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Freeing the Will from Neurophilosophy: Voluntary Action in Thomas Aquinas and Libet-Style Experiments

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Abstract: This essay presents a substantive Thomist response to neurophilosophy's main experimental challenge to free will: the Libet-style experiments on the neural antecedents of conscious voluntary actions. My response to this challenge will disclose that Thomists are rationally justified in rejecting both the conclusions of neurophilosophy skeptics of free will, and more fundamentally, the rival philosophical conceptions of voluntary action and free will that were chosen to be operationalized in these neuroscientific experiments. I show how the Thomists' alternative conception of human action justifies a significantly different interpretation of Libet-style experiments, one which reveals the psychological phenomenon targeted by these experiments is miscategorized as a voluntary action.

Keywords: Thomism; Aristotelianism; Thomas Aquinas; Benjamin Libet; Alasdair MacIntyre; neuroscience; free will; voluntary action; human action; neurophilosophy; philosophical anthropology

1. Introduction

"... the assumption that some feature of the moment of acting constitutes actions as intentional leads us into inextricable confusions, and we must give it up."

(Anscombe 1972, *Intention* § 19, p. 29)

Thomists have made important contributions to contemporary debates concerning moral psychology, practical reasoning, human action, virtues, and free will. These contributions teach us how to situate Thomas Aquinas's enquiries and insights within these forums and how to ask and respond to contemporary philosophical questions and objections that Aquinas could not have entertained. Yet Thomists have been largely silent on the neuroscientific challenges to free will.¹ It is the aim of this essay to provide a substantive Thomist response to neurophilosophy's main experimental challenge to free will: the Libet-style experiments on the neural antecedents of conscious voluntary actions. By "neurophilosophy", I mean the neuroscience version of a scientific naturalizing approach to philosophical questions, which contends neuroscience can take over and resolve certain philosophical problems.² My response to this challenge will disclose that Thomists are rationally justified in rejecting the conclusions of neurophilosophy skeptics of free will because they already reject the rival philosophical conceptions of voluntary action and free will that were chosen to be operationalized in these neuroscientific experiments.

I begin with a digest of the Libet-style experiments on the neuroscience of human agency and their purported challenge to free will. Next, I introduce four major problems with the causal theory of action, which is operationalized in the Libet-style experiments. I then argue Thomists do not face these problems because we endorse a rival conception of voluntary action which rejects the very theses that generate these problems for the causal theory of action. In the final section I show that because Thomists reject the causal theory operationalized in the Libet-style experiments, Thomists also reject neurophilosophy's skepticism of free will based on these experiments. What the Thomists' rival conception of voluntary action provides is an alternative interpretation of the Libet-style experiments. This Thomist re-interpretation, I argue, reveals that the psychological phenomenon these experiments target and conceptualize as essential to *voluntary action* is in fact an instance



Citation: De Haan, Daniel D. 2024.

Freeing the Will from Neurophilosophy: Voluntary Action in Thomas Aquinas and Libet-Style Experiments. *Religions* 15: 662. <https://doi.org/10.3390/rel15060662>

Academic Editors: Simon Maria Kopf and Ignacio Silva

Received: 1 April 2024

Revised: 17 May 2024

Accepted: 21 May 2024

Published: 28 May 2024



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of a *nonvoluntary passion* that has been misconstrued in the Libet-style experiments. Accordingly, this essay embodies a MacIntyrean case study for how Thomists can engage scientific contentions—and their underlying philosophical assumptions—which purport to undermine key theses of the Thomist tradition of rational enquiry, like the place of voluntary action and free will in philosophical anthropology. It identifies internal problems with a rival philosophical tradition's account of free will, shows how those difficulties are inherited by the experiments that assume this account, and then explains why the Thomist tradition's notion of free will does not have those internal problems but can explain the source of those internal difficulties in the rival tradition.³

2. The Libet-Style Experiments on the Neuroscience of Voluntary Action

Since Galen physiologists have known that the nervous system plays an essential role in muscular contractions, including voluntary movements, that is, the bodily movements we exercise some control over. Our understanding of what the nervous system is and how it functions has been radically transformed over the centuries (Bennett and Hacker 2022, Part 1, chp. 1–2), but a basic question seems to remain the same: what happens when I voluntarily move my finger?

Discoveries in neurophysiology in the last century prompted neuroscientists like Sir John Eccles and Benjamin Libet to ask and conceptualize these questions in light of the dominant conceptions of free will and voluntary action of the 1970s–1980s. Neurophysiological studies in the 1960s had shown that activity in the motor cortex of the brain—which can cause muscle movements, say, in a finger—can be detected prior to movement in a finger; this detectable activity in the brain was dubbed the “readiness potential” (RP). This experimental discovery of how to detect activity in the motor cortex of the brain prior to detecting the muscle contractions it causes in a finger might not seem too impressive. After all, it is reasonable to assume that events in the brain occur prior to the finger movements they cause. But Libet, following the research of Eccles and others, used this experimental discovery to ask more specific questions. When I voluntarily move my finger what happens first: Does my conscious intention to move my finger occur before the activity in my brain that causes the finger movement? Or, does the brain activity that causes my finger to move occur before my “conscious awareness of the voluntary urge or intention to act”? (Libet et al. 1983) Libet hypothesized, “If a conscious intention or decision to act actually initiates a voluntary event, then the subjective experience of this intention should precede or at least coincide with the onset of the specific cerebral processes that mediate the act” (Libet 1985, p. 529). How can this question about the priority or coincidence of either conscious intentions or neural events be “operationalized”; that is, how can this concept of conscious-will be translated into a measurable empirical task that can then be tested experimentally?

Given the conception of voluntary movement assumed and employed by Libet, the experiment he devised is quite ingenious. In order to test his hypothesis Libet needed to find some way to detect objectively (a) the time of the subjective experience of the “first awareness of the urge to move” (Libet et al. 1983, p. 624) so as to distinguish it from (b) the time of the RP in the brain detected by an electroencephalograph (EEG) and (c) the time of a muscle burst in the relevant muscle (e.g., in the right forearm) recorded by an electromyogram (EMG). This was achieved by instructing the subjects of the experiment to watch the “clock-position” of a revolving spot and report the position of the spot at the moment they became aware of the urge or intention to move. This reported time on the “Libet Clock” provided an objective time for (a) the conscious volition that could be compared with the times detected by the (b) EEG and the (c) EMG.

To understand Libet's experiment better, it is helpful to imagine sitting in a room watching the rapid revolutions of a spot on the “Libet Clock” with an EEG cap on your head and an EMG attached to your forearm. Libet provided the following instructions for “self-initiated voluntary acts”:

“The subject was asked to wait for one complete revolution of the CRO spot [on the so-called “Libet Clock”] 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. . . . An additional instruction to encourage ‘spontaneity’ of the act was given routinely. . . . For this, the subject was instructed ‘to let the urge to act appear on its own at any time without any preplanning or concentration on when to act’, that is, 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”. (Libet et al. 1983, p. 625; my emphasis)

While watching the spot on the Libet Clock, subjects were told not to plan when to move their finger, but to wait and move their finger after an “appearance of [their] conscious awareness of ‘wanting’ to perform a given self-initiated movement” (Libet et al. 1983, p. 627). The subjects then reported the time on the Libet Clock corresponding to when they were conscious of their voluntary urge or intention to move.

Libet’s experiment revealed that the RP in the brain was consistently detected some 550 milliseconds prior to the muscle flexion and around 350 milliseconds prior to “the appearance of a reportable time for awareness of any subjective intention or wish to act” (Libet et al. 1983, p. 640). In other words, the relevant activity in the brain consistently occurred prior to any awareness of an intention to move. Libet concluded from these results:

“it would appear that some neuronal activity associated with the eventual performance of the act has started well before any (recallable) conscious initiation or intervention could be possible. Put another way, the brain evidently ‘decides’ to initiate or, at the least, prepare to initiate the act at a time before there is any reportable subjective awareness that such a decision has taken place. It is concluded that cerebral initiation even of a spontaneous voluntary act, of the kind studied here, can and usually does begin unconsciously”. (Libet et al. 1983, p. 640)

According to Libet, it is the brain that generates and initiates the voluntary movements for us to perform. We then become conscious of these cerebrally proposed bodily movements, and our conscious free will is able to allow them, or, as Libet also noted, subjects were able to veto the occurrence of these bodily movements.

