have a choice between different alternatives;
 - b. I must act in this or that way or be able to decide in this or that way.
 - c. Whatever choice I make must **depend on me**. My choice must not be coerced in any way.He opts (sic, p. 123) for “the alternative, stemming from Locke, among others, [that] a decision [is] precisely only free if it is based on a process that **can be influenced** by rational deliberation, by reasons and arguments.”
4. For Bieri (2001, p. 80) [the freedom of will consists in] “it being conditioned in a quite specific way: by **our thoughts and judgements.**“
5. Nida-Rümelin (2005) argues in quite a similar manner. For him freedom is “the specific ability of man to **evaluate reasons** and to **act in accordance with** this evaluation.“

All the definitions listed above grant the decision-maker in the above situation “a certain freedom“. The fact that causes influence the decision-maker (to a greater or lesser degree) is immaterial provided that they are not forced into a specific action. For these concepts of freedom, it is hence sufficient that the decision-maker exercises some “influence“ on the actions, that he is at least the “balance of power“, that tips the scales or ultimately chooses the action.

Strategy 2: Strong concepts of freedom, especially “freedom of will“.

1. Beckermann (2006, S. 295) interprets Reid (1983) as follows: “We can also call ourselves free in the sense of Reid if we cannot simply do what we want but also if we can determine our will ourselves. [...] Freedom of action is not sufficient for responsible action, the actor must also have freedom of will – must have the ability to determine his own will, to determine **which motives**, desires and convictions should be **effective for action.**“

2. Incompatibilism's¹ conception of freedom refines this thought if it (after Beckermann 2006, p. 292) assumes the following in the above situation:
 - a. [It] is not determined by the laws of nature that action A is performed; the laws of nature determine that it is equally possible for action B to be performed.
 - b. Action A does not occur accidentally, it is much more down to me as the actor.
 - c. That I cause action A is in itself **not determined**.

The decision-maker in the above situation would certainly be free if he could liberate himself from **all** external and internal causes, if he were able to create the following situation:



This means that the causes are blocked by the decision-maker (|), meaning that the action is **only** dependent on the decision-maker himself. (Note that, in principle, it would suffice to deliberately exclude some of the causes. This would, however, be dangerous for the argument since every “turn” between causes and decision-maker could have a significant influence on the choice of action and thus (once again) call into question the freedom of the actor.)

The last diagram illustrates precisely the definition of freedom of Roth, Schwegler, Stadler and Haynes (1998): “The subjective will of a person is free if the person is actually able, undetermined by the causal network of the world that surrounds him, to influence the future course of the world in different ways by means of their decision.”

It must be noted that this definition is extraordinarily far-reaching! A person may only be described as free if he is able to act **completely independently** of the causal framework of the world. This is even the “maximum possible” freedom of a decision-maker– he liberates

¹ Incompatibilism is called as it is because of its incompatibility with determinism. Chisholm (1978) explains this as follows: “Human beings are responsible actors; but this fact seems to oppose a deterministic view of action – the view that every event involved in an action is caused by another event. And it also seems to oppose the view that some of the events that are key for the action are not caused at all. I think that, in order to solve the problem, we have to make some far-reaching assumptions about the self or about the actor -- about the person performing the action. We must not say that every event involved in the action is caused by another event. And we must not say that some of the events that are key for the action are caused at all. The possibility that remains is this: **We should say that at least one of the events involved in the action was not caused by some other events but instead was caused by something different. And this something different can only be the actor -- the person.**”

himself completely from the cause-effect network of the world, thus the cause of the action is down to him alone.

By excluding all causes, the action is then, consistently, not determined; the behaviour of the decision-maker cannot generally be predicted. Thus the definition of Roth et al. covers all approaches that are based on the non-predictability of human behaviour.

