

# Libet's experiment provides no evidence against strong libertarian free will because it does not investigate voluntary actions

Daniel von Wachter\*

30 May, 2012

This is a pre-submission version

## Abstract

It is widely believed that Libet's experiment has shown that all our actions have preceding unconscious causes. This article argues that Libet's claim that the actions he investigated are voluntary is false. They are urges, and therefore the experiment shows at most that our urges have preceding unconscious causes, which is what also strong libertarianism leads us to expect. Further, Libet's correct observation that we can veto urges undermines his claim that our actions are initiated unconsciously and supports the thesis that we have strong libertarian free will.

---

\*International Academy of Philosophy at the Pontificia Universidad Católica de Chile, <http://von-wachter.de>, email: [epostATvon-wachter.de](mailto:epostATvon-wachter.de). This research was carried out in project [Fondecyt 1100608](#) funded by the Chilean institution Conicyt.

**Keywords:** libertarian free will, Libet, neuroscience, urges

## 1 Introduction

It is widely believed that Benjamin Libet's experiment<sup>1</sup> has shown that our actions are caused by our brain before we even think about them. There is still a lively discussion about Libet's experiment (for example in Sinnott-Armstrong and Nadel 2011). Compatibilists believe that an action's being free is compatible with its being the result of a causal process and that the reasons for an action (or the beliefs in them) are amongst its causes. Therefore at least for some compatibilists free will is compatible with Libet's experiment. Only stronger, libertarian notions of free will are generally taken to be in conflict with Libet's experiment. Some philosophers defend free will against the evidence from neuroscience by saying: 'Only a very old-fashioned, mysterious kind of free will is incompatible with Libet's experiment. Nobody would defend that nowadays.' Alfred Mele for example says:

Only a certain kind of mind-body (or 'substance') dualist would hold that conscious intentions do *not* 'arise as a result of brain activity,' and such dualist views are rarely advocated in contemporary philosophical publications on free will. (Mele 2009, p. 67)

I hold this view that conscious intentions do *not* arise as a result of brain activity; decisions are not the result of causal processes. This view – strong libertarian free will, SLF – is the view of free will which is most difficult to reconcile with Libet's experiment and which was refuted by Libet's experiment if any

---

<sup>1</sup>The experiment is described in Libet et al. 1982 and Libet et al. 1983b. Libet 1985 and Libet 1999 present Libet's interpretation. In what follows publication years refer to Libet's articles unless specified otherwise.

was. SLF may be rarely advocated in contemporary philosophical publications, but in other centuries it may have been the majority view, and, as it will become clear, it does not entail dualism. In this article I defend the compatibility between Libet's experiment with SLF by arguing that the actions which Libet investigated were not voluntary and may well have been caused by preceding events, while other actions may be free.

I shall proceed by answering the following questions and defending the following claims:

- What do I mean by 'strong libertarian free will'?
- The events whose preceding unconscious causes Libet investigated (W) are not 'intentions' but 'urges'.
- Libet deceived the readers through misusing the words 'voluntary' and 'spontaneous'.
- What are urges? Given strong libertarian free will, urges are to be expected to have preceding unconscious causes. The actions which Libet investigated are irrelevant for the question of free will.
- If we can veto urges, as Libet confirmed that we can, then we have strong libertarian free will.

## 2 Strong libertarian free will (SLF)

(2.1) Let me state my view of free will, which can be classified as strong libertarianism. The causal process that leads to the intended result of an action I call the *action process*. If the action process was under way before the person thought about the action and made the decision, then the action was not free. In a free action the action process has a beginning a part of which has no

preceding cause, neither a deterministic nor an indeterministic one, but its occurrence is due to the agent. It is *an event that has no preceding cause but is brought about directly by the agent*. I call such an event a *choice event*. Agents have the power to make certain events pop up; through this they can initiate causal processes. (Therefore my view can be called the ‘pop up view’ or the ‘initiation view’.)