“The role of conscious free will would be, then, not to initiate a voluntary act, but rather to *control* whether the act takes place. We may view the unconscious initiatives for voluntary actions as ‘bubbling up’ in the brain. The conscious-will then selects which of these initiatives may go forward to an action or which ones to veto and abort, with no act appearing”. (Libet 1999, p. 54)

A number of scientists and neurophilosophers have taken these and subsequent Libet-style experiments to demonstrate humans do not have free will. The pioneering cognitive neuroscientist Michael Gazzaniga declares, “Neuroscience reveals that the concept of free will is without meaning” (Gazzaniga 2012, 2014, chp. 4 “Abandoning the Concept of Free Will”). Joshua Greene and Jonathan Cohen state, “Free will, as we ordinarily understand it, is an illusion” (Greene and Cohen 2004, p. 1783). And the social psychologist Daniel Wegner commenced his extensive study, *The Illusion of Conscious Will*, with his central contention: “It usually seems that we consciously will our voluntary actions, but this is an illusion” (Wegner 2002, p. 1). The biologist Jerry Coyne, like Robert Sapolsky, claims these and other experiments reveal that “What is seriously affected is our idea of moral responsibility, which should be discarded along with the idea of free will” (Coyne 2012; Sapolsky 2023).

While these radical claims are primarily based upon the assumed implications of Libet’s experiments, Libet himself was considerably more cautious. Libet concluded his famous 1983 study with some important caveats which have been ignored by many scientists and neurophilosophers skeptical of free will.

“[A]ccepting our conclusion that spontaneous voluntary acts can be initiated unconsciously, there would remain at least two types of conditions in which conscious control could be operative. (1) There could be a conscious ‘veto’ that aborts the performance even of the type of ‘spontaneous’ self-initiated act under study here. . . . (2) In those voluntary actions that are not ‘spontaneous’ and quickly performed, that is, in those in which conscious deliberation (of whether to act or of what alternative choice of action to take) precedes the act, the possibilities for conscious initiation and control would not be excluded by the present evidence”. (Libet et al. 1983, p. 641)

In light of these caveats, some have understood Libet’s view of conscious-will to imply that while we do not have free will, we do have free won’t. But Libet also emphasizes here that his study only addressed “actions” that were (i) spontaneous, (ii) unplanned, (iii) motor movements. What his experiments do not address are either planned or non-motor actions, that is, the kinds of psychological phenomena many plain persons and philosophers alike understand to be paradigmatic of voluntary human “actions”. Furthermore, many have rightly pointed out that Libet’s experiments on spontaneous unplanned motor movements only pertain to arbitrary “picking” and not “choosing” for some reason, where “choosing” is what matters when it comes to debates about moral responsibility and free will.⁴

In the four decades since Libet et al.’s 1983 study, new Libet-style experiments—often drawing upon innovations in neuroscience technology—have emerged which attempt to overcome some of the legitimate technical deficiencies of Libet’s experiments (e.g., problems with subjective reporting times; statistical errors), some of the philosophical criticisms of Libet’s experiments (e.g., that choosing, not picking, is crucial to free will), as well as some of their limitations of scope (e.g., not testing the neural antecedents of free won’t or of non-motor actions).⁵ For instance, Patrick Haggard and colleagues have conducted Libet-style experiments to challenge Libet’s claim that we can initiate a conscious veto or free won’t (see Filevich et al. 2013; Brass and Haggard 2007; Haggard 2019; Schultze-Kraft et al. 2016). John-Dylan Hanes and colleagues performed experiments wherein they identified brain activity up to 10 seconds prior to conscious awareness of an urge to press either a right or left button that is predictive of which button will be pushed (Soon et al. 2008).⁶ In another experiment, John-Dylan Hanes and colleagues discovered antecedent neural activity for non-motor actions, which they claim “show[s] that the outcome of a free decision to either add or subtract numbers can already be decoded from neural activity in medial prefrontal and parietal cortex 4 s before the participant reports they are consciously making their choice” (Soon et al. 2013). Many neuroscientists are confident that as neuroscience technology improves, so also will their ability to detect antecedent neural activity that is predictive, and perhaps even determinative, of our conscious urges to act.

The main challenge these Libet-style experiments purportedly present to Thomism is the thesis that all our conscious intentions and decisions are determined by the brain before we become conscious of our intentions or decisions. My counterargument to this challenge is as follows. Neuroscientific experiments addressing the reality or nature of free will necessarily operationalize some conception of free will, and so the scope and adequacy of the results of these experiments are essentially dependent upon the scope and adequacy of the conception of free will employed in these experiments. Most positive and critical responses to the Libet-style experiments by both neuroscientists and philosophers implicitly assume or overtly endorse the same conceptions of free will and voluntary action operationalized in these experiments.⁷ But these very conceptions of free will and voluntary action are incompatible with the account of Thomas Aquinas which is defended by the Thomist tradition. Accordingly, if Thomists have sufficient justification for defending their account of voluntary action and free will and rejecting these rival philosophical conceptions, then they have prior and independent philosophical grounds for rejecting the rival tradition’s conceptions of voluntary action assumed and operationalized within Libet-style experiments along with their free-will-skeptical interpretations. The rest of

this essay is dedicated to making the case for this counterargument and presenting an alternative Thomist interpretation of the Libet-style experiments.

3. Four Problems for the Causal Theory of Action

Thomists are not alone in critiquing what is known as the “causal theory of action”, that is, the philosophical conception of voluntary action that is uncritically assumed and operationalized in all Libet-style experiments. Thomism and the philosophical tradition which endorses the causal theory of action both take their theories of action to be accountable to the everyday lives of plain persons. But they disagree about how to conceptualize everyday human actions, and it is these disagreements that generate different internal problems for these rival philosophical traditions. Let us consider the causal theory of human action and the major internal problems critics raise against it.

The standard causal theories of action are committed to a Humean picture of causation wherein causes are events that are temporally prior to their effects and there are no logical connections among causes and effects. So, when it comes to action, they contend what distinguishes voluntary actions from mere bodily movements are their distinctive kinds of antecedent mental causes. An action is caused by a prior mental event that has been variously characterized as being a (conscious or unconscious) volition, willing, sensation, impression, idea, intention, or kinesthetic image by Descartes, Hobbes, Locke, Hume, Reid, Mill, William James, Bertrand Russell, and others.⁸ Given the prominence of this causal picture of action, and the mistaken assumption that it is a matter of commonsense, it is not surprising that Libet and colleagues conceptualized their enquiries in these terms and focused their attention on conscious antecedents of voluntary movements. Most modern theories of the will do contend that a “specific kind of conscious thought was held to cause every voluntary act” (Hyman 2015, p. 4). It is the presence of this conscious executive mental cause that distinguishes “actions” from mere bodily movements. These anti-Aristotelian and predominantly Humean conceptions of action and the will were vigorously critiqued by Wittgenstein, Ryle, Anscombe, and many others. The causal theory re-emerged later, however, in a different guise in Donald Davidson, no longer as a theory of will, but as an account of intentions as rationalizing mental causes of actions.⁹ Variations on Davidson’s view have come to be known as the “standard story” or “causal theory” in the philosophy of action (see Davidson 2001, pp. 3–20; Teichmann 2015, p. 142; Stoutland 2011; Vogler 2016).

It is unlikely Davidson’s view had any direct influence on Libet. Libet did, however, frequently interact with John Eccles, and Eccles’ own musings on the self and its myriad liaisons with the brain led to collaborations with Karl Popper. Eccles and Popper defended a form of interactionist dualism and articulated a version of the causal theory of voluntary action. The influence of Eccles on Libet for the initial conceptual framing of the neuroscientific experiments on free will is unquestionable. I suspect both of their conceptions of voluntary action and free will, like those of most neuroscientists then and now, were due more to a general picture which still holds many captive, a picture that is made theoretically explicit by the causal theory (Eccles and Popper 1977).¹⁰ What are the internal philosophical problems with the causal theory?