Moreover, the view of Roth et al. is very closely related to Kant's (1990) definition of freedom in the Critique of Pure Reason: "By freedom [...] I understand the faculty of beginning a state from itself, the causality of which does not in turn stand under another cause determining it in time in accordance with the law of nature." Later he states: "Freedom in the practical sense is the independence of the power of choice from necessitation by impulses of sensibility" and finally: "The human power of choice is indeed [...] *liberum*, because sensibility does not render its action necessary, but in the human being there is a faculty of determining oneself from oneself, independently of necessitation by sensible impulses."

In order to show that man is free we have the problem of constructing a situation in which the decision-maker convincingly eliminates all causes relating to the action initiated by him. This is possible in the following mental experiment. It shows that we are without doubt free in the aforementioned strong sense:

The Experiment

At 8 am I decide to behave in the following way: between 10.00 and 11.00 I will observe a (weak) radioactive source. If, during this period, I happen to witness radioactive decay I shall drink wine at 12.00 (with lunch). If I don't witness radioactive decay between 10.00 and 11.00 then I shall drink water at 12.00.

The mental experiment consists of two parts: firstly a deliberate decision blocks all possible (causal) causes, all reasons that could influence the action. In order then to reach a truly free decision the decider then has no other choice but to allow his action to be determined *exclusively* from a random -- not deterministic -- event. In other words: in order to consistently exclude all potential causes -- also those inherent in the decision-maker, for example unconscious preferences, prejudices, innate tendencies or acquired contexts -- the decision-maker must make his action **completely** dependent on a truly random (arbitrarily selected) experiment.

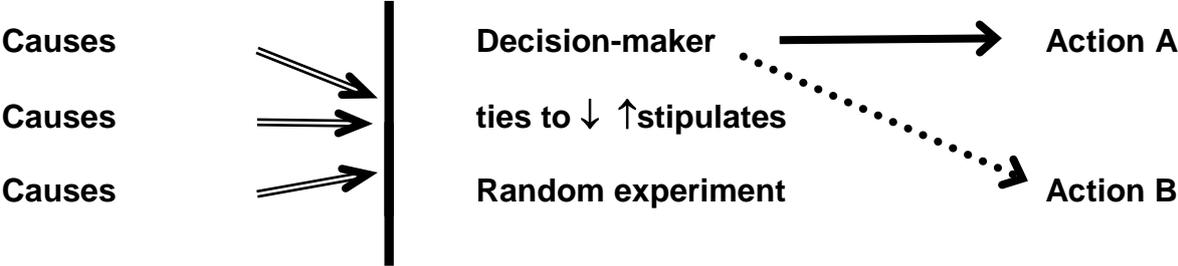
This means that I use the option, which I undoubtedly have, to make myself dependent on the result of an external random experiment. This might at first appear paradoxical, for I appear to forfeit the quantum of freedom I (possibly) possess by binding myself to the random experiment.

In actual fact, however, my decision to allow myself to be dependent on a random experiment results in a free action at 12.00 in the sense of the definition stated above. For according to our present understanding of physics at 9.00 -- namely after I have made my decision -- nobody can predict what drink I will consume with my lunch. Even the most exact

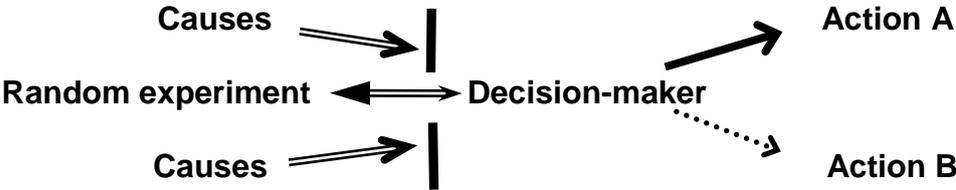
analysis of the universe including my brain and the radioactive source at 9.00 cannot provide any insight. Whether there will be any radioactive decay between 10.00 and 11.00 is not evident at 9.00 and therefore it is not evident either whether I will drink water or wine. The only thing one can state at 9am, if one has precise knowledge of the radioactive source, is the probability that I will drink water (or wine) at 12.00.