(2.2) So there is a third way how an event can come about, besides being the result of a deterministic process and being the result of an indeterministic process. This is the negation of *mechanicism*, the view that every event has to be the result of a causal process. Choice events are brought about by the agent in the light of reasons or following inclinations, but reasons (or belief in reasons) and inclinations are not event causes, or process causes, or law-governed causes of the actions. Perhaps with an unusually wide notion of ‘cause’, such as Aristotle’s notion αἰτία, one can call a person’s belief in a reason for which he moved his hand a ‘cause’ of the action or of the movement, but this relationship between the belief and the movement is very different from the relationship to which we refer when we say that the earthquake caused the tidal wave, or that the spark caused the explosion. Here are three differences: First, we would not usually say that the belief ‘brought about’ the movement. Rather, the person brought about the movement, in the light of the reason in which he believes. Second, the relationship is not governed by laws of nature. Third, there is no causal process leading from the belief to the movement. If there were, then the occurrence of the belief at a certain time together with certain other facts would be a complete cause of some event at each time after, so that this complete cause determines exactly which effect will occur at which time; as the earthquake together with certain other facts determines exactly at what time the tidal wave will be where and

how big.

(2.3) Whether we call the agent the ‘cause’ of the choice event, as the defenders of agent causation do (Chisholm 1976, p. 201, Clarke 1993, Swinburne 1997, p. 231), or whether we say that the choice event was ‘uncaused’ (Ginet 2007) does not matter here. That is just a matter of how the word ‘cause’ is ordinarily used and in how wide a sense we want to use it. What matters for our discussion of the neuroscientific data is that a choice event has no preceding cause and that the agent initiates a causal process.<sup>2</sup>

(2.4) So I endorse the view, which Mele claims to be rarely defended today and to entail dualism, that actions do not arise as a result of brain activity. But it requires not dualism but the negation of *mechanicism*, i.e. the view that every event must be the result of a (deterministic or indeterministic) causal process. It does not require dualism because a materialist could claim that some material things can bring about choice events. That claim is not more difficult to defend than the claim that some material things can think or can act for reasons.

(2.5) I call this notion of free will ‘strong’ libertarian free will in order to distinguish it from Mele’s (2006, p. 10; 1995, pp. 211–221) or Clarke’s (2000) ‘modest libertarianism’ or Clarke’s (1993) ‘credible agent-causal account of free will’. These views assume that the action is caused by preceding events, but only indeterministically. Some hold that the process of deliberation must be indeterministic (Mele 1995), some hold that the action itself must be caused indeterministically (Balaguer 2009), some say that the undertaking the action was caused by the agent, wherefore they call it ‘agent causation’, and that an action is free if the undertaking has no preceding deterministic cause (Chisholm

---

<sup>2</sup>For more details see Wachter 2003 and Wachter 2009, ch. 7. Other authors who claim that actions involve events that have no preceding cause are Ginet (2007), Lowe (2008, p. 12), and Meixner (2004, ch. 9).

1976, p. 201, Swinburne 1997, p. 231).

(2.6) The trouble with these views is that randomness in the action process always diminishes the agent's control over the action. It is true that if an action process were indeterministic, then it would be in some sense true that it was possible, until the action occurred, that another action would occur instead of the one that did occur. In this sense it is true that the agent could have acted differently. But this is not what we are getting at when we say that a free agent 'could have done otherwise'. If it is a matter of chance which action occurs, then it is not up to the agent what he does. An action that occurs by chance is not a free action, because the agent lacks control over which action occurs. If an action is the result of an indeterministic, chancy process, then the agent has as little control over it as an agent has over an action that occurs as the result of a deterministic process.

(2.7) If Libet's claim that in all actions 'the volitional process is [...] *initiated* unconsciously' (1999, p. 47) were true, then it would not be initiated by a choice event. Therefore, there would be no strong libertarian free will. I shall argue that Libet has not provided evidence for his claim.

### 3 The popular interpretation of Libet's experiment

The popular picture, which Libet spread himself when discussing free will (for example in 1999), goes like this.