Harry Frankfurt drew attention to one of the fatal flaws in the causal theory of action—namely, it misrepresents *action* itself, that is, the very *explanandum* it aims to explain. This is because the causal theory of action entails there is no intrinsic difference between actions and mere happenings. Actions, it holds, are caused by some executive mental cause (e.g., volition, intention, etc.), and mere happenings have other causes, but the effects that result from these two different types of causal histories are “inherently indistinguishable”.

“It is integral to the causal approach to regard actions and mere happenings as being differentiated by nothing that exists or that is going on at the time those events occur, but by something quite extrinsic to them—a difference at an earlier time among another set of events entirely. This is what makes causal theories implausible”. (Frankfurt 1978, p. 157)

Paradigmatic human actions, pace the causal theory, exhibit ongoing purposive rational control within a dynamic environment, like each of the basketball players on a team shifting to offense and intelligently responding in coordinated ways to the defensive strategy of their opponents; an investigative journalist tactfully interrogating an evasive minister suspected of fraud during a live interview; or a surgeon cautiously reacting to unanticipated hemorrhaging complications mid-surgery. These and more everyday actions like driving during rush hour or conversing with a friend involve the continuous efficacious guidance of practical intelligence; actions are not captured by the slogan: *set it and forget it*.

Frankfurt argues that the causal theory cannot integrate these putative characteristics of human action within its account because the “only conditions they insist upon as distinctively constitutive of action may cease to obtain, for all the causal accounts demand, at precisely the moment when the agent commences to act. They require nothing of an agent, once the specified causal antecedents of his performing an action have occurred, except that his body move as their effect” (Frankfurt 1978, p. 157). Furthermore, it is precisely this problematic conception of action—along with these Humean commitments and omissions of obvious action characteristics—that render all causal theories vulnerable to a second problem, that of deviant causal chains. Consider the following scenario.

Jones is a neuroscience enthusiast and is dead chuffed when he is chosen to be a volunteer participant in a Libet-style experiment. Not risking anything to chance, he makes plans to ensure he arrives early at the neuroscience laboratory on the big day. Once he arrives, he dutifully listens carefully to the instructions of the scientist running the experiment: he is told to watch the revolving spot on the Libet Clock and to push a button and note the “time” on the Libet Clock whenever he becomes conscious of an urge or intention or volition to push the button.¹¹ As the scientists attach some apparatuses to his head and forearm, he feels a surge of excitement, and his heart begins to race. The scientists start the clock and leave the room. Jones stares at the clock and waits patiently in anticipation for a conscious urge to push the button, but nothing happens. After a long time, Jones begins to grow anxious and thinks to himself, “Maybe I’m doing something wrong”. He rehearses the instructions to himself to make sure he is following them correctly, but still, nothing happens. Jones begins to tremble with frustration when, all of a sudden, he becomes conscious of what he had been instructed to interpret as an urge or volition to push the button, but the dawning of this spontaneous feeling startles Jones so much that it causes his finger to move, and it depresses the button.

Even though very few would insist Jones here performed an action of intentionally pushing a button, the causal theory is forced to characterize his bodily movements as an action because what transpired satisfies the causal theory’s conditions for an “action”. Such episodes are characterized as deviant causal chains because despite the presence of the right sort of prior executive mental cause—the urge or volition to push the button—Jones’s awareness of his volition or intention startled him, causing his trembling finger to push the button. The button was pushed due to Jones being startled, and not directly due to his volition or intention to push the button. As Frankfurt and others have argued, and as the causal theory’s major exponents like Davidson have acknowledged, the difficulty is that “No matter what kinds of causal antecedents are designated as necessary and sufficient for the occurrence of an action, it is easy to show that causal antecedents of that kind may have as their effect an event that is manifestly not an action but a mere bodily movement” (Frankfurt 1978, p. 157). The causal theory of action “must inevitably leave open the possibility that a person, whatever his involvement in the events from which his action arises, loses all connection with the movements of his body at the moment when his action begins” (Frankfurt 1978, p. 158).

Along with this second problem with deviant causal chains, two additional problems with the causal theory are relevant to the Libet-style experiments. The third problem is whether voluntary actions require either a conscious volition or a spelt-out deliberation of what one is going to do prior to causing that action. The most sophisticated causal theorists might (rightly) doubt that what Jones experienced is aptly described as a volition

or intention; nevertheless, many philosophers and neuroscientists subscribing to the causal theory are fully committed to the thesis that a prior sense of agency, feeling of volition, or awareness of one's intention is a *conditio sine qua non* for all voluntary actions. I will return to this.

A fourth problem concerns how anyone can identify actions if the causal theory is true. This problem also brings to light why exponents of the causal theory must be committed to the third problematic thesis, namely, that actions require that persons *consciously* experience an intention or volition to act prior to it causing their actions. If actions and mere bodily events are inherently indistinguishable, as the first problem of the causal theory discloses, then the only way to distinguish events that are actions from mere bodily movements requires identifying the effects which have the right sort of causal antecedents, namely, intentions or volitions. However, because there is nothing that intrinsically distinguishes Jones's actions from his mere bodily movements, third-person observers cannot detect whether another person, like Jones, is performing an action or his bodily movement is due to being startled. The causal theory entails the only person who can identify these unobservable mental causes of action is the person who consciously experiences these mental events. Absent any prior conscious experience of his own intentions or volitions, not even Jones can discern whether or not the events that issue forth as his bodily movements are actions.

Later, I address how some of these internal problems with causal theories of action infect the Libet-style experiments which assume the causal theory of action. I turn now to the alternative conception of action defended by Thomists and show how it avoids these problems confronting the causal theory of action, in part by providing a more adequate account of the complexities of everyday human living.

4. Aquinas, Thomists, and Action

The battery of distinctions and arguments concerning human action and free will afforded by the thought of Thomas Aquinas and his commentators contains many valuable insights for thinking through the practical and theoretical questions that confront us today (see Brock 1998; Osborne 2014; Pilsner 2006; Westberg 1994; MacIntyre 1989, 2008; McNerny 1992; De Haan 2021, 2022a, 2022b). Here, I focus on the features of a Thomist account of human action that are most relevant to the causal theory of action assumed by the Libet-style experiments.

4.1. A Thomist Account of Human Action

Unlike many contemporary philosophers, Aquinas presents an integrated account of ethics, human action, virtue, and free will. While some might argue that the philosophy of action is orthogonal to the problem of free will (and vice versa), Aquinas maintains the Aristotelian principle that the objects and operations pertaining to human action disclose the kinds of powers that ground these operations. In other words, we only come to discover and understand the nature of our powers of reason and will through an understanding of our experiences as developing social animals that engage in practical reasoning and voluntary acting. Thomists therefore will not find it alarming that debates orbiting the Libet-style experiments frequently shift from the subject of voluntary action to free will, as they are inextricably connected.

Aquinas's treatment of human action follows his account of the ends pursued by acting. He commences with a distinction between "human actions" (*actiones humanae*) and "acts of a human" (*hominis actiones*) (Aquinas 1981, ST I-II.1.1).¹² The latter pertains to acts performed by humans and other animals; the former signifies acts that are proper to human persons and so distinguish them from the acts of nonhuman animals. *Human actions* are identified with those acts that humans rationally control; that is, actions require an ability to exercise rational self-mastery or self-determination over what one does or does not do. To be clear, the "self" in "self-determination" is neither any power of the soul, nor the soul itself, nor an inner mind (*mens*); "self" here simply means the developing

dependent rational animal, that is, the whole human person (see Aristotle 1981, *De Anima*, I.4.408b12–15; Bennett and Hacker 2022, chp. 3–4; MacIntyre 2006c, pp. 86–103). It is our exercise of practical reasoning and willing that constitutes our rational self-control over what we do. What explains and grounds this confluent exercise of practical reasoning and willing are the powers of reason and will. We know what the power of will or free will is through what it enables us to do, namely, exercise voluntary human actions.