Overall I am therefore able, undetermined by any other causal influences, by means of my decision (at 8.00) to influence in different ways the future course of the world (from 12.00 onwards). I make a decision that leads to an action that is independent of the entire rest of the world. This is precisely what the definition calls for. The overall sequence of events “personal decision -- random experiment – action” (from 8.00 to 12.00) is as free as it can ever be. In particular, the action is not influenced by any other ‘unsolicited’ cause.

The overall situation is thus as follows:



The following illustration is fully synonymous with this, showing the random experiment as the cause chosen by the decision-maker (←=) and only the result of the random experiment determines the action (=>):



Remarks

1. The key components of the argument are the conscious decision-maker and the random experiment. Both elements are *only sufficient together* for a free action. If the action were dependent on something different than the precisely defined random experiment then precisely this would be the “gateway” to uncontrolled causes that could render the action no longer free. If, on the other hand, there were no human decision-maker, if we were only considering a radioactive atom, for example, then we could obviously not speak of a conscious or targeted action, let alone from “intention” or “will”. Nor would an animal be able to perform the above experiment. This means we come to the result that only humans are free.

2. The external random experiment serves to a certain extent to reinforce the “free” will of the first person, of whom we do not know how free he is (see introduction). One uses the little bit of freedom that man surely possesses (namely to decide to perform the experiment) in order -- by drawing on the assistance of a doubtlessly free (namely random) event -- to ultimately perform an action that is actually free (in a very strict sense). The freedom arises from the deliberate delegation of the decision to a random experiment while simultaneously fixing the alternative on the result of the random experiment.
3. We refer back to a radioactive source to (based on our current understanding) use a *real* random experiment. If we used the toss of a coin as an -- in statistical terminology -- “external randomisation” one could raise the objection that this would -- as a process in classical physics -- “actually” be deterministic.
4. The different ways of influencing the world at 12.00 (water or wine) may appear so small as to be insignificant. Of course one could easily use much more radical actions that would have a massive effect on the future course of the world. Also restricting the experiment to two alternatives was only done for simplicity’s sake. It is no problem to use random experiments with more than two possible outcomes. The same applies to the rather long timeframe selected (from 8.00 to 12.00). It would of course also be possible to perform the experiment in a few seconds.
5. The initial decision by the first person to make their action dependent on the outcome of the random experiment may be free or not. Likewise the same applies to the stipulation of the times, the choice of drinks and all other details in the experiment. What is crucial is that, by construction, *one* key element of the ultimately performed action (drink 1 or drink 2) is *not* determined.
6. All key processes occur at the macroscopic, observable level. It is the first person who decides and acts. Which processes have occurred in detail at the neuronal level is not germane to the argument.

Significance of the Argument

1. It is not necessary to be satisfied with a “weak definition” of freedom of will. Human will is in a very strong sense actually free!
2. The argument uses an exact, plausible and at the same time very far-reaching definition of “freedom of will”. This ties “freedom” to an observable action, not to introspection. Nor does it reason whether human will “as such” is free or whether we are able to make “free decisions”. What is intended to be captured with such formulations is difficult to specify and even more difficult to put in objective terms. “Proofs” that build on such imprecise concepts are thus equally vulnerable. Instead we have constructed an easy-to-understand process that results in an observable (free) action.
3. “External randomisation” is used as a decisive aid in the argument which is based on the fundamental uncertainty of a process from quantum physics. Nor is quantum physics

used to underline the possible freedom (i.e., non-determined-ness) of certain physiological processes -- which may potentially be relevant for free will decisions. (This is the approach of R. Penrose (1995).) Rather it serves only to assure the independence (of one key element) of the action in question, namely the choice of alternatives, from the “causal network” of the world.

4. The above argument discredits not only “physiological determinism” but *every* position that maintains that human behaviour (and the future course of the world) is strictly determined. Even if we knew the state of the whole universe at 9.00 with any accuracy we could not -- presuming the current state of our knowledge of physics -- predict what will happen at (or from) 12.00.
5. At least in the situation outlined in the above experiment the decision-maker is acting as freely as is logically possible. As a consequence we may tend to concede that humans have freedom to act at the very least in everyday situations too.

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