

# DELIMITING FREEDOM: AQUINAS BETWEEN BRAIN SCIENCE AND CHOICE GONE WILD

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“[T]he wise man . . . would indeed lose some of his freedom if he wanted to choose everything consciously, for human nature and our routine habits free us to pursue wider goals without being stuck in the humdrum decisions of every day.”



When asked about freedom of the will, contemporary culture seems to offer us two incompatible responses at once: on the one hand, we believe in the hard sciences, which in the popular imagination seem to paint a deterministic picture and tell us that we do not have free will; on the other hand, we also believe in our inalienable rights to free choice, the possibilities of which we consider to be almost limitless. Here, our biological nature seems to be up for redefinition and even our very identities to be subject to re-creation by the power of speech or technology. Because one cannot hold both positions at once,<sup>1</sup> clashes begin to emerge, be it between feminism and

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1. I am here presupposing the truth of “incompatibilism”—freedom and

evolutionary biology or between claims to freedom of choice and neuroscience. As the contradictions become more apparent, more constructive proposals will be in demand.

In this essay I will argue that Thomas Aquinas provides the most reasonable account of free will and its limits. Two steps are needed to show this: first, we will see how a Thomist can defend free will from recent claims of neuroscience (initially without much appeal to Aquinas himself); second, we will consider the limits of free will according to Aquinas and his followers. My approach will not begin with a definition of free will (which would require making rather involved arguments before getting to the subject at hand). Any *de-finition* is a *de-limitation*, a marking of boundaries, and it is precisely these boundaries that are in question. I will therefore allow the definition to emerge *ex negativo*, by articulating its contours over against the two extremes.

## I

Since 1985, determinists have found apparent support in the well-known experiments of neuroscientist Benjamin Libet. Libet asked his subjects to wiggle a finger or flex a wrist at any time within thirty seconds, without planning ahead. The subject was to note the position of a dot on a timer (a faster-than-normal “Libet clock”) when “he was first aware of the wish or urge to act” and press a button at that time. Simultaneously, his brain activity would be monitored. As it turned out, Libet found that some brain activity preceded the conscious awareness of the urge to act and the subsequent pressing of the button. This preceding brain activity he called a “readiness potential” (from the *Bereitschaftspotential* discovered by Lüder Deecke and Hans Helmut Kornhuber in 1964). The readiness potential preceded the subject’s consciousness by a significant ~400 milliseconds—although the numbers in the literature vary (between 350 and 500) and later variations on that experiment claim to have found up to a full

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determinism cannot be reconciled. My reasons for this will become apparent in what follows.

seven seconds, if not more.<sup>2</sup> This seems to suggest that, before we make our conscious decisions, our brain has already made the choice for us at a time when we are not aware of it. Our choices thus seem to be the result of unconscious, deterministic causal processes in our brain. Free will appears to be an illusion, a projection, or a later confabulation of our conscious minds.<sup>3</sup>

To sweeten this bitter pill for our ego, Libet suggested that we may still have at least a veto over these readiness potentials. The readiness potential sets in at 350 milliseconds, but up to 150–200 milliseconds, the time of our conscious click of the button, we can still veto that click. Experiments in which the subjects were asked to veto their urge indeed show that the readiness potential then peters out at about 150–200 milliseconds.<sup>4</sup> Thus, it is suggested, while we may not have free will, we may still have “free won’t.”

Such results tend to be reported with great excitement in popular media, usually accompanied by pictures of brain scans, “fast-acting solvent[s] of [our] critical faculties,” as Matthew Crawford has called them.<sup>5</sup> We may wonder what kind

2. In Chung Siong Soon’s experiment, where the subject was to press one of two buttons, without incentive (reward or punishment), 5–7 or even 10 seconds were reportedly measured. See Raymond Tallis, *Aping Mankind: Neuromania, Darwinitis, and the Misrepresentation of Humanity* (Durham, UK: Acumen, 2011), 55; Alfred R. Mele, *Free—Why Science Hasn’t Disproved Free Will* (Oxford: Oxford University Press, 2014), 25–26; Sam Harris, *Free Will* (New York: Free Press, 2012), 8. The later experiments may vary in some aspects, but there is no need to pursue those here as they retain the more fundamental problems that my current argument tries to address.

3. Akin perhaps to the confabulations that Michael Gazzaniga discovered in the realm of cognition and perception. See Michael Gazzaniga, “Consciousness and the Cerebral Hemispheres,” in Michael Gazzaniga, ed., *The Cognitive Neurosciences* (Cambridge: MIT Press, 1994), 1391–99; Timothy O’Connor, “Conscious Willing and the Emerging Sciences of Brain and Behavior,” in George F. R. Ellis, Nancey Murphy, and Timothy O’Connor, eds., *Downward Causation and the Neurobiology of Free Will* (New York: Springer Publications, 2009), 173–86, at 179. See also Michael Gazzaniga, *Who’s in Charge? Free Will and the Science of the Brain* (New York: HarperCollins, 2011); and Mele, *Free—Why Science Hasn’t Disproved Free Will*, 52–55 and 85–90.

4. Mele, *Free*, 17. We could also refuse to cooperate if we knew simultaneously by other apparatuses that a readiness potential arises (*ibid.*, 35–37).

5. Matthew B. Crawford, “The Limits of Neuro-Talk,” *The New Atlantis* 19 (2008): 65–78, at 65; and Tallis, *Aping Mankind*, 73.

of resentment makes us so excited about debunking our spiritual faculties and our special place among animals. The consequences at least seem to be rather undesirable: subsequent experiments show, for example, that the ensuing disbelief in free will is correlated with higher instances of cheating on tests and other delinquencies on duty.<sup>6</sup> Perhaps it could be argued that on the positive side, greater empathy may result. Jerry Coyne, for example, claims that “by losing free will we gain empathy, for we realize that in the end all of us, whether Bernie Madoffs or Nelson Mandelas, are victims of circumstance.”<sup>7</sup> To be a victim of circumstance, however, cuts both ways: if every criminal is a victim—a claim that increasingly has made its way into our courts of criminal law<sup>8</sup>—every victim is potentially a criminal. If every criminal once was in the situation of being victimized by circumstances, there may be those currently so victimized that they can be predicted to commit future crimes. It would seem reasonable, then, to suggest that every citizen undergo a background check for potential *future* crimes, including brain scans for students in schools or travelers at the airport; preemptive interventions by surveillance, incarceration, drugs, surgery, and implants may seem reasonable.<sup>9</sup> As our brain science progresses, we may no longer need to measure readiness potentials but will simply be able to predict behavior long before any actual choice is made. To find this undesirable is, of course, not an argument for free will, but it is a caution against the positive enthusiasm sometimes displayed in the face of brain science debunking free will.

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6. Mele, *Free*, 4–5.

7. Jerry A. Coyne, “Why You Don’t Really Have Free Will,” *USA Today*, January 1, 2012. Similarly, see Harris, *Free Will*, 45.

8. Cf. O. Carter Snead, “Neuroimaging and Capital Punishment,” *The New Atlantis* 19 (Winter 2008): 35–63. Prevention would replace punishment; Sam Harris suggests that, if a drug would do the job, serial rapists and murderers can be set free without punishment (*Free Will*, 55). On the other hand, if punishment helps, then it can be meted out to bacteria and viruses as well (*ibid.*). For Harris, we are not in principle different from bacteria; punishment is only a strategy for social engineering (*ibid.*, 63).

9. Crawford, “The Limits of Neuro-Talk,” 75–77.

## II

Raymond Tallis calls the enthusiasm about this brain science the “second wave of phrenology.”<sup>10</sup> Our technology to investigate skulls and neurons has certainly become better since the eighteenth century, but even today fMRI’s offer limited reliability.<sup>11</sup> They are directly correlated neither with the phenomena of the mind nor with possible neural correlates, but rather with blood flow.<sup>12</sup> Even less do they indicate the activity of higher cognitive functions (unsurprisingly, since, as we will see, the brain cannot be the organ of either thought or will). In fact, locating *anything* in the brain is more complex than it might seem, for the brain acts as an integrated unit. The same regions can serve different functions, and the same functions can be found in different regions.<sup>13</sup> As Alfred Mele points out, studies that make spectacular claims about the readiness potential preceding consciousness by seven seconds are only sixty percent accurate, which is barely more than chance, and for something like a rather vague impulse. It amounts at best to a slight bias, which is no threat to free will, Mele notes.<sup>14</sup> It may just register a predisposition on which we do not have to act.

All that can be concluded from such experiments is that a particular kind of action—such as wiggling a finger—has been shown to have readiness potentials preceding it in the brain. Nowhere has it been demonstrated that this indicates a *causal*

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10. Tallis, *Aping Mankind*, 188–89. Phrenology was an eighteenth-century attempt to deduce the mind from the skull. In *Phenomenology of the Spirit*, Hegel characterizes this theory as follows: “spirit is a bone” (“*daß das Sein des Geistes ein Knochen ist*”) (G. W. F. Hegel, *Phänomenologie des Geistes* [Oberursel: Gröls Verlag, 2022], 166). Even the homunculus of the alchemists makes an explicit comeback in Steven Pinker and Daniel Dennett—for what else are those neurons? See Steven Pinker, *How the Mind Works* (New York: Norton, 2009), 79.

11. Tallis, *Aping Mankind*, 81–82; Mele, *Free*, 27–30.

12. Crawford, “The Limits of Neuro-Talk,” 71–72. Even blood flow is only measured indirectly, by oxygen use (and this differentially, thus ignoring the activity of the *whole* brain) (*ibid.*).

13. Tallis, *Aping Mankind*, 82–83. Even something simple like the notion of a “hammer” is located in different parts, scattered all over the brain.

14. Mele, *Free*, 27–30.

correlation (we will return to this question shortly), let alone that *all* actions are caused by brain states (which would amount to a fallacious hasty generalization). Similar things can be said about the many unfortunate generalizations from pathological cases.<sup>15</sup>

Neuroscience also has difficulties accommodating its own claims: Libet's "veto power" may exist, but as an instance of free willing on Libet's own model, it would require yet another readiness potential.<sup>16</sup> For we would then need to experience yet another urge to not follow through on the first urge or an urge to follow Dr. Libet's instructions to veto our first urge. As Jerry Coyne rightly notes, "From the standpoint of physics, instigating an action is no different from vetoing one, and in fact involves the same regions of the brain."<sup>17</sup> Nothing of this kind seems to be observed, and, upon further reflection, one should not expect to observe it: *not* doing something is merely an absence, and the absence of something is not another material thing. Negation is not something material, for only minds can deny. Vetoing and omitting is indeed an expression of freedom, as we will see with Aquinas, but it is nothing Libet could account for. Nor is a mere veto power a *sufficient* account of freedom. At best, it would reduce us to the predicament of Herman Melville's Bartleby (in *Bartleby the Scrivener*), who responds to the invitation to join the meaningless mechanisms of matter and modern life by obstinately repeating "I prefer not to."

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15. Cf., critically, Timothy O'Connor, "Conscious Willing and the Emerging Sciences of Brain and Behavior"; Max Bennett and Peter M. S. Hacker, *Philosophical Foundations of Neuroscience* (Oxford: Wiley-Blackwell, 2003), 225. As Edward Feser rightly notes on his blog, "As with the three-legged dog, the deviant case must be interpreted relative to the normal case, not the other way around" ("Reading Rosenberg, Part VIII," March 8, 2012, available at <http://edwardfeser.blogspot.com/2012/03/reading-rosenberg-part-viii.html>). Colin Blakemore's account of the brain and free will consists entirely of cases of insanity and violence, from which he concludes that there is no free will and that once normality returns, so does "that familiar illusion of free will"—oddly implying that only in states of insanity are we actually free from delusions (Colin Blakemore, *The Mind Machine* [London: BBC Books, 1988], 261).

16. Similarly, see Bennett, *Philosