Research Article

Free Will Stands When Properly Explained and Correctly Defined and Neuroscience Shows This to Be the Case

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The paper examines how free will is analyzed by philosophers, psychologists, neuroscientists, etc., arguing that free will's inadequate definition reorients the debate about it while failing to recognize the questions the problem of free will posits. It argues that a theory about free will must consider how a will is conditioned, rather than is free will possible. It proposes a new and improved definition of free will and consequently applies it in interpreting Libet-style experiments' data. It argues that the experiments show that free will is possible once its correct definition is applied in its proper context.

Key terms: Libet-style experiments, conditioning of a will, impulses and inclinations, freedom as a condition, readiness potential – RP, actions as manifestations of volitions.

Hume begins his discourse on liberty and necessity in his *Enquiry Concerning Human Understanding*, by noting that:

> "It might reasonably be expected, in questions, which have been canvassed and disputed with great eagerness... that the meaning of all the terms, at least, should have been agreed upon by the disputants." (*The Enquiry*, VIII, I, 62)

And Nahmias writes in a New York Times' article that:

> "Once a better notion of free will is in place, the argument can be turned on its head. Instead of showing that free will is an illusion, neuroscience and psychology can actually help us understand how it works." (Nahmias: 2011)

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But surely, we can formulate a better notion of "free will" if we summarize the various discourses on the subject, though should we not inquire first whether the question "Is a will free?" can even be asked. Or as Wittgenstein asks: "Has the question sense?" (*Tractatus*, 5.554[2]), for Locke warns that:

> "Liberty belongs not to the will. If this be so... I leave it to be considered whether it may help to put an end to that long agitated, and, I think, unreasonable, because unintelligible question, viz. Whether man's will be free or not?... liberty, which is but a power, belongs only to agents, and cannot be an attribute or modification of the will, which is also but a power." (*The Essay*, Book II, XXI, 14)

True enough, freedom does not seem to belong to the will, but one can still ask how a will is conditioned. And if conditioned by freedom, couldn't one still argue that such a will is free? More importantly, should we not define "will" before we ask whether the adjective "free" applies to it? And if it does, should we not ultimately, answer the questions of what a will is free from and what a will is free to do? For "free" seems to be one of those logically attributive adjectives Geach identifies, which cannot be logically split into predications inferred from an expression.

The expression "*x* is a free will" for instance, cannot be split into "*x* is a will" and "*x* is free" without specifying what will is. But instead of identifying the notion of "free will" they mean to examine, philosophers typically reduce free will and its analyses (though to great extent necessarily) to analyses of "actions", "intentionality", "compatibility/incompatibility with determinism", "causation", etc. Such analyses in turn, often redirect their enquiries or wholly subvert them. And the theories such analyses produce, unwittingly but inadvertently misidentify, and ultimately misrepresent the issues a theory about "free will" must resolve.

Donaldson, for instance, devotes a great deal of his discussion on free will to intentionality and causation which are issues properly related to the mind/body problem rather than the issue of will free. The problems of whether an outcome of an action is caused by an agent or something else, and whether an agent intends an action, will not be resolved until philosophers explain how mental events cause physical events if they do. Of course, this is not to say that one should abandon these issues but the solution to the problem of causality and intentionality of actions can hardly assist us in answering the question of whether free will is possible.

Not unlike Donaldson, Frankfurt and Nozick often focus their enquiries on various orders of desires and one's commitment to such. In addition, philosophers, cognitive scientists, psychologists,

etc. couch their discussions in terms of "appetites", "desires", "urges", and the like and identify them with "free will" even though, the terms have distinct meanings and denote different things.

Now, I couldn't possibly address these issues here and such examination will lead my enquiry astray, but I will consider "action", "choice", "agency", etc., so far as they relate to the problem of "free will". I will show that the question the problem of free will posits is who determines what kind of will – free or not free – enforces an agent's volitions and how a will is conditioned, rather than is an agent's will free. Having arrived at suitable explanations and definitions, I will apply these to Libet-style experiments and their data, and show that these experiments do not threaten "free will" but vindicate it and demonstrate that while a will can be free or not free, it is the agent's choice of action or inaction which assigns responsibility to an agent while the existence of free will only guides and assists in assigning praise or blame to an agent's action by identifying the nature of the will executing said action.

I. What is a Will and If Free, What is a Will Free From?

The Oxford dictionary's definition of "will" is a good example of the confusion plaguing the discourse as it explains that "to have a will is to be able to desire an outcome and to purpose to bring it about". Well, a definition of "will" must explain what will *is* rather than what it means to have a will. The Cambridge dictionary does not do much better as it explains that "to will" is often associated with volition after redirecting its "will" entry to its "volition" entry. Perhaps not surprisingly, the Macmillan dictionary does better as it defines will as a "power to make a free conscious choice; ability to determine or control one's actions". What is notable about Macmillan's definition is that not unlike Locke, it assigns freedom to agents and choices rather than the will, while identifying the will with capacity. In this respect, according to Locke:

> "...we find in ourselves a power to begin or forebear, continue or end several actions of our minds, and motions of our bodies... This power which the mind has thus to order the consideration of any idea, or the overbearing to consider to; or to prefer the motion of any part of the body to its rest, and *vice versa*, in any particular instance, is that which we call the Will." (*The Essay*, Book II, XXI, 5)

And Locke continues: "It is plain then that the will is nothing but one power or ability..." (*The Essay*, Book II, XXI, 16) Locke identifies will here, as an ability one possesses to commence or not commence

an action though he refers to it as power while also describing it as the mind's faculty:

> "Volition... is an act of the mind knowingly exerting that dominion it takes itself to have over any part of the man, by employing it in, or withholding it from, any particular action. And what is the will, but the faculty to do this?" (*The Essay*, Book II, XXI, 15)

That is, the will according to Locke is a faculty the mind exercises when executing one's volitions.

Hume defines "will" similarly to Locke and explains that the will is "nothing but *the internal impressions we feel and are conscious of, when we knowingly give rise to any new motion of our body, or new perception of our mind*". (*The Treatise*, Book II, III, 1, p. 347) That is, Hume also sees the will as the faculty executing our choice of actions or inactions.

One can define "will" then, as the faculty executing an agent's volitions as manifested by said agent's choice of actions or inactions. As such the idea of freedom cannot be properly attributed to a will which itself belongs to an agent, i.e., a will is not a faculty which can be thought of as independent or free by any conceivable means as it is bound to an agent and dependent upon this agent's choice when functioning. Neither is a will desire, urge, want, etc. but a faculty whose volitions, however, can be influenced or determined by such. Volitions, on the other hand, are not identical to desires, urges, wishes, etc., either. When one is thirsty for instance, one's sensation gives rise to a desire to drink, but the volition formed as a consequence of such desire can be different for different agents – one might form volition to drink water, another might form volition to drink beer, etc. The question thus turns on how one's will is conditioned when forming one's volitions, and does such conditioning leave room for freedom?

Locke argues that "the true and proper answer" to this question is "The mind. For that which determines the general power of directing, to this or that particular direction, is nothing but the agent itself exercising the power it has..." (*The Essay*, Book II, XXI, 29) This seems correct, but Locke fails to distinguish the determination to action or inaction – a choice executed by an agent's will but originating with the agent or its mind – from the conditioning of an agent's will itself which determines such a will's nature as free or not.

1. Free Will as a Will Conditioned by Freedom and Unimpeded by Impulses and Inclinations.

Kant recognizes the distinction I outlined and considers the issue of a will's nature in his analysis of freedom according to which there are two causalities we can conceive of: causality of nature, which is "the connection, in the world of sense, of one state with the previous state upon which that state follows according to a rule" (2*nd Critique*, A 533-B 561, p. 535); and causality of freedom, which is not "subject, according to the laws of nature, to another cause that determines it as regards time". (2*nd Critique*, A 533-B 561, p. 535) That freedom, according to Kant, is the freedom rational beings exercise when acting independently from impulses, desires, inclinations, urges, etc. Rational beings in this sense, have the ability not to be coerced by their desires, appetites, and the like, or in the case of Frankfurt's addict, for example, he has the ability not to be coerced by his addiction. Such freedom is the "keystone" of morality for Kant because, while every living being is naturally determined to activities whose efficient cause can be found in the living being's dispositions and inclinations, or in activities all living beings engage as subjects to the laws of nature, humans, however, are also rational and as such, they can be determined to activities whose efficient cause are moral laws. That is, rational beings can be determined to actions, whose efficient cause is to be found in their rational rather than physical nature.

A guard dog, for example, would abandon his post if offered nourishment, while a human guard must be convinced, or given a reason to do it – simply offering sustenance would not determine a human guard to abandon his post though it could. Because humans, in virtue of being rational, have a will which Kant describes as "a kind of causality of living beings insofar as they are rational…" (*The Groundworks*, section III, 4:446) – it is why we conceive of our actions as freely chosen and enforced by a free will. Such will for Kant is a will conditioned by freedom and legislated by practical reason rather than natural laws. Kant thus elaborates: "That independence… is freedom in the negative meaning, whereas this legislation – pure and as such, practical reason's own legislation – is freedom in the positive meaning." (2*nd Critique,* Theorem IV, p. 49) What is to be noted here, is that freedom in its negative meaning, can be described as one having the ability not to act or not to be coerced to act, or as one's ability to withstand one's impulses and inclinations to act, or as one's capacity to suppress such and act in accordance with principles:

> "Only rational being has the capacity to act in accordance with the representation of laws, that is, in accordance with principles, or has a *will*.... The will is the capacity to choose only that which reason independently of inclination cognizes as practically necessary..." (*The Groundworks*, Preface, 4: 412, p. 24)

A will, therefore, can be conditioned in two ways: by nature, or impulses and inclinations, and as such, it is not free but incumbered as these dictate its volitions and determine its nature. Or a will can be conditioned by freedom and as such, it is free from the influences or impediments of desires, appetites, urges, etc., and free to form volitions guided by reason. Freedom, then, determines such will's nature as free.