In his experiment Libet told some test persons to move their hand when they wanted to, 'on her/his own initiative'. (1999, p. 47) He wanted to know: '*when* does the *conscious* wish or intention (to perform the act) appear?' (1999, p. 49) Therefore he gave the test persons a special clock and asked them to report the time 'at which he/she was *first aware* of the wish

or urge to act'. This first awareness is referred to as 'W'. At the same time he measured when the muscle activity and when a certain brain event, the 'readiness potential' RP, began. The result was that W begins 200 ms (milliseconds) before muscle activity, and RP begins 350 ms before W. Therefore 'the volitional process is [...] *initiated* unconsciously', before the agent decided and before he even thought about the action. (1999, p. 47)

I want to show now that the experiment does not support this claim that the volitional process in free actions is initiated unconsciously. Libet misdescribed the nature of W and investigated the wrong kind of actions. While he liked to describe W as the 'intention', W is nothing but an *urge*. Elsewhere I have argued that the RP does not cause W but is only a preparation to move, but for the sake of the argument I put this issue aside here.

#### 4 Libet's seven labels of the conscious event W

(4.1) As already Mele (2007) has pointed out, Libet used many different labels for W, apparently randomly. Before listing the many labels which Libet used, I want to point out which label was used in the instructions that the test persons received. In the first few trials 'the subject was asked to wait [until the clock pointer had passed a certain point] and then, at any time thereafter, when he felt like doing so, to perform the quick, abrupt flexion of the fingers and/or the wrist of his right hand.' (1982, p. 324) But for some reason, which Libet does not describe, after some trials Libet introduced new instructions. The test persons were instructed to '*let the urge to act [move their hand] appear on its own at any time without any preplanning or concentration on when to act*'. (1982, p. 324, similarly 1983b, p. 625) So, as already

Batthyany (2009, p. 150) has pointed out, the test persons were told to wait for an urge and to move their hand only when an urge arises. W was an urge and nothing else.

(4.2) Now let us see what other labels Libet used. Already in the title of the article from 1983b W is referred to as the ‘conscious intention to act’. The label ‘intention’ is the label Libet used most often.<sup>3</sup> In the summary at the beginning of the article from 1983b, Libet refers to W with the phrase ‘the reportable time (W) for appearance of the subjective experience of “wanting” or intending to act’ (623). The word ‘urge’ is not mentioned in the summary at all. It is first mentioned in the introduction in the phrase ‘conscious awareness of the voluntary urge or intention’. (624)

(4.3) The quotation marks around ‘wanting’ are Libet’s. We find them also around other labels of W. Their purpose may be to indicate that the test persons used these phrases. But it is not clear at what occasion they used them, because it is *not* as if the test persons were told to move their hand whenever they wanted to and then asked what it felt like. Libet himself presented the experiment in later articles as if the instructions had been thus when he writes that ‘the subject performed the sudden flick of the wrist whenever he/she freely wanted to do so’ (1999, p. 50); but that is deceiving. The test persons were given definite instructions to act only on an ‘urge’. Perhaps Libet used the quotation marks in order to indicate that he uses the term metaphorically or in a stretched sense or incorrectly. We can only guess. He should have always used the term ‘urge’, because that

---

<sup>3</sup>For example, Libet called W an ‘intention’ in the title of Haggard and Libet 2001, ‘Conscious Intention and Brain Activity’, and still in his last article on free will he refers to W as ‘the urge or intention to perform a voluntary act’. (Libet 2006, pp. 541, 543) Further occurrences of the label ‘intention’ for W: 1985, p. 532; Libet 1999, pp. 47, 49, 50, 53, 54, 55; Libet 2002, pp. 291, 292; Libet 2003b, pp. 322, 325; Libet 2006, pp. 541, 543, 545.



term was used in the instructions and that is what W is.

(4.4) At the end of the summary of the 1983b article we read that the cerebral initiation of an action begins ‘before there is any subjective awareness that a “decision” to act has already been initiated cerebrally’ (623). (Again the quotation marks are Libet’s.) The word ‘urge’ does not at all occur in the summary. In the body of the article, where the nature of W is discussed, we read:

The subject was asked to note and later report the time of appearance of his conscious *awareness of ‘wanting’ to perform* a given self-initiated movement. The experience was also described as an ‘urge’ or ‘intention’ or ‘decision’ to move, though subjects usually settled for the words ‘wanting’ or ‘urge’. (1983b, p. 627)

Here Libet says that the test persons used all these different terms, but it is not clear at what occasion they did and whether this tells us something about the nature of the experience. Does it mean that sometimes W was an urge, sometimes a decision, and sometimes a intention? Or was W always all of these three?