Human actions proceed from a deliberate willing (*ex voluntate deliberata procedunt*), wherein the confluence of our rationally intentional and voluntary operations and powers is crucial. Indeed, Aquinas eschews false dichotomies and captivating, though distorting, philosophical pictures—e.g., intellectualism versus voluntarism—by identifying free choice (*liberum arbitrium*) as a capacity (*facultas*) requiring practical reason and will. Neither rational cognition nor volitional appetite alone is sufficient for a free judgment or free action (see Aquinas 1952–1954, *Truth*, 24.4–6; 1981, *ST* I.83.2–4; 2003, *De malo*, 6). To understand free choice properly involves resisting any theoretical analysis that requires reducing free human action to a single explanatory primitive like reason alone or will alone. At those atomic levels of theoretical analysis, free human action—the *explanandum*—disappears. For Aquinas, the voluntary operations of the will are always teleologically specified by the presentations of practical reason, and the evaluations of practical reason require the efficacy of the will in order to execute a human action (see Aquinas 1952–1954, *Truth*, 24.6 ad 1 et ad 5; 1981, *ST* I–II.9.1 (esp. ad3); 9.3 ad3; Westberg 1994, chp. 4–8). There can be no free choice apart from the co-operative exercise of practical reason and will.

This brings us to the way Aquinas helps us to distinguish voluntary actions from involuntary and nonvoluntary behaviors. We exhibit fully voluntary actions insofar as we exercise rational control over the initiation, continuation, and termination of our actions.¹³ Voluntary action pertains principally to the “domain of things able to be in a human’s power to do or to bring about”, but it also includes both omissions as well as “the possibility of suffering or undergoing things voluntarily” (Brock 1998, p. 138; see also pp. 155–60). This is why Aquinas counts some omissions or instances of “not acting” among voluntary actions, like permitting, abstaining, refraining, allowing, and tolerating. Aquinas also distinguishes these voluntary acts of omission from what Stephen Brock calls “voluntary passions” and John Hyman labels “voluntary passivity” as distinct from “voluntary inactivity” (see Aquinas 1981, *ST* I–II.6.5; Brock 1998, p. 150; Hyman 2015, pp. 9–11). In his *Action, Knowledge, and Will*, Hyman reiterates how few philosophers of action have taken any notice of voluntary passions, and he singles out Aquinas and Anscombe as important exceptions. I can voluntarily permit some event to occur, but I can also voluntarily undergo some passion, and in both cases I can be held responsible and either be culpable for some wrong that I allowed to happen or willingly suffered, or merit some good that I did not attempt to thwart or that I elected to suffer. *Involuntary acts* are any acts that occur that are contrary to the voluntary stances or efforts of the person. Unlike voluntary and involuntary actions, *nonvoluntary acts* fall outside of the domain of acts that humans have the self-determining ability to do or to refrain from doing; they are mere *acts of a human* (McInerney 1992, pp. 1–24).

To be clear: what *happens* to a person insofar as it is a passion is among the nonvoluntary acts of a human; however, that person might voluntarily intend and choose to undergo some passion, in which case it is *the way that person undergoes some passion* that renders some aspects of it as being a voluntary passion. Despite my irrational fear of needles, I voluntarily allow a nurse to take my blood and give me injections. But many voluntary passions are considerably less dramatic; we allow others to cut our hair, to treat us to dinner, “and both children and adults sometimes choose whether or not to be kissed or carried, just as they sometimes choose whether to kiss or carry someone or something else” (Hyman 2015, p. 11). However, if in any of these cases a person voluntarily attempts to resist undergoing such passions as getting a haircut, receiving an injection, or being frog-marched, and insofar as this person is forced or compelled to continue enduring such

passions *despite* their continued voluntary efforts to the contrary, the passions that happen to them fall within the domain of the involuntary.

In sum, whatever *happens* to a human person, insofar as it is a *passive* undergoing, is a nonvoluntary act of a human, but insofar as he voluntarily endures it—as many, but not all, martyrs have done—it is a voluntary passion and qua voluntary is a human action (Aquinas 1981, ST II-II.123.6; II-II.124.4ad4). Insofar as it lies within someone’s control to voluntarily oppose such passions, happenings that thwart or coerce the person contrary to his voluntary efforts are, in this respect, identified with involuntary behavior. Hence, what *happens* to a human person does not of itself discriminate among the voluntary, involuntary, and nonvoluntary, for happenings admit coarse-grained and more fine-grained descriptions.

There is much more to be said about Thomist accounts of human action, but this should be sufficient for addressing why Thomists reject the causal theory of action and thereby steer clear of the problems introduced above. The significance of these Thomist distinctions will become apparent when we present a Thomist reinterpretation of the Libet-style experiments in the final section.

4.2. Do Thomists Face the Same Problems the Causal Theorists Do?

First, the problem of deviant causal chains that plagues the causal theory of action does not arise for Aquinas or Thomists who reject the Humean conception of causation that renders causes logically isolated from and temporally prior to their effects. Aquinas is committed to an Aristotelian conception of causation wherein the operations of practical reasoning and willing function as confluent efficient, formal, and final causes. Together they actualize, coordinate the actualization of, and rationally guide or direct the other human powers for perception, memory, conation, and motility, which have potencies to be actualized, coordinated in their operations, and directed by practical reasoning and willing. To be far too brief, the human’s embodied perceptions and movements have the intrinsic potentiality to be *passions* actualized by the “interior *action*” of the will informed by practical reason. Causal action and effected passion here are neither temporally successive nor logically contingent, but dynamically constitutive of the acting human, that is, of what the human is doing by intentionally acting.¹⁴ This neo-Aristotelian view should not be confused with any version of psychophysical identity theory, as the “relation between the movements. . . and the action itself is not one of identity but composition” (Haldane 2003, pp. 97–98).

What I just characterized in terms of the passions of other powers actualized by the action of the will informed by practical reason is what Aquinas in his discussion on the moral species of human action analyzes in terms of two explanantia: interior action and exterior action. The interior action of the will formally actualizes the exterior actions of the other powers, like those for embodied perception, motivation, and motility. Once again, this is a constitutive or hylomorphic compositional relation between the interior action as formal and principal cause and exterior actions as material and instrumental causes. Together, these two explanantia comprise what Aquinas calls a voluntary human action, the explanandum. Because exterior actions are formally specified by interior actions, Aquinas holds that if the interior act changes, so too does the exterior act. If I am going to church in order to give ostentatiously an enormous tithe but along the way become contrite for my vainglorious intention and now intend to go to church to repent, then the exterior act has also changed. I am no longer “going to church to boast”. I am now “going to church to repent”.¹⁵ In other words, Aquinas is committed to a form of disjunctivism with respect to human action.

It is for this reason that Aquinas’s account of human action avoids the first, second, and fourth problems that confute the causal theory. For Aquinas, human actions are intrinsically different from other acts of humans or any mere bodily movements that are not human actions. Human actions are constituted by the formality of the interior acts, whereas non-actions (or other acts of humans) are constituted by a different formality (e.g., reflexes or instinct). The button being pushed as a result of Jones being startled is a completely

different *act of a human* from any *human action* Jones might perform like leaving for work early, following the scientist's instructions, or voluntarily pushing the button. More would need to be said to show why Aquinas's or other disjunctivist accounts of action avoid every possible version of the deviant causal chains problem, but this should suffice to show why it does not face the arguably fatal objection deviant causal chains pose to the causal theory.