Now, Hume objects to the idea that reason can influence one's will and promises to prove that: "... reason alone can never be a motive to any action of the will... it [reason] can never oppose passion in the direction of the will". (*The Treatise*, Book 2, III, p. 359) But just as Locke who also lacked the benefit of Kant's discourse on freedom, Hume does not consider the conditioning of the will *per se*, but rather how an agent chooses its actions when noting that: "We feel that our actions are subject to our will in most occasions, and imagine we feel the will itself is subject to nothing..." (*The Treatise*, Book 2, III, p. 355)

On the contrary, we feel that our wills as the enforcers of our choices of actions or inactions are subject to these choices, i.e., we are the decision-makers, and our wills merely execute these decisions. In that sense, a will is never free or even independent in some limited sense, as it is subject to the agent to whom it belongs and whose will it is. One can grant Hume that reason itself is never the motive of our actions, but he conflates a faculty, which reason is, with motives. In fact, farther in his discussion, Hume refers to reason as a faculty arguing that since it "can never produce any action or give rise to volition... the same faculty is as incapable of preventing volition, or of disputing the preference with any passion or emotion". (*The Treatise*, Book 2, III, p. 360) The example Hume offers exemplifies his conflation as he argues that:

> "When I am angry, I am actually possessed with the passion, and in that emotion have no more reference to any other object, than when I am thirsty, or sick, or more than five foot high. It is impossible, therefore, that this passion can be opposed by, or contradictory to truth and reason..." (*The Treatise*, Book 2, III, p. 361)

I needn't quarrel with Hume here, as to the truthfulness of his emotions and passions and that he feels such, but the question is can reason influence Hume's choice of action or inaction as a response to the passions he's possessed with? Can't he not strike the person he's angry with for example, because his reason recommends against it? Or not ease his anger by breaking a window? Surely, he can. Moreover, volitions and actions are not one and the same – the latter are the manifestations of the former. But instead of considering whether a will must always be conditioned by sensations of pain and pleasure or nature, and its volitions manifested by actions driven by these, Hume assumes that it goes without showing that this is the case, and then proceeds to argue that since his sensations are true, they cannot be contradicted. Indeed, the actions manifesting the volitions his emotions incite are what needs to be opposed, not his passions, i.e., he must show that opposing the former is impossible, which he cannot. For humans' capacity to reflect leads to the conception of freedom, but only as concept – it is the will, through which reason instantiates and effectuates such reflections which make reason practical. Kant explains this by noting that:

> "...practical reason itself, without any collusion with the speculative, provides reality to a super sensible object of the category of causality, i.e., to freedom. This is a practical concept, and as such is subject to practical use; but what in the speculative critique could only be thought is now confirmed by fact." (2nd *Critique,* 5:66, p. 193)

Kant's expositions of "freedom" and "free will" resolve another issue the "free will" debate is often mired in – the identification of desires, wishes, urges, appetites, etc. with free will. As I showed with Kant, the satisfaction of the former determines one's inclinations and dispositions or one's physical nature, but a will needn't be conditioned by these though it could be, and is, therefore, not identical to them. The same applies to volition which while it could track an agent's desires, wishes, urges, etc., it is not identical with such but is what a will forms, or as Locke explains it is "an act of the mind directing its thought to the production of any action, and thereby exerting its power to produce it". (*The Essay*, Book II, XXI, 28) And this is only after an agent chooses whether its will is conditioned by desires, urges, wants, etc., or freedom. For the formation of volitions can be driven by one's physical nature, but it needn't be as it can be driven by one's rational nature as well.

So, when philosophers, cognitive scientists, psychologists, etc. define "free will" to mean one doing what one pleases, they in effect preclude the possibility of free will as a matter of definition. For the problem free will presents us with is, not whether we can do otherwise or believe ourselves to be

free to do what we please, but whether our actions or inactions as chosen by us are executed by a will conditioned by freedom and therefore good according to Kant, or whether they are enforced by a will conditioned by nature and therefore evil for such a will is inclined in accordance with our physical natures rather than moral, or desires and impulses, but our own, nonetheless.

So far so good, we can define "free will" as a *will unencumbered by impulses and inclinations which forms and executes volitions driven by rational considerations.* But how does defining free will as such impact our notions of agency, choice, and action or does it? I submit, it does – it shows that an agent always chooses its actions or inactions freely even when its will is not.

II. Free Agents, Free Choices, and Voluntary/Involuntary Actions.

Locke considers freedom as it relates to actions, agents, choice, etc. as well. He outlines what it means for an agent to be free by distinguishing the trivial and undisputed notion of agents who are obviously not free if they lack the capacity to perform an act, and agents who are free if they possess such an ability but free only, to choose whether to perform or not perform an act which is the only option freedom offers. By illustrating that distinction Locke also addresses the conflation of the ability to do otherwise or perform one's preferred action, with the ability to act or not to act – a conflation which almost exclusively drives the debate about determinism's compatibility/incompatibility with free will. For having the ability to do otherwise refers to the possibility that there exists an action which an agent prefers to the available options. Such existence and preference are not necessary and wholly unrelated to one's ability to act or not to act whatever the available options. Because if preferred action is not possible in principle, this does not mean that an agent cannot perform a different action and does not obligate an agent to perform an act he prefers not to perform, i.e., an agent can still elect not to act. Locke clarifies this when he notes that:

> "...Freedom consists in the dependence of the existence, or not existence of any action, upon our volition of it, and not... on our preference. A man standing on a cliff, is at liberty to leap twenty yards downwards into the sea, not because he has the power to do the contrary action, which is to leap twenty yards upwards, for that he cannot do; but he is therefore free, because he has a power to leap or not to leap. But if a greater force than his, either holds him fast, or tumbles him down, he is no longer free in that case; because the doing or forbearance of that particular action is no longer in his power. He that is a close prisoner in a room twenty feet square, being at the north side of his chamber, is at

> liberty to walk twenty feet southward, because he can walk or not walk... In this then, consists freedom, viz. in our being able to act or not to act, according as we shall choose or will." (*The Essay*, Book II, XXI, 27)

And since it is the agent who chooses its action or inaction according to Locke, and actions are representations of said agent's volitions as determined by its will, it is therefore the agent, who chooses whether its will is conditioned by freedom or impulses and inclinations.