(4.5) The next label for W we find in the phrase: ‘the subjects reported that each urge or *wish* [Libet’s emphasis] to act appeared suddenly “out of nowhere”, with no specific preplanning or preawareness that it was about to happen.’ (1983b, p. 638, similarly 1982, p. 329) <sup>4</sup>

(4.6) Oddly, a further label for W is used in the *page header* of the article from 1983b (and therefore on *every* page of the article), which is never used in the body of the text: *volition*. The page header is ‘Cerebral and Conscious Times of Volition’.

(4.7) So we now have six labels for W: (conscious) intention, urge, wish, wanting, decision, volition. Fortunately, in Libet’s

---

<sup>4</sup>The label ‘wish’ is also found on p. 640 of 1983b, p. 638, as well as in many places in Libet’s later articles, e.g. 2003a, p. 24 and Libet 1999, pp. 49, 50, 51, 52, 53.

later articles we find only one further label: ‘desire’ (1985, p. 530).<sup>5</sup> Nowhere does Libet clarify any of the labels or discuss the nature of event W. Clearly, not all these seven labels apply to any one event, even if we stretch their ordinary meanings. Often Libet added to the correct label ‘urge’ another label, e.g. ‘urge or decision’ (1985, p. 530) or ‘urge or intention’ (1982, p. 329, 1983b, p. 624, and 2006, p. 541). It is of course true that ‘W is an urge or a decision’, even though ‘W is a decision’ is false. But given that, as I will explain, Libet’s claim that all our actions are initiated unconsciously follows from the thesis that our decisions are caused by RP, but not from the thesis that urges are caused by RP, this is either an undeliberate or a deliberate deception.

## 5 How Libet used the words ‘spontaneously’ and ‘voluntary’

(5.1) The readiness potential had been discovered already by Kornhuber and Deecke in 1965.<sup>6</sup> They had instructed their test persons to move their hand in time intervals of 30 seconds. Libet et al. (1982) claimed to have removed this constraint:

In our experiments, however, we removed this constraint on freedom of action; subjects performed a simple flick or flexion of the wrist at any time they felt the urge or wish to do so. These voluntary acts were to be performed capriciously, free of any external limitations or restrictions. (1999, p. 49; similarly 1983b, p. 624)

(5.2) In the first few trials ‘the subject was asked to wait [until the clock pointer had passed a certain point] and then, *at any*

---

<sup>5</sup>‘Desire’ is used in 1983b too, but only in a general statement about ‘an experience of conscious intention or desire to perform a voluntary act’ (640), not specifically as a label of W.

<sup>6</sup>The German name, which is used in neuroscience, is ‘Bereitschaftspotential’, BP. Cf. Jahanshahi and Hallett 2003 and Shibasaki and Hallett 2006.

*time thereafter, when he felt like doing so, to perform the quick, abrupt flexion of the fingers and/or the wrist of his right hand.*' (1982, p. 324, my emphasis) When discussing free will Libet often suggested that the test persons were instructed thus to move their hand *whenever they wanted to*; for example: '[T]he subject performed the sudden flick of the wrist whenever he/she freely wanted to do so.' (1999, p. 50) But in fact after a few trials the instructions were changed, and the results of the first trials were left aside:

An additional instruction to encourage 'spontaneity' of the act [was given to the test persons. . . .] The subject was instructed 'to let the urge to act appear on its own at any time without any pre-planning or concentration on when to act,' i.e. to try to be 'spontaneous' in deciding when to perform each act; this instruction was designed to elicit voluntary acts that were freely capricious in origin. (1982, p. 324; similarly 1983b, p. 625)

(5.3) So Libet called a hand movement following an urge, which the test persons described as coming 'out of nowhere',<sup>7</sup> *more* spontaneous than a hand movement which the person performs whenever he wants to do so. The movements that Libet called 'spontaneous', 'voluntary', and 'self-initiated' arise not through any thinking or deciding or willing but purely through an urge.