As for the fourth problem of identifying human actions, two points are noteworthy. First, as we have just seen, unlike the causal theory, Thomists maintain that human actions are inherently different from non-actions. Furthermore, Thomists, like Gibsonians, some phenomenologists, and radical enactive cognition theorists, endorse a richer conception of what is observable, like affordances, and what can be observed than most modern theories of perception (see MacIntyre 2006a, chp. 9; 2006c; Haldane 1988; Zahavi 2014, chp. 11; Hacker 2017, chp. 12; Gibson 1966; Hutto and Myin 2013; Hutto 2007). "The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill" (Gibson 1979, p. 127). Our environment is replete with observable affordances, including the psychologically animated comportment of other humans. Human actions like signing a check, stealing a purse, hailing a cab, and eating one's dinner are among the many observable psychological phenomena that comprise human life. Most human actions are observable to others even if they require interpretation and attunement to the *per accidens* sensibles or more subtle affordances exhibited by the characters of different persons in different circumstances.¹⁶ It is no objection to this realist position to point out our observational mistakes, for, as MacIntyre explains, it is because human actions are exhibited in and through *interpretable* human bodies that they are always liable to be being *misinterpreted* human actions (MacIntyre 2006c, pp. 91–94).

Given these Thomist responses to the first, second, and fourth problems, we can see that when it comes to the third problem, Thomists need not be committed to the causal theorist's thesis that all human actions require a prior conscious volition or intention. Nevertheless, some might think there is experiential evidence that justifies this thesis independently from the question of whether it is entailed by the causal theory of action. After all, it is obvious that we do deliberate about what we are going to do before we do it, and such prior deliberations seem to be necessary if we are to act intentionally. How else might we act for reasons if we did not consciously deliberate and form a practical syllogism that articulated our reasons for acting prior to acting on account of these reasons?

Some causal theories have taken this line of thinking to its extreme—not only in the philosophy of action but also in their libertarian accounts of free will—concluding that morally responsible free human actions are extremely rare.

"One way in which philosophical models tend to over-idealize has already been remarked upon: given the pervasiveness of automaticity, the freedom and responsibility of much of what we do must be thought of as "inherited" from the comparatively few directly free choices that we make. While some recent philosophers have incorporated that fact into their thinking about the will, it is still not widely enough appreciated, so that philosophers often write as if we are constantly making explicit and considered choices". (O'Connor 2009, p. 182)

This conclusion runs completely counter to Aquinas's positions on the ubiquity of free human actions in everyday life, that every human action is morally significant,¹⁷ and that as we increase in virtue our enkratic oscillations and deliberative indecisions diminish; for the virtuous, right human actions are stable, prompt, and enjoyable (see Aquinas 1952–1954, *Truth*, 1.1; 1.8, ad6, ad7; 1.9ad13; 26.7ad3). Prudent persons not only deliberate well, but also judiciously decide rightly which circumstances require deliberation prior to action and which do not (see Aquinas 1981, *ST* II–II.49.4). So, how do we avoid this extreme conclusion that free human actions are exceptionally rare while also recognizing the constitutive role of practical reasoning in everyday human actions? How can we maintain that we are responsible and culpable for all the lies we tell, not just the premeditated lies we schemed up beforehand?

We need to start by understanding the phenomenology of voluntary action correctly. First, theories that contend all free actions require prior explicit and considered choices occlude what is distinctive among nonvoluntary habituation, nonvoluntary versus voluntary forms of automaticity, routines, practices, virtuous activity, and embodied expertise among athletes, musicians, craftsmen, technicians, and many others. Explicating such distinctions goes beyond the aims of this essay, but such work has been conducted (see [MacIntyre 1986](#), pp. 63–80; [2007](#), chp. 15; [McDowell 2007](#), chp. 18–19; [Bennett and Hacker 2022](#)), and what is characteristic of voluntary action will suffice to show how superficial that theoretical contention is.

Second, as John Haldane explains, “to understand what is going on is satisfied by being told what the agent is doing. No mention of antecedent events is necessary” ([Haldane 2003](#), p. 101). My voluntary action of traveling to work—including all the obstacles I consciously and intentionally navigate around to reach my office—does not require any antecedent conscious articulation of what I am going to do before I do it. I might think to myself: “First, I need to get to the bus stop in ten minutes, then I’ll board the bus and pay my fare, then I’ll get off at my stop, then I’ll cross the street, etc.” before I go to work, but I need not think through this, and consciously thinking it out beforehand does not render my going to work “voluntary” or a “free choice”. The Thomist criteria for voluntary actions, like speaking, do not require that I plan or deliberate about what to say before I say it. As Hacker incisively points out, these erroneous theories have mistakenly

“presupposed that every voluntary human movement constituting an action is preceded by an act or occurrence of willing. But there is no empirical reason for supposing this to be true. We are not aware of performing an act of will (let alone of an effort of will or an inner act of trying) or of the occurrence of a volition (a mental image or a representation of a kinaesthetic sensation) antecedently to everything we do voluntarily. When one utters a sentence, every word is spoken voluntarily, but it would be ridiculous to claim that one consciously performs successive acts of will, one for each word (or phoneme?) an instant before utterance. And it would defeat the purpose of the account to suggest that one performs this manifold, but without being conscious of doing so—for part of the point of the account is precisely to explain, by reference to the transparency of each mental act or occurrence of willing, how it is that we can distinguish, without evidence, between what we voluntarily do and what happens to us. This empirical qualm gives rise to deeper conceptual worries”. ([Hacker 2007](#), pp. 148–49)

Third, this phenomenologically implausible contention, namely, that all voluntary actions must be presaged by an antecedent conscious or nonconscious deliberation, is vulnerable to two nasty regresses. First, if I cannot voluntarily speak without previously deliberating about what to say, then how can I *voluntarily* deliberate about “what to say”, without previously *voluntarily* deliberating about whether I should “voluntarily deliberate about ‘what to say’”, and so on?¹⁸ Second, this contention demands more than any human form of explicit deliberation can or should deliver, for if we cannot act voluntarily without complete prior deliberations, then what possible non-arbitrary limits are there on what counts as a *complete* deliberation? Even in those more capacious moments of life where we have all the time in the world to deliberate about our future actions, we can “never consider every possible feature of any concrete option, a procedure that would be infinite, or at the very least practically impossible” ([Jensen 2017](#), p. 321).

What is required instead for a Thomist account of voluntary action is aptly captured by meeting some criteria akin to Anscombe’s treatment of the question “Why?” relevant to intentional action.

“What distinguishes actions that are intentional from those which are not? The answer that I shall suggest is that they are the actions to which a certain sense of

the question “Why?” is given application; the sense is of course that in which the answer, if positive, gives a reason for acting”. (Anscombe 1972, § 9)¹⁹

Sincere and truthful answers to the relevant question “Why?” report the reasons for action that the human person was in fact intentionally or voluntarily employing while acting. Confabulated reasons for action after the fact either betray the absence of a voluntary action or mask the true reasons for some action with a concocted or insincere avowal (MacIntyre 2016, pp. 9–13). If we understand the Thomist criteria for perfect human action in light of Anscombe’s account of the relevant question “Why?” then we can understand why actions do not require antecedent conscious formulations of one’s reasons for action, but rather the rational competency to act in such a way that one could articulate truthfully the practical reasoning exhibited in one’s intentional acting (Brock 1998, pp. 103–6, 239).

There are two common misunderstandings of this account that need to be addressed before we can move on to the challenges of the Libet-style experiments. First, it might seem that practical reasoning on this Thomist–Anscombean account is so retrospective that it entails we do not know what we are doing until after we have voluntarily done it. Second, it might seem to imply that we never need to deliberate before we perform an action, which is surely false. Neither of these two problematic results follow from this account of practical reasoning and intentional action.

To the first worry, voluntary action consists in a kind of conscious, non-observational, practical knowledge productive of action (Anscombe 1972, §§ 8–9; pp. 16, 28–29, 33ff). As was noted before, intentional acting takes place on the go and requires practical intelligence that is flexible and adaptive to whatever the particular circumstances of life throw at us. Sometimes we need to intentionally react immediately to unforeseen circumstances when we encounter someone in grave danger or meet questions and assertions that need answers or rebuttals, and which, because of their immediacy, exclude the possibility of any worked-out deliberation prior to intentionally acting, including speaking.

As for the second worry, MacIntyre explains:

“Indeed, what matters about rational action is primarily, not that we have deliberated immediately before embarking upon any particular action through the enunciation of some practical syllogism, but that we should act as someone would have done who had so deliberated *and* that we should be able to answer truly the question “Why did you so act?” by citing the relevant practical syllogism and the relevant piece of deliberation, even if these had not actually been rehearsed by us on this particular occasion. But of course in order for this to be the case, it will also have to be the case that often enough we have deliberated explicitly and so performed the tasks necessary for constructing a practical syllogism”. (MacIntyre 1989, p. 131; see also pp. 138–39)

Articulated practical syllogisms—whether deliberated beforehand or retrospectively reflected upon afterward—set in relief the practical reasoning that will be or was logically governing and constituting one’s embodied intentional actions. We thematize in speech what will be or was actualized in rationally controlled embodied human actions. However, our free human actions performed without prior deliberations are in themselves voluntary and intentional; they do not derive or “inherit” their freedom from any past or future instances of explicit practical reasoning. Self-examination and social correction, especially via the counsel of family and friends, are not required before or after every instance of a voluntary action to certify that it is a bona fide voluntary action. Nevertheless, as MacIntyre argues, explicit self and social deliberations are indispensable for developing and perfecting our rational and volitional abilities to pursue various ends via various means, to anticipate, prevent, or resolve conflicting ends pursued (like God, family, friends, or work), and to rank-order as well as harmonize the ends we pursue at any particular point or throughout our lives as developing rational animals (MacIntyre 1999; 2014, pp. 807–21). In short, there are three ways practical reasoning is exercised and manifested in our intentional actions as developing human persons: (i) explicitly in our self and social deliberations prior to acting,

(ii) as tacitly exhibited in our conscious and rationally controlled intentional acting in the present, and (iii) explicitly in our retrospective self and social examinations of stories told about our conduct.

A proper exposition, argumentative comparison, and defense of this Thomist account of action vis-à-vis causal theories of action would require an extended enquiry.²⁰ What this brief presentation of the Thomist account reveals is a rival conception of human action to that propounded by causal theorists, an alternative which explains human action without needing or conceding the thesis that human action requires an antecedent conscious mental cause.

5. A Thomist Reinterpretation of the Libet-Style Experiments on Voluntary Action

Even this brief sketch of a Thomist conception of human action and free will—which omits many key distinctions and details—is sufficient to lay bare some of the fundamental disagreements between these rival conceptions of human action and free will. Significantly, these conceptual disagreements about human action are prior to and inform how rival theorists interpret and evaluate the neuroscientific experiments on free will that operationalize a particular philosophical conception of voluntary action. All Libet-style experiments subscribe to at least two theses central to the causal theory of action, both of which are rejected by the Thomist account presented here: first, that actions are caused by a *prior* volition or intention; and second, that persons are *conscious* of their volition or intention to act prior to acting. Without these two theses from the causal theory, Libet's experiments would be unintelligible. This is because the principal reason for introducing the Libet Clock to establish the objective time at which a subject is conscious of his intention to act was to achieve an experimental operationalization of the causal theory's conception of a conscious volition that is prior to the action it causes. And because the results of these experiments rely on the operationalization of one of these rival conceptions of voluntary action and free will, it is quite plausible that a radically different conception of voluntary action and free will would provide a radical alternative interpretation of the Libet-style experiments. Given the differences we have already established between Thomists' and causal theorists' conceptions of action, it will be instructive to show how Thomists should re-interpret the Libet-style experiments. This Thomist re-interpretation will reveal why these experiments do not present any challenge to voluntary action or free will as conceptualized by those committed to the Thomist account.

The first problem with the Libet-style experiments is that Libet indiscriminately employs a wide range of psychological terms throughout his work to identify and characterize voluntary action, like conscious urges or volitions, as well as subjective experiences of intentions, decisions, desires, and wishes. Libet employed this array of psychological terms to avoid endorsing a specific philosophical view about voluntary action. He writes that “the voluntary action studied was *defined operationally*, including appropriate and reliable reports of introspective experiences. The definition is not committed to or dependent upon any specific philosophical view of the mind-brain relationship” (Libet 1985, p. 530, my emphasis). The problem is that philosophical neutrality on any contentious issue is difficult if not impossible to achieve. By failing to distinguish conscious urges and desires from intentions and decisions, Libet's experiments thereby implicitly adopt a conception of voluntary action that elides any significant conceptual (and so potentially experimental) differences that might exist among these psychological phenomena. For instance, he employs numerous psychological concepts and descriptions to characterize voluntary actions without apparently noticing the tension between (a) descriptions of voluntary action as something active, self-initiated, and freely controlled and (b) descriptions of voluntary action as a phenomenon that involves capriciously felt urges or inclinations to act that “appeared spontaneously (“out of nowhere”).²¹ He seems to regard urges, wishes, inclinations, desires, intentions, and decisions alike as consciously experienced antecedents that are “paradigmatic examples of unrestricted volition, at least in regard to choosing when to act” (Libet 1985, p. 532). This pageant of incompatible descriptions of voluntary

actions is deeply problematic from a Thomist point of view because it means that Libet-style experiments do not notice any discernable difference among the psychological phenomena Aquinas regards as *acts of a human* as distinct from those he identifies with *human actions*.

In order to discern what bearing Libet's experiments have on Thomist accounts of human action, we first need to get a grip on what psychological phenomenon Libet is in fact targeting despite his ambivalent psychological descriptions. We can obtain some traction here by turning our attention once again to the disagreement over the need for conscious experiences of urges or intentions antecedent to voluntary actions. Like other exponents of the causal theory of action, Libet maintains that intentions, decisions, urges, or wishes are paradigmatically something one experiences or becomes conscious of prior to one's voluntary motor actions. Indeed, the presence of such antecedent, conscious, psychological phenomena provides the telltale mark of a voluntary action for all Libet-style experiments. Such "introspective experiences" are included in his *operationalized* definition of voluntary action.

"The subject is also instructed to allow each such act to arise "spontaneously", without deliberately planning or paying attention to the "prospect" of acting in advance. The subjects did indeed report that the inclination for each act appeared spontaneously ("out of nowhere"), that they were consciously aware of their urge or decision to act before each act, that they felt in conscious control of whether or not to act, and that they felt no external or psychological pressures that affected the time when they decided to act". (Libet 1985, p. 530)

In order to determine the timing of the subject's conscious-willing, Libet's experiment required that subjects become conscious of their spontaneous and non-pre-planned urges or decisions to act prior to their motor acts. As was underscored before, without these subjective experiences of prior inclinations, urges, or decisions to move, there would be nothing for the subject to time and report, and so no conscious-will to compare with the EEG and EMG. While Patrick Haggard and other neuroscientists have more recently introduced numerous rectifications and improvements to the original Libet experiments, this feature has been accentuated. Haggard has rendered the search for the neural source of our sense of agency central to his own Libet-style experiments on free will. According to Haggard and Bonicalzi:

"Intentional actions are accompanied by a distinctive sense of agency, whose presence is seen as necessary for somebody to qualify as an agent and not just as a physical cause of an outcome (Gallagher 2007). The sense of agency accompanying intentional actions has been defined as the sense of being in control of our actions and, through them, of their consequences in the outside world...". (Bonicalzi and Haggard 2019, p. 2; see also pp. 11–12; Haggard 2019, p. 22)

This point is significant, for it brings to light that even the more recent modified Libet-style experiments continue to focus on operationalized definitions of action that regard as paradigmatic what we were at pains to show is rejected by Thomists, namely, that prior to the movements of a voluntary action a subject has a "subjective experience" or "conscious awareness of the voluntary urge or intention to act" (Libet et al. 1983, p. 624).

For Thomists, human actions do not require any antecedent awareness of a conscious urge, wanting, intention, or decision to cause our actions and make them voluntary or intentional. In order to raise my arm voluntarily, this action need not be—indeed it rarely is—prefaced by any conscious overt intention to do so; rather, I just raise my arm (Anscombe 1972, § 19 ff; Vogler 2016). Among the countless voluntary actions I perform every day, only some of them are preceded by a consciously formulated plan of action that I overtly select. But even for those voluntary actions that are *prompted*—but not caused—by antecedent urges or articulated proposals for acting, what renders them voluntary is not the presence of any antecedent conscious experiences of volitions or intentions; rather it is due to the person's capacity to exercise rational self-control in guiding the initiation, continuation, and cessation of her actions, actions that actualize and embody her reasons for

so acting. In short, because Thomists reject this plank of the causal theory operationalized in the Libet-style experiments, Thomists already have a reason for doubting that these experiments even assay voluntary action. But if they do not test our exercise of free will, what psychological phenomenon do they target?

The clue is found in the Libet-style experiments' focus on experiencing a "conscious awareness of the voluntary urge or intention to act" or a "sense of agency". Whatever a conscious urge to act or a sense of agency might be, it is certainly not a paradigmatic action, for it is something that *dawns upon* a person, not something an agent initiates. As we have seen, Thomists argue that the facts of psychological experience reveal that voluntary actions neither require nor are identified by the presence or absence of these antecedent items of awareness—such as the quotidian urges or feelings manifested by physiological exigencies to drink, eat, cough, sneeze, yawn, vomit, or relieve oneself. Consequently, the phenomenon Libet-style experiments conceptualize as a paradigmatic voluntary action would from the Thomist point of view be conceptualized as a paradigmatic non-action; this is because spontaneous urges, antecedent passions (see Aquinas 1952–1954, *Truth*, 26.7; Aquinas 2003, *De malo* 3.11; 12.1; Aquinas 1981, *ST I–II.24.3ad1*; 77.6), and any sudden awareness of a wish or prompting to act are quintessential acts of a human, not human actions. Peter Hacker insightfully points out:

“Strikingly, Libet’s theory would in effect assimilate all human voluntary action to the status of inhibited sneezes or sneezes which one did not choose to inhibit. For, in his view, all human movements are initiated by the brain before any awareness of a desire to move, and all that is left for voluntary control is the inhibiting or permitting of the movement that is already underway”. (Bennett and Hacker 2022, p. 249)

In short, the Thomist re-interpretation of the Libet-style experiments reveals that a phenomenon that is, in fact, a paradigmatic *passion* has been conceptually misrepresented as being the essential mark of a voluntary action. Before we conclude, there is a final feature essential to the Thomist conception of human action that is entirely overlooked by the Libet-style experiments.

A basic requirement for any good scientific experiment is the need to identify and control for potential interfering factors. One of the fundamental flaws in all of the Libet-style experiments on free will is the failure to conceptualize the basic structure of a human action, namely, that persons act for purposes or ends. Among human actions, Aquinas, unlike Libet, carefully delineates *intentions*, which are the adoption of some end to be achieved through action, from *deliberations* about the most suitable actions or “means” (*ad finem*) to be performed to achieve some intended end, from *decisions* or *choices* that select an action to be performed so as to achieve an intended end, and from *commands* which constitute the execution of a chosen action (see Aquinas 1981, *ST I–II.6–17*; Westberg 1994, chp. 8–12). No scientific experiment can accurately assay intentional action without, at the very least, identifying and controlling for both the action as well as the end for which the agent is acting. But this is precisely what the Libet-style experiments' conception of intentional action completely overlooks and therefore fails to control for. The participants in Libet's experiments were neither merely performing a single conscious intentional action nor simply waiting to be aware of their conscious urge to act. Rather, they were human persons, like Jones, volunteering to participate in Libet's experiment, who were intentionally following Libet's instructions of what to do in the experiment, and were intentionally anticipating and waiting to be consciously aware of what Libet described to them as a conscious urge, wish, intention, decision, etc., to move their finger, and they were intentionally (trying) to be “spontaneous” while paying attention to the Libet Clock in the way they were instructed to do so. What the Libet-style experiments fail to control for are these potential interfering factors, for any one of these standing intentions might have initiated or caused the purported antecedent readiness potential in the supplementary motor cortex of the subject's brain that was causally involved with the movement in the subject's finger. While the Libet-style experiments might consistently and robustly show

that there is a readiness potential in the supplementary motor cortex that is antecedent to and predictive of the subject's conscious awareness of an *urge* to move one's finger—i.e., a *nonvoluntary happening* akin to becoming aware of a stomach ache or recalling an upcoming dentist appointment, and so not a *human action*—they neither show that these readiness potentials cause a *human action* nor rule out that the readiness potential might itself be caused by any of the aforementioned standing intentions of subjects, like Jones, who are intentionally following the instructions given to them.

Note well, this is a fundamental confounding problem that all past and future Libet-style experiments on the neuroscience of free will must address before any radical skeptical conclusions can be drawn about free will based on these experiments. If experimenters cannot control for what influence the subject's free choice and intention to participate in the experiment might be having on their nervous system while they are engaged in the tasks of the experiment, they cannot rule out the real difference-making role voluntary choices have on our brains and our actions.²²

6. Concluding Remarks

My comparison of Thomist and causal theories of action established that Thomists present an alternative conception of voluntary action and free will to that held by causal theorists. I also argued that there are independent philosophical reasons for thinking the Thomist conception is not beleaguered by the major problems confronting the causal theory, problems inherited by Libet-style experiments which subscribe to the causal theory. I went on to show that the Libet-style experiments endorsed a version of the causal theory which I argued mistakenly contends that a necessary mark of a voluntary action is its prior conscious volition or intention. I also argued that in their attempts to operationalize this confused conception of voluntary action, Libet-style experiments mistakenly conceptualize psychological phenomena (like conscious urges to act) as paradigmatic volitions, but they are more plausibly conceptualized as instances of *nonvoluntary passions* and so are not voluntary phenomena of any kind. Finally, I pointed out that the Libet-style experiments neither rule out nor experimentally control for the difference-making role of an agent's own intentions to follow the instructions of Libet's experiment by watching a Libet Clock and waiting to note the time of the anticipated "urge or intention" to move one's finger. Consequently, and following MacIntyre's strategy for engaging rival traditions, the Thomist tradition can vindicate the superiority of its account of free will over those rival traditions' conceptions of free will. It is not vulnerable to the fatal internal problems of the causal theory, and it can also explain why the causal theory has the internal problems it does and why it cannot solve these problems without rejecting its position and drawing on the insights of the Thomist tradition. These insurmountable internal difficulties with the causal theories of action—which are inherited by the experiments operationalizing this philosophical position—are in part due to its failures to conceive adequately the very phenomena at issue, namely, the complexities of everyday human action and its connections to mere acts of humans. What lessons does a comparative study of rival traditions like this one teach us about Thomist engagements with science?

Thomists need to draw attention to the swath of rival and incompatible conceptions of basic psychological phenomena when confronting scientific experiments on these psychological phenomena. All scientific investigations *operationalize* concepts in the formulation of their experimental questions, designs, hypotheses, executions, and interpretations. Thomists must therefore be cautious to avoid what Sarah Coakley identifies in her Gifford Lectures as "naïve correlationism" in all their scientific engagements; they cannot presume all scientifically operationalized concepts are tradition-neutral. As we have seen, this is no less true of neuroscientific experiments on voluntary action and free will; indeed, experiments of this kind are especially tendentious because there are such widespread disagreements among plain persons of commonsense and among rival theoretical traditions about basic psychological concepts like those concerning human action and free will. So, any experiment can be criticized on both scientific and philosophical grounds. One

substantive failure of neurophilosophy's skeptical conclusions has been its unwarranted assumption that the Libet-style experiments interrogated free will *as such*, when they merely operationalized one highly debatable philosophical conception of free will. There are only neuroscience experiments that operationalize either a *particular* commonsensical or a *particular* theoretical tradition's conception of free will. Neuroscience is not neutral concerning these conceptual disagreements, for it inescapably endorses one conceptual framework over others by virtue of the very way in which it operationalizes certain concepts in its experiments. Neuroscientists and neurophilosophers who claim *particular* experiments undermine or falsify free will *full stop* lack circumspection. They have missed the fact that their particular conception of free will operationalized in a particular style of experiment is but one among many tendentious conceptions of free will. If we wish to critically engage in the scientific study of free will, we must also ask: which conception of free will has been operationalized in these experiments?