Hence, Locke would object to Frankfurt's argument that an addict takes drugs because he could not avoid performing the act. For Locke, the addict's mind is what directs his will to form a volition for drugs because the will is "nothing but a power in the mind to direct the operative faculties of a man to motion or rest". (*The Essay*, Book II, XXI, 29) Frankfurt disagrees with Locke arguing that different addicts may have different commitments to their desires for taking drugs but isn't this the point – it is irrelevant how strong the commitment or desire is which drives an addict's choice. What matters is, whether it is the addict who chooses his action or inaction and if he does, then his action or inaction is freely chosen and the issue of first and second order volitions does not get off the ground. Frankfurt's argument that "Locke tends to ignore the distinction between performing an action one is unable to avoid performing and performing an action *because* one is unable to avoid performing it" (Frankfurt: 2005, pp. 51-2) is to no avail unless Frankfurt shows that an addict lacks the ability in principle, to abstain from taking drugs – which is what Locke argues. That so long as an addict has the capacity for continuing or forbearing an action, such a one is free to choose his inaction.

Or in Hume's words, so long as an addict is not in chains, he is at liberty to choose not to act for Hume shares Locke's notion of freedom and its relation to agency and choice while expounding on Locke's idea:

> "By liberty, then, we can only mean a power of acting or not acting, according to the determinations of the will"; that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to every one who is not a prisoner and in chains." (*The Enquiry*, VIII, 73)

And by identifying as free anyone who is unrestrained, Hume in some sense, though not explicitly, dispenses with the idea that an agent can be other than free when its actions or inactions are executed by its will and so long as one "is not a prisoner and in chains".

Now, one could argue here, that Hume diverges from Locke's notion of free agent since Locke argues that even a prisoner acts freely even if only within the boundaries of his imprisonment. Fair enough, but Hume speaks of one who isn't merely a prisoner but is also chained. I'm sure Locke would grant Hume that a prisoner in chains could not act freely even within the confines of his imprisonment if a "greater force" is holding such a one immobile. Indeed, a prisoner in chains cannot act at all, but so far as an agent acts in accordance with its will, both Locke and Hume identify such an agent as free.

Thus, when Frankfurt's addict takes drugs even though reason tells him not to as it is detrimental to his well-being, he is an agent who isn't in chains and who freely chooses to allow his will to be conditioned by his addiction or passions in Hume's terms, as opposed to being conditioned by freedom. Frankfurt is correct to argue that an addict's will isn't free, but he freely chooses nevertheless, to allow his addiction to influence his will, and therefrom allow his inclined will to form and execute his volitions.

Aristotle offers a similar argument though he conducts his discussion in terms of voluntary and involuntary actions, and notes that "man acts voluntarily; for the principle that moves the instrumental parts of the body in such actions are in his power to do or not to do". (*NE*, $1110^{a}14$-7) And while Aristotle describes involuntary actions as done under compulsion or ignorance, he also clarifies that what makes involuntary actions compulsory is that "the moving principle is outside" of the actor, and that it is:

> "...principle in which nothing is contributed by the person who acts or is acted upon, e.g., if he were to be carried somewhere by the wind, or by men who had him in their power". (*NE*, $1110^{a}1$-4)

That is, just as Locke's actor who if tumbled down towards the sea by an external force is not free, so is Aristotle's. And since addiction is not principle, which is outside of an addict, Aristotle would identify an addict's taking drugs as voluntary action. In fact, he emphasizes that the vices of the mind are not the only voluntary ones but that those of the body are as well, and points out that a man inflicted with addiction has brought it upon himself voluntarily by choosing an intemperate lifestyle:

> "...no one would reproach man blind by birth or by disease or from blow, but rather pity him, while every one would blame a man who was blind from alcoholism or some other form of self-indulgence." (*NE*, $1114^{a}25$-8)

And since no one is born with addiction though one might be predisposed to it, one such as Frankfurt's addict has voluntarily developed a weak and infirm character by ever beginning to use drugs and forming destructive habits in the first place. For as Aristotle explains "we are masters of our actions from the beginning right to the end". (*NE*, $1114^{a}31$-2) And if masters of our actions, then we are masters of our volitions as well. Certainly, one can grant Frankfurt that addicts can be driven to drug use by different motives and by different orders of desires – some of the former justifiable and some of the latter unrecognized. But the question isn't whether one is aware of what order desire conditions one's will, but whether one can withstand the use of drugs in the first place or oppose such acts and therefore, prevent one's addiction from conditioning one's will. Frankfurt does not show this to be the case or consider such an argument.

Augustine however does[1], and explains that:

> "...when a man says, 'I cannot do what I am commanded, because I am mastered by my concupiscence'... he recognizes and laments his own evil in himself... the very fact that the injunction, 'Consent not to be overcome', is addressed to him, undoubtedly summons the determination of his will. For to consent and to refuse are functions of the will." (*On Grace and Free Will*, Chapter 5, 2992-4)

Put otherwise, whether one is mastered by one's vice is a matter of determination of one's will and in turn, it is up to such a one to decide whether his will is inclined toward sin or good.