(5.4) The movements in Libet's experiment were not as involuntary as an alcoholic's drinking, because the urge did not greatly weaken the will. Therefore, as Libet emphasized himself, the persons were free to resist the urge. But nevertheless the movements were initiated through an urge, and such movements one calls normally *involuntary*. How did Libet call them? 'Voluntary'! He called them so all the time, and in his articles from

---

<sup>7</sup>That the urges arose 'out of nowhere' is confirmed by 1982, p. 324 and 1983b, p. 638.

1982, 1983b, and 1985 he used the word ‘voluntary’ even in the title. To reaffirm the voluntariness of the hand movement, he also called them ‘self-initiated’.<sup>8</sup> A ‘self-initiated’ action is one which the person does without being pushed to do it from outside. The person himself initiates it. But in fact the movements which Libet called ‘self-initiated’ were not self-initiated, because they were initiated through an urge.

(5.5) Did Libet perhaps use the term ‘voluntary’ in an unusual way? No, the definition he provided reinforces his claim that the hand movements were as free as any action:

In this experimental investigation and its analysis an act is regarded as voluntary and a function of the subject’s will when (a) it arises endogenously, not in direct response to an external stimulus or cue; (b) there are no externally imposed restrictions or compulsions that directly or immediately control subjects’ initiation and performance of the act; and (c) most important, subjects *feel* introspectively that they are performing the act on their own initiative and that they are *free* to start or not to start the act as they wish. (1985, p. 529)

Clearly, the hand movements in Libet’s experiment, contrary to his claims, do not fulfill condition (c), because the test persons did not move their hand on their own initiative but on an urge, and because Libet had instructed them to move their hand not whenever they wanted to, but when an urge arose.

(5.6) Libet emphasized that the movements investigated were ‘self-initiated’ and ‘voluntary’ in order to make the readers believe that those actions, which are free if any of our actions are free, are initiated by the brain before we even think about them. Note

---

<sup>8</sup>Places where Libet calls the investigated movements ‘self-initiated’: Libet et al. 1982, pp. 322, 324, 325; Libet et al. 1983b, pp. 623, 624, 625, 627; Libet 1999, pp. 48, 51; Haggard and Libet 2001, p. 57.

the word ‘even’ in the following quotation: ‘Cerebral initiation even [!] of a spontaneous voluntary act of the kind studied here can and usually does begin *unconsciously*.’ (1985, p. 536 l) That is to say, the actions investigated were as free as any, and therefore *all* our actions are initiated unconsciously.

(5.7) What Libet tried to make the reader believe is false, because in fact the test persons were *not* instructed to move whenever they wanted to, but they were instructed to move only following an urge. The actions that he investigated are exactly the opposite of intentional, spontaneous, voluntary actions. They are not voluntary, but involuntary, because not the considerations or decision of the person but an urge initiated the movement. They are even not clearly intentional, because the person does not *mean* to move his hand. It is more suitable to call them just ‘movements’ rather than actions. They are more like convulsions or fits than like free, intentional, voluntary actions.<sup>9</sup>

## 6 What is an urge?

(6.1) In order to examine whether Libet’s experiment provides no evidence against SLF, we need to inquire: What is an urge, and which outcome of Libet’s experiment does strong libertarianism us lead to expect? I shall now argue that, according to SLF, an urge to move one’s hand may well have preceding unconscious causes and that therefore Libet’s experiment provides no evidence for the claim that our voluntary actions are caused unconsciously and that we thus have no libertarian free will.

(6.2) An urge is a kind of motivation of an action. Reason are a different kind of motivation. I might eat your steak out of an

---

<sup>9</sup>Thus I agree with Roskies (2011, p. 20): ‘Libet’s studies definitely impact our understanding our understanding of only a small number of our actions, and these appear to be the ones that are least likely to matter for discussions of freedom.’

urge while having, and believing in, overriding reasons for not doing so because the steak is your property. On the other hand, I might do something for which I have no urge at all, but to the contrary an urge not to do it or an aversion against doing it. I am then acting on the reasons, against my urge. Of course, there are also actions towards which the agent has an urge *and* for which he has overriding reasons, for example when a mother has an urge to protect her child.

(6.3) A reason for an action is something that the person can consider in his mind and then act in the light of it. He has a belief that there is this reason, and the content of that belief motivates him. The content of the belief is that the situation requires this action from him, or that a certain aspect of the situation speaks in favour of this action, whether he likes it or not. The agent is active, he takes action in response to the reason.

(6.4) By contrast, an urge is something that pushes the agent towards a certain action. The agent is passive<sup>10</sup>, he finds himself pushed by the urge. No reflection, consideration, or decision is required for the action. The agent need not believe in reasons for the action. While in motivation through reasons a belief or its content motivates the agent, motivation through urges involves no beliefs. The agent is being pushed towards the action. Additional to the urge the agent might have a belief in reasons for the action, or that he ought not to do it, but the urge can exist without such beliefs.

(6.5) Urges diminish the degree of freedom the person has in that situation. How free a person in general is depends on how many urges he has and how strong they are, how strong his power to resist them is, and how much possibility he has over

---

<sup>10</sup>That agents are passive with respect to urges and desires and active with respect to reasons has also been brought out by Batthyany 2009, p. 13 and Lowe 2008, ch. 9

time to weaken his urges and to develop resistance to them.

(6.6) Do urges have preceding unconscious complete causes? That is, is there already before the urge a causal process towards it under way of which the person is not aware? The answer is that this need not be so but it may well be. I say ‘may well’ because the urge might occur through probabilistic processes or at random so that one might say that it has no preceding causes. There are two ways how an urge can lead to an action, one with, the other without a choice event. (A) An urge could be an inclination to produce a certain choice event. (B) An urge could consist in a causal process which the person could stop but which carries on if the person follows the urge. In this case, although the person sometimes brings about choice events, in these actions there are none. There may well be both cases. Let us consider both possibilities.

(6.7) In case (A) there is a choice event, but before it occurs, the agent feels an urge towards making that choice. Given the assumption that choice events have no preceding cause, the relation between the feeling of urge and the choice event is not one of event or process causation. Perhaps in a wider sense of ‘cause’ it can be called a ‘cause’, but not in the sense of event or process causation. It will be some relation *sui generis*, we do not need to investigate it further here. However, *the feeling of urge may well have complete causes* that occur when the person has not even thought about the action. More precisely, in that case there is at a time before the urge a complete cause of the urge of no part of which the person is aware and no part of which is identical with or associated with a thought about the action. This complete cause is a stage of a process which leads to the urge in one of several ways, depending on which theory of the mental is true. For example, first, in accordance with the identity theory of the mental, the feeling of urge may be identical with a stage of this process or a part of it. Or, second, the feeling of urge may be not

identical with a physical event but in some other way associated with one. Or, third, the feeling of urge may be not dependent on a physical event.

In any of these version of (A) an urge may have unconscious preceding causes. So the RP may be a part of a complete cause of the urge W. That would not be evidence against SLF.

(6.8) In case (B) there is no choice event, but just a causal process leading to, or rather heading towards, the hand movement. At some stage a corresponding feeling of urge arises. This mental event might be identical with some physical event that is a part of the causal process, or might be epiphenomenal in that it is caused by the process but does not itself cause the hand movement. The process begins already before the urge. So there is already before the urge a complete cause of the urge and of the hand movement. If the person has strong libertarian free will in this situation, then he has the power to stop the process by bringing about as choice event some event which is incompatible with an event towards which the process was heading. He can resist the urge by vetoing the process and the urge. But the possibility of vetoing does not require that the process is probabilistic. It just needs to be stoppable.

Also in case (B) an urge may have unconscious preceding causes. So the RP may be a part of a complete cause of the urge W. That would not be evidence against SLF.

(6.9) I conclude that according to SLF, W, because it is an urge, may well have preceding unconscious causes and that Libet's experiment therefore does not provide evidence against strong libertarian free will. None at all.<sup>11</sup>

---

<sup>11</sup>That the experiment provides no argument against free will because W is an urge has also been pointed out by Batthyany 2009, 150 f.