Because most philosophers and scientists working on these issues take for granted a causal theory of human action, Thomists must realize from the outset that any attempt to engage this (and similar) philosophical and scientific literature will require a considerable task of critical re-interpretation and transposition, without which Thomists are likely to distort and equivocate rather than illuminate their disagreements with these rival traditions of enquiry. Thomists interested in reflecting on the significance of experimental research with respect to Aquinas's view of human agency should not be caught unaware of the underlying rival *philosophical positions* that have generated these experiments and their standard interpretations. From a Thomist point of view, what is needed in the brain science of free will is conceptual clarity and a more adequate understanding of the varieties of human activities, not just more experiments. Until this occurs, it is arguable that many neuroscientists are not even conducting experiments that assay conscious voluntary actions, but paradigmatic cases of nonvoluntary passions. More attention should be given to what is meant by voluntary, involuntary, nonvoluntary, free, coerced, omitted, intentional, unintentional, and nonintentional *operations* before we ever begin to make claims about "free will" and the metaphysics of compatibilism, determinism, or libertarianism. For Thomists, the latter metaphysical debates concerning *natures* and the *power* of free will can only be arrived at and understood through our knowledge of the former array of everyday human *operations*.²³ I have presented a survey of some of the more recent Thomist contributions to this task and shown why they put in question the conceptions of voluntary action operationalized in the neuroscience of free will. Much more needs to be said to defend these theses, but what the Thomist account of voluntary action presented here has illustrated is how we can free the will from the mistaken conceptions of free will assumed by neurophilosophy skeptics of free will.

Funding: This research was funded by the Templeton World Charity Foundation, grant number 0062.

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article.

Acknowledgments: I am grateful to the numerous audiences who have provided extensive feedback on the arguments elaborated here. I also want to thank Brandon Dahm, Fr Ezra Sullivan, the editors of this special issue and the anonymous peer-reviewers for their helpful comments on and criticisms of earlier drafts of this article.

Conflicts of Interest: The author declares no conflict of interest.

Notes

¹ See (Feser 2019, pp. 451–545; Sullivan 2019, pp. 113–19). Both rehearse important objections to the Libet-style experiments, but they do not interrogate the problematic conception of human action operationalized in Libet-style experiments.

² Neurophilosophy is distinct from the enquiries of the "philosophy of neuroscience", which reflect on the philosophical assumptions and implications of neuroscience. For a discussion of this distinction, see (Bickle et al. 2019).

- 3 For the details of how Thomists can engage rival and incommensurable traditions of philosophical enquiry, see (MacIntyre 1991, 2006b, 2009; De Haan 2022a).
- 4 “In a typical Libet-style experiment the task includes selecting between options that are on a par for the participant, for instance, pressing a right or left button according to what the participant “freely wants” when a cue appears. Following the distinction set forth by Ullmann-Margalit and Morgenbesser (1977), this type of selection between options that make no difference to the subject is termed “picking” and is distinguished from “choosing” in which there is a reason for the selection of one of the alternatives” (Furstenberg et al. 2015, p. 165; see also Mele 2009, pp. 79–87).
- 5 For studies that address these issues, see (Nachev and Hacker 2014; Brass et al. 2019, pp. 251–63; Mele 2009; Baer et al. 2008; Schurger et al. 2012; Schurger and Uithol 2015; Braun et al. 2021).
- 6 See the replication in Bode et al. (2011).
- 7 See the references from notes 4–6.
- 8 For a survey of this history, see (Hyman 2015, chp. 1, Appendix; Hacker 2000, chp. 7).
- 9 For a helpful comparison of Anscombe and Davidson, see (Stoutland 2011).
- 10 For a similar suspicion, see (Dennett 1979). For Libet-style experimenters who explicitly endorse a causal theory of action, see (Bonicalzi and Haggard 2019).
- 11 For the detailed procedures in Libet’s original experiment, see (Libet et al. 1983, pp. 625–29).
- 12 Aquinas treats appetitive *operations* and their *objects* in the *Prima Secundae*; he establishes the existence of the appetitive powers that ground these operations earlier in *ST* I.80–83. N.B.: Aquinas employs the distinction between “acts of a human” and “human actions” both contrastively and as a genus-to-species relationship. In *ST* I-II.1.1, he seems to use it both ways. Like Ralph McInerny (1992, p. 13) and others, I use it contrastively wherein “human actions” are not included in the class of “acts of a human” and vice versa. Some, like Anscombe (2005, chp. 15), stipulatively employ the distinction as a genus-to-species relationship. Nothing of philosophical substance hangs on either stipulated use; what matters philosophically is what distinguishes “human actions” from other psychological phenomena pertaining to humans.
- 13 “A fully voluntary movement is one which the agent controls in its inception, continuation, and termination. Hence blinking is only partly voluntary, since one can blink at will, but cannot control its ‘continuation’ or termination, and sneezing is only partly voluntary, inasmuch as one can inhibit it but not initiate it directly” (Bennett and Hacker 2022, p. 241).
- 14 For a detailed treatment of this doctrine, see (Brock 1998, chp. 2–3).
- 15 This is a variation on Aquinas’s example; for a discussion, see (Osborne 2008).
- 16 For *per accidens* sensibles, see (Aquinas 1999, *Commentary on Aristotle’s De Anima*, II.13; De Haan 2019).
- 17 See (Haldane 2011, which cites Aquinas’s *ST* I-II.18.9 as an epigraph; McInerny 1992, pp. 1–24).
- 18 For debates concerning this regress argument, see (Hyman 2015, pp. 21–22).
- 19 For a lucid commentary on Anscombe’s *Intention* and the conditions required for the relevant question “why?”, see (Schwenkler 2019).
- 20 For such a comparison, see (Brock 1998; MacIntyre 1986, 1989, 1999, 2008).
- 21 “. . .all of the self-initiated acts were described as ‘spontaneous’; the subjects reported that each urge or wish to act appeared suddenly ‘out of nowhere’, with no specific preplanning or preawareness that it was about to happen” (Libet et al. 1983, p. 638; see also Libet 1985, p. 530).
- 22 A further difficulty for any radical skeptical interpretations of the results of scientific experiments is that they frequently imply the self-defeating conclusion that humans do not have the power to perform scientific experiments. For a detailed version of this argument, see (De Haan 2021). This argument could be extended to the responsible control required for conducting experiments and would thereby confute Robert Sapolsky’s most recent skeptical conclusions about free will and moral responsibility, which were published after this article was written. He contends that if we “put all the scientific results together, from all the relevant scientific disciplines, and there’s no room for free will” (Sapolsky 2023, p. 5). Sapolsky chooses not to provide definitions of free will or determinism, but instead provides a litany of biological, psychological, and social influences on a neuron that causes the finger of a human to pull a trigger—none of these cited influences would surprise any contemporary advocate of free will, least of all Thomists. Nevertheless, Sapolsky then gives this strawman litmus test for free will: “show me a neuron being a causeless cause in this total sense . . . [T]his bar is neither absurd nor too high. Show me a neuron (or brain) whose generation of a behavior is independent of the sum of its biological past, and for the purposes of this book, you’ve demonstrated free will” (Sapolsky 2023, p. 5). Like most free will defenders, Thomists believe all psychological powers, including free will, are influenced by a host of factors, and the will itself cannot operate apart from the co-operation of practical reason. Because few believe free will acts as “causeless cause” in some “total sense”—indeed, for Thomists, God alone is a causeless cause—Sapolsky cannot be confuting free will *simpliciter*, but only a theory of free will which very few people have chosen to defend as reasonable. For a balanced philosophical critical review, see (Fischer 2023).
- 23 Aquinas (1981, *ST* I.77.3); and Aquinas (1984, *Disputed Questions on the Soul*, p. 13). I defend this point at length in De Haan (2022a).

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