Nozick also considers similar arguments but his defense of free will is riddled with doubts and what he thinks are unanswered questions when asking:

> "...reflexive self-subsumptive decisions will not have causes of a certain sort, of lesser depth. But cannot one of mine be caused by someone's saying, 'make that particular self- subsumptive decision or I will shoot you'? Would this reference by the threatener of my decision have at least the same depth as the decision and so be able to cause it?" (Nozick:1981, p. 309)

And Nozick answers with another question: "...one can decide to resist a threat, one can weigh it in and go against it. Is one's decision deeper than the threat in that one 'steps back' from it and weighs it?" (Nozick: 1981, p. 309) which betrays his misconception of the problems free will and voluntary actions posit (though as I have shown he is not alone in this). The issue free will posits isn't how deep one's

decision goes and whether it is deeper than the threat one encounters, but whether one's act is voluntary or not whatever the conditions, even under threat. Aristotle, in fact, examines such possibility and concludes that:

> "...with regard to things that are done from fear of greater evils or for some noble object (e.g., if a tyrant were to order one to do something base... if one did the action they were to be saved, but otherwise would put to death), it may be debated whether such actions are involuntary or voluntary... Such actions, then, are mixed, but are more like voluntary..." (*NE*, 1110^a4-11)

Having allowed that actions done under stress and duress can be identified as mixed however, Aristotle considers the principles driving actions and concludes that if actions done for fear of pain and suffering are to be treated as involuntary, then praise cannot be bestowed upon good acts either, for they would be involuntary as well:

> "...is it meant that we do not do voluntarily *any* of the acts that are due to appetite or anger, or that we do the noble acts voluntarily and the base acts involuntarily? Is not this absurd, when one and the same thing is the cause?" (*NE*, 1111^a27-9)

Aristotle's discussion of voluntary/involuntary actions addresses Donaldson's objection that intentional actions are not always "chosen, decided, tried, or intended" as well, as Aristotle distinguishes between voluntary and chosen acts noting that choice is voluntary in a different way when compared with actions done "in the spur of the moment" for example, which are still voluntary but not chosen. Indeed, Aristotle distinguishes chosen acts from acts driven by "appetite or anger, or wish or a kind of opinion" for "appetite relates to the pleasant and the painful" but choice to neither of them. The same applies to wish for "choice cannot relate to impossibles" but to "what contributes to the end" while wish relates to the goal of an action and as such, can consider impossible outcomes. In the same manner, actions aren't always driven by correct opinion as in the case of Frankfurt's addict who though holding a proper opinion about drugs – that they are harmful to him – "by reason of vice" chooses what he should not.

Moreover, when Donaldson argues that intentionality is a necessary element of free action, he conflates the issue of what identifies actions as chosen, and what as merely voluntary, i.e., what distinguishes one from the other though they are both voluntary. When Donaldson argues for instance, that on his birthday he turns 55 even though no desire or belief played a role in this process

and he had no power or control over it, Donaldson is correct. But he conflates an event taking place or something happening to him – aging that is, which is not an action by any conceivable meaning of the word – with action which requires his deliberate involvement in producing the aging in this case. And even the problem of overdetermination does not properly belong to the issue of free will, and neither clarifies it nor deepens it. For the man in Bennett's example which Donaldson examines, who intends to shoot someone and misses, but whose shot stampedes a herd of pigs who in turn tramples the victim, not only acts voluntarily but intends his action, or chooses it in Aristotle's terms. Donaldson conflates in this example, the goal or the outcome of an action, or in Donaldson's terms the intent of the action, which does not relate to it or its success, with the means of accomplishing said goal or its success, which does relate to the action or the choice of action in Aristotle's terms.

The conclusion one must derive here is that the will is a faculty which executes an agent's choices of actions or inactions as representations of an agent's volitions which are formed by either free or impeded will. The distinction Kant makes between *Wille* and *Wilkur* illustrates the difference here – *Wille* refers to the will as determinant of the nature of one's actions which are goodif executed by a free will, and evil if executed by a coerced will. While *Willkur* refers to one's *choice* of action or inaction which determines whether said choice will be enforced by a free or a coerced will. The choice *Willkur* makes, is truly free choice between good and evil action for it is not encumbered by anything and therefrom, identifies an agent's actions as voluntary or involuntary.

Having explained and defined "free will" and outlined its implications for choice, agency, and voluntary/involuntary actions, I will now apply these to Libet's experiments and their variations and show that they exemplify "free will" as well as "free choice", "free agency", etc.

III. Kant's Negative Freedom as Libet's "Free Won't".

It is immediately apparent that the debate about free will is based on an entirely unacceptable notion of it when Libet's "operational definition" is examined:

> "...free will in these experiments was in accord with common views. First, there should be no external control or cues to affect the occurrence or emergence of the voluntary act under study; i.e., it should be endogenous. Secondly, the subject should feel that he/she wanted to do it or not do it." (Libet: 1999, p. 47)

Though Libet attempts to stay as close as possible to the defensible notion of free will, his definition is problematic even as solely operational. Libet assumes here, that having the desire to commence an act would identify one as exercising a free will. However, as I showed, will conditioned by desires is not free but inclined by these. Why is this important?