## 7 If we can veto, we are free

(7.1) Finally I want to argue that one of the experiment's results that we have not yet considered provides evidence in favour of free will. Libet claimed that all our actions are initiated unconsciously by the RP before our first thought about the action, but he added that we can consciously intervene and stop a process heading towards a certain action. 'The existence of a veto possibility is not in doubt.' (1999, p. 52) He presents two arguments for this: First, some test persons 'reported that during some of the trials a recallable conscious urge to act appeared but was 'aborted' or somehow suppressed before any actual movement occurred.' (1985, § 4.1) Second, Libet conducted an experiment (Libet et al. 1983a) where test persons were instructed to plan to move their hand at a certain time but 'to veto the developing intention/preparation to act and to do this about 100 to 200 ms before the prearranged clock time at which they were otherwise supposed to act.' (1985, § 4.1) The vetoing was possible. An RP began 1 second before the pre-set time. At the moment when the person vetoed, it was flattened or reversed. 'The veto findings suggest that preparatory cerebral processes can be blocked consciously just prior to their consummation in actual motor outflow.'

(7.2) That undermines Libet's claim that all our actions are the result of unconscious processes. Consider how vetoing can work. First, the vetoing is possible proves that the process from the urge towards the movement is stoppable. If it were Hobbesian-deterministic, vetoing would be impossible. Now, is the vetoing a result of a causal process? Libet, rightly in my view, suggests that it is not:

[T]he conscious veto may *not* require or be the direct result of preceding unconscious processes. The conscious veto is a *control* function, different from simply becoming aware of the wish to act. There is no logical imperative in any mind-

brain theory, even identity theory, that requires specific neural activity to precede and determine the nature of a conscious control function. And, there is no experimental evidence against the possibility that the control process may appear without development by prior unconscious processes. (1999, p. 53)

(7.3) Libet's experiment suggest that the vetoing is not the result of preceding processes, because there is before the vetoing the same RP than in cases without veto. So the RP does not cause the veto. Furthermore, our experience suggests that we sometimes have urges, that we can sometimes resist them, and that some of our actions are not following urges but are initiated by us. We experience the urges as pushing us so that they may well be the results of causal processes. But if we resist an urge, we experience our vetoing as being our decision without this being the result of causal processes.

(7.4) How does the vetoing work? *The only possibility how a person can veto an urge is that he brings about an event which is incompatible with the process that is directed towards the action.* If the vetoing is not the result of preceding unconscious processes, then this event, the intervention-event, is a choice event. So we have the ability to bring about choice events. But if we have that ability, then it is unlikely that we can use it only for vetoing and not also for initiating action processes. So Libet's correct observation that we can veto urges undermines his false claim that all our actions are the result of unconscious processes. I conclude that Libet's experiment provides no evidence against strong libertarian free will because it investigated not voluntary actions but urges, and that the occurrence of vetoing is evidence for us having the power to bring about choice events and thus for strong libertarian free will.

## References

- Balaguer, Mark (2009). ‘Why there are no good arguments for any interesting version of determinism’. In: *Synthese* 168, pp. 1–21.
- Batthyany, Alexander (2009). ‘Mental Causation and Free Will After Libet and Soon: Reclaiming Conscious Agency’. In: *Irreducibly Conscious. Selected Papers on Consciousness*. Ed. by Alexander Batthyany and Avshalom Elitzur. Winter. [URL](#).
- Chisholm, Roderick (1976). *Person and Object*. La Salle (Illinois): Open Court.
- Clarke, Randolph (1993). ‘Toward a Credible Agent-Causal Account of Free Will’. In: *Nous* 27, pp. 191–203.
- (2000). ‘Modest Libertarianism’. In: *Philosophical Perspectives, 14: Action and Freedom*. Ed. by James E. Tomberlin. Malden: Blackwell Publishers, pp. 21–46.
- Ginet, Carl A. (2007). ‘An Action Can Be Both Uncaused and Up to the Agent’. In: *Intentionality, Deliberation and Autonomy: The Action-Theoretic Basis of Practical Philosophy*. Ed. by Christoph Lumer and Sandro Nannini. Aldershot: Ashgate, pp. 243–255. [URL](#).
- Haggard, Patrick and Benjamin Libet (2001). ‘Conscious Intention and Brain Activity’. In: *Journal of Consciousness Studies* 8, pp. 47–63. [URL](#).
- Jahanshahi, M. and M. Hallett, eds. (2003). *The Bereitschaftspotential: Movement-related cortical potentials*. New York: Kluwer Plenum.
- Kornhuber, Hans Helmut and Lüder Deecke (1965). ‘Hirnpotentialänderungen bei Willkürbewegungen und passiven Bewegungen des Menschen: Bereitschaftspotential und reafferente Potentiale’. German. In: *Pflügers Arch Physiol* 284, pp. 1–17.
- Libet, B., E. Wright and C. Gleason (1982). ‘Readiness Potentials Preceding Unrestricted Spontaneous Pre-Planned Voluntary Acts’. In: *Electroencephalography and Clinical Neurophysiology* 54, pp. 322–325. [URL](#).
- Libet, Benjamin (1985). ‘Unconscious Cerebral Initiative and the Role of Conscious Will in Voluntary Action’. In: *Behavioral and Brain Sciences* 8, pp. 529–566. [URL](#).
- (1999). ‘Do We Have Free Will?’ In: *Journal of Consciousness Studies* 6, pp. 47–57. [URL](#).
- (2002). ‘The Timing of Mental Events: Libet’s Experimental Findings and Their Implications’. In: *Consciousness and Cognition* 11, pp. 291–299.
- (2003a). ‘Can Conscious Experience Affect Brain Activity?’ In: *Journal of Consciousness Studies* 10, pp. 24–28. [URL](#).

- (2003b). ‘Timing of conscious experience: Reply to the 2002 commentaries on Libet’s findings’. In: *Consciousness and Cognition* 12, pp. 321–331.
  - (2006). ‘Commentary: The timing of brain events’. In: *Consciousness and Cognition* 15, pp. 540–547.
- Libet, Benjamin, E. Wright and C. Gleason (1983a). ‘Preparation – or intention-to-act, in relation to pre-event potentials recorded at the vertex’. In: *Electroenceph. & Clin. Neurophysiology* 56, pp. 367–372.
- Libet, Benjamin et al. (1983b). ‘Time of conscious intention to act in relation to onset of cerebral activity (readiness-potential). The unconscious initiation of a freely voluntary act’. In: *Brain* 106, pp. 623–664. [URL](#).
- Lowe, E. J. (2008). *Personal Agency: The Metaphysics of Mind and Action*. Oxford UP.
- Meixner, Uwe (2004). *The Two Sides of Being: A Reassessment of Psycho-Physical Dualism*. Paderborn: Mentis.
- Mele, Alfred R. (1995). *Autonomous Agents: From Self-Control to Autonomy*. New York: Oxford UP.
- (2006). *Free Will and Luck*. MIT Press.
  - (2007). ‘Decisions, Intentions, Urges, and Free Will: Why Libet Has Not Shown What He Says He Has’. In: *Explanation and Causation: Topics in Contemporary Philosophy*. Ed. by J. Campbell, M. O’Rourke and D. Shier. MIT Press.
  - (2009). *Effective Intentions: The Power of Conscious Will*. Oxford UP. [URL](#).
- Roskies, Adina L. (2011). ‘Why Libet’s Studies Don’t Pose a Threat to Free Will’. In: *Conscious Will and Responsibility*. Ed. by Walter Sinnott-Armstrong and Lynn Nadel. Cambridge UP, pp. 11–22.
- Shibasaki, Hiroshi and Mark Hallett (2006). ‘What is the Bereitschaftspotential?’ In: *Clinical Neurophysiology* 117, pp. 2341–2356. [URL](#).
- Sinnott-Armstrong, Walter and Lynn Nadel, eds. (2011). *Conscious Will and Responsibility*. Cambridge UP.
- Swinburne, Richard (1997). *The Evolution of the Soul (Revised Edition)*. Oxford: Clarendon.
- Wachter, Daniel von (2003). ‘Free Agents as Cause’. In: *On Human Persons*. Ed. by K. Petrus. Frankfurt: Ontos Verlag, pp. 183–194. [URL](#).
- (2009). *Die kausale Struktur der Welt: Eine philosophische Untersuchung über Verursachung, Naturgesetze, freie Handlungen, Möglichkeit und Gottes kausale Rolle in der Welt*. German. Freiburg: Alber. [URL](#).