Libet's experiments and their variations are inarguably designed to analyze the cognitive representations of acts driven by urges as Libet calls desires sometimes, rather than acts executed by free will, i.e., the question of how participants' wills are conditioned is not part of these experiments by design. In addition, Libet's experiments explicitly prevent the execution of an action enforced by a free will since they require participants to act necessarily rather than choose whether to act or not. And though scientists in later versions of Libet-style experiments added that option, even these experiments require participants to act necessarily after the initial veto of an act, and act if they feel an urge.

These methodological and procedural issues with Libet-style experiments create in turn, data interpretation problems as the experiments aim to show that participants' desires and urges are initiated without participants' awareness rather than show, that participants' choice of action or inaction is initiated without participants' awareness which is the only discovery that could attempt to undermine the possibility of free will. For certainly, if neurological tests can show that brain activities related to participants' choice-formation take place prior to said participants' awareness of their volitional processes' initiation, and can identify what decision participants will make, one can claim that the notion of free will is an illusion. But would not such tests be absurd, and how would they be conducted? How are participants to exhibit freely initiated choice-formation brain activities if they are not aware that they have desires or urges to act? What would such participants' choices be about? And what would a test designed to distinguish between brain processes representing desires from brain processes representing choice-forming activity look like? And yet, Libet-style experiments' proponents claim the tests are designed to do just that.

More to the point, urges and desires are not identical though the two ever so often overlap and originate in the same prefrontal and parietal cortex areas, but neither of them has decision-making function. Are decision-making activities and the decision-making brain processes associated with them, identical to urges/desires and the urges/desires-satisfying brain processes associated with them? One has an urge to get up and stretch, but one has a desire to watch a movie – how are the two distinguished in terms of brain processes for they seem constituted differently even if associated with

the same brain area? A decision-making activity, on the other hand, seems not only conceptually distinct from both, but must include additional brain processes. For whether an act is freely chosen or not, voluntary or not, it usually follows an urge or desire, but is certainly not prior to such. And while these experiments more readily show that urges and desires originate in the prefrontal and parietal cortex, and that participants are not immediately aware of these or prior to them, this does not mean that an act following urges or desires is necessarily sanctioned by them. Indeed, one must endorse an act satisfying an urge or desire felt first, in order to perform it or not perform it.

Be that as it may, one can still apply my proposed free will definition to Libet-style experiments and show that a will conditioned by freedom can direct participants' movements to oppose their desires, impulses, urges, etc., which is ultimately the question a theory about free will must answer – can one resist the influence of one's desires and urges on one's conduct, or choice of action and inaction. Of course, one could object that Kant's "free will" discourse is strictly about moral responsibility and that not every action is morally significant. Perhaps, but the issue I raise is that under Libet's and others' free will definitions, one cannot properly distinguish between actions driven by urges and desires and actions driven by rational considerations. That is, cognitive scientists fail to distinguish between "free will" and "not free will" when administering their tests.

Consider Carrington for example, who walks by a clothing store, sees a beautiful dress, and feels the desire to buy the dress. Carrington, however, is on her way to a bookstore where she must buy schoolbooks and has enough money to buy either the books or the dress. What would it mean for Carrington to have her free will execute her choice of action? According to my proposed definition of "free will", the only act executed by Carrington's free will is buying the books as Carrington's will, will be conditioned by freedom rather than her desire for the dress. In buying the books, she will suppress said desire because the books are necessary, and the dress is not, and thus allow rational considerations to guide her choice of action. If Carrington buys the dress, on the other hand, her act will be freely-chosen still, but the decision to oblige her desire and buy the dress will be executed by a will inclined by that desire. The deliberative process followed by choice of action identifies Carrington as a free agent and her action as voluntary but enforced by her coerced will.

According to Libet's definition of free will, on the other hand, Carrington will be exercising free will no matter what she does, so long as she satisfies her desire, i.e., it makes no difference what Carrington does – buy the books, buy the dress, buy nothing – she will be exercising free will all the same, for it will be something she wants to do. But if this were the case, what would it mean for Carrington to

exercise "not free" will? It seems Carrington's will is always free according to Libet and others. That notwithstanding, Libet and company settle the debate in favor of "free will" even if unwillingly when their experiments and data are interpreted in their proper context and the correct definition of "free will" is applied to them.

To that end, Libet asks participants to indicate when they feel the desire to perform an act and discovers that an electric activity in certain brain areas precedes the movements participants make. He refers to it as readiness potential, RP, since it is registered before the activation of participants' muscles representing the desired movement. Libet notes that RP was registered well in advance of movement and well before subjects become "aware of the wish or urge to act", which approximates at about 550 msec. prior to an act. Libet interprets these results to mean that "the initiation of the voluntary act appears to begin in the brain unconsciously, well before the person consciously knows that he wants to act!". (Libet: 1999, p. 51) Well, Libet misinterprets and misidentifies the participants' brain processes as readiness to act rather than as desire to act. For should not there be some form of brain activities before participants recognize a desire, and aren't the activities registered in participants' prefrontal cortex which Libet identifies as RP simply the urges and desires Libet expects participants to feel before they act? These, of course, can be driven by conditions and forces external to the participants though not necessarily, and when such, they need not be recognized the moment they exert their influence on participants. In fact, it is reasonable to assume that participants get aware of such urges well after they affect them and their brain activities have manifested them, particularly, given that the time in such experiments is measured in milliseconds.

Consider driver's reaction when faced with a vehicle heading directly against him/her – one could argue that such a driver is not aware of his/her movements until after collision has been avoided or has taken place. Libet must treat such movements as involuntary then – an absurd proposition for sure, any driver faced with the possibility of collision will voluntarily attempt to avoid it. This is the first problem with Libet's experiments and the conclusions he draws – he asks the participants to act only after an event influencing them has taken place and then argues that brain activities precede the participants' actions.

Libet is not alone in his error, Soon *et al* who conducted their own enhanced and improved Libet-style experiments begin with the same assumptions and derive similar conclusions based on the same erroneous free will notion interpretations of brain activities. And since Soon *et al* are able to identify the areas of brain activities preceding an action, as well as where they think the decision to move

originates, the group concludes that "the outcome of a decision can be encoded in brain activities of prefrontal and parietal cortex up to 10 seconds before it enters awareness" (Fischborn: 2016, p. 10), and that the brain activities preceding a decision did not merely indicate that a decision will be made, but contained coded information about what kind of decision participants will make.

However, Soon *et al* have rather spotted success in predicting participants' actions even though, they claim the information about the decision is coded in related brain areas. The prediction success rate is hardly an impressive one as Fischborn notes in his discussion of Soon *et al* experiments:

> "...the authors were able to identify some patterns of neural activity whose occurrence indicated that a particular decision would follow with a probability of approximately 60% - when the chance probability is 50%". (Fischborn: 2016, p. 10)

Be that as it may, Libet makes an important discovery – veto possibility – which could explain why Soon and company are not able to predict what decision participants will make every time. Libet notes in this respect that:

> "The subjects in our experiments at times reported that a conscious wish or urge to act appeared but that they suppressed or vetoed it. In the absence of the muscle's electrical signal when being activated, there was no trigger to initiate the computer's recording of any RP that may have preceded the veto; thus, there were no *recorded* RP's with a vetoed intention to act." (Libet: 1999, p. 52)

This means that RP is recorded, after which participants become aware of an urge to act and make the decision to veto the urge. Thus, the only freely-chosen act in this case is the veto as it is initiated after participants become aware of an urge.

Now, Libet suggests that the lack of electrical signal indicating muscle movements is what prevents the veto's RP from being recorded, assuming there is such. Muscle movements, however, come only after decision is made and electrical signal is sent. Put otherwise, volitional process begins, RP is recorded, urge is recognized, decision is made, and electrical signal is sent to the body part which is to move. If a muscle's electrical signal is missing this means that it was never sent in the first place, and that a veto must take place somewhere between the recognition and awareness of an urge, and the sending of electrical signal. For a veto does not suppress an urge, Hume argues as much, but the electrical signal driven by such. And since according to Libet the time between the recognition of an

urge and the act the urge initiates is only about 200 msec. on average, a veto has but about 150 msec. to prevent an act from being executed.

Now, one could object that a veto has its own RP, which is simply not recorded or detected, because scientists are lacking the technology necessary to detect it. Perhaps, but 150 msec. is an insufficient time for the brain activities associated with volitional processes interrupted by a veto to develop and bring about an entirely new volitional process with its own RP. In addition, Libet notes in his analysis of the veto that:

> "An interval of 150 msec. would allow enough time in which the conscious function might affect the final outcome of a volitional process. Actually only 100 msec. is available for any such effect. The final 50 msec. before the muscle is activated is the time for the primary motor cortex to activate the spinal motor nerve cells." (Libet: 1999, p. 51)

And since a brain process from RP to executing a veto will take approximately 200 msec., one can conclude that a veto does not have a readiness potential at all and is, therefore, freely chosen and executed. Additionally, Libet notes that: "There is no logical imperative in any mind-brain theory... that requires specific neural activity to precede and determine the nature of a conscious control function." (Libet: 1999, p. 52) which in effect veto is. In other words, the veto can be interpreted to be a representation of Kant's negative freedom and can be described as a manifestation of free will for it is something fundamentally disparate from an urge. The restriction negative freedom imposes on urges and desires is indeed the veto to act Libet discovers. The readiness potential is what initiates an urge, but it is the veto with no RP which decides whether an action based on said urge will be actualized and what kind of action if at all. Libet tells us as much:

> "The conscious veto is a *control* function, different from simply becoming aware of the wish to act... there is no experimental evidence against the possibility that the control process may appear without development by prior unconscious processes." (Libet: 1999, p. 53)

Hence, the process which takes place when one acts can develop in one of two ways: 1) one gets an urge to act represented by RP, the urge is recognized, vetoed, and followed by an action driven by the urge; or 2) one gets an urge to act represented by RP, the urge is recognized, vetoed, and followed by an action contrary to or opposing the urge, or inaction altogether.

One could ask here, what is the origin of an act following a veto which opposes an urge, or any act following a veto? Kant can explain said origin as flowing from negative freedom or Libet's "free won't", but can Libet explain it without RP present which is a necessary element Libet's theory against free will hinges on? On the contrary, Libet's RP theory is wholly inadequate or tenuous at best because it obliterates any distinction between movements such as twitches, spasms, reflexes, etc., and any other ordinary and voluntary acts as it leaves no room for deliberative processes. And yet, safe for reactions to unexpected events, actions performed by rot or habit, and the like, there is always a deliberative process taking place before an act is endorsed and consequently performed even when it comes to the most trivial of them. And what else could this deliberative process be but the veto Libet uncovered?

If I were to apply Libet's interpretation of his experiments to Carrington's case, her act of buying the dress would be no different than a reflex. Howbeit, Carrington's buying the dress is a distinct act from Carrington's raising her hand, for example, to protect herself from a flying object. The distinction is the deliberation Carrington will engage in before buying the dress, and the lack of deliberation in Carrington's raising her hand. But for a deliberative process to take place, Carrington must initiate a veto first, consider the available options and choose whether to perform an act or not. Should Carrington decide to buy the books instead, this act would not be different as it will require veto again. The distinction between Carrington recognizing her desire, vetoing it, and buying the dress anyway, and Carrington recognizing her desire, vetoing it, and buying the books instead is the deliberative process following the veto which itself originates her action, and the fact that the former is executed by Carrington's will inclined by her desire for the dress while the latter, is executed by Carrington's will freed from that desire. In the end, Libet fails to show that any action is initiated with RP, or that any action is predictable in any meaningful sense Soon *et al*'s claims notwithstanding.

Libet however, even if begrudgingly allows for the possibility that the veto is the "trigger that is required to enable the volitional process to final action" (Libet: 1999, p. 52) though he notes: "there is no evidence for this". One could interpret Libet's trigger as the positive freedom flowing from the veto or "free won't". For if a veto merely stops or prevents the performance of an act without originating a new one or finalizing the initiated one, what actualizes a vetoed volitional process into action when an additional RP is not present? The opponents of free will tell us that RP is what proves that free will is an illusion, and yet, short of reflexes, spasms, reactions to sudden events, or acts of mad men, fools,

and children which Aristotle identifies as non-voluntary[2], they cannot show that any deliberate act originates with RP.

In fact, are not the acts Libet-style experiments mean to examine mere bodily movements requiring no knowledge and deliberation in order to be performed and therefore, non-voluntary by nature and irrelevant to the question of whether free will is possible!

Conclusion

Do Libet-style experiments rehabilitate free will? Perhaps not conclusively, but they certainly raise questions about neuroscientists' claim that such experiments refute the possibility of free will for nothing can be conceived of which can impede our choice of action or inaction. One can imagine impediments to actualizing a choice once it is made, or impediments to movements, but not impediments to making a choice. And having a free will execute one's choice does not mean that if one were to jump out of a 10-story building, for example, one can will oneself not to fall. For what one would be willing in such a case is, that natural laws do not apply rather than willing oneself not to fall and this is something Kant never told us we can accomplish, free or otherwise.

The objections to free will thus, are largely based on a conflation of the ability to freely choose an act, with the ability to act or not as Locke notes. The presumed capacity to carry out a chosen or preferred act is distinct from the capacity to choose an act which does not require that the chosen act is performed as Donaldson argues. And Kant does not claim that perfectly moral conduct is achievable, but that we strive for it in virtue of being rational and because we can conceive of morality and freedom. Perfection, indeed, is not attainable and does not exist in the world of sense, but we conceive of it and can be guided by it, and Libet-style experiments and the veto to act demonstrate this.

Furthermore, correctly defined free will could answer questions about moral judgments and show that free will is more than folk psychology and merely a convenient explanation of our intuition that we are free to choose our actions as Dennett argues. Consider the recently instituted Covid vaccine mandates requiring employees to either get vaccinated or lose their jobs – would philosophers, psychologists, neuroscientists, etc., identify the people who accepted the vaccines as exercising free will, or the people who refused the vaccines? Nozick could hardly argue that one group acted under more significant threat or duress than the other, given that the same mandate and the same threat of losing one's job applied to both groups. But if one were to apply the free will definition I propose, then both groups chose their actions freely and both groups acted voluntarily. However, the group which

accepted the vaccines allowed their wills to be conditioned by fear and form volitions driven by fear, while the group which chose not to accept the vaccines allowed their wills to be conditioned by freedom and formed volitions driven by rational considerations rather than fear.

In the end, the question free will presents us with is not whether it is possible, but what conditions our wills and who decides how our wills are conditioned. And if the answer is always us and the choice itself is unconditioned, unimpeded, and always possible, then Locke and Hume are correct to argue that we are always free to choose our conduct unless we are in chains. And so is Kant when he argues that morality, and ultimately responsibility, is inextricably linked with freedom and our conception of it for so long as we are rational and free to act or not act, we can choose our actions and therefore, how our wills are conditioned – by freedom or impulses and inclinations. Such freedom confers responsibility on us for every action we choose to perform, and mitigating circumstances are only relevant for the assignment of praise or blame, reward or punishment, etc. But when it comes to our decisions to act or not and the consequences of such decisions, they are ours and ours alone.

Footnotes

[1] Though Augustine's concern here is the issue of ignorance as it relates to actions arguing that lacking knowledge about sin is not an excuse but mere mitigation of punishment, he also notes that "the will is at fault in the case of the man of whom it is said, "He is not inclined to understand, so as to do good." (2989)

[2] "...everything that is done by reason of ignorance is non-voluntary... For the man who has done something owing to ignorance, and feels not the least vexation at his action, has not acted voluntarily since he did not know what he was doing, nor yet involuntarily, since he is not pained..." (*NE*, 1110b19-22)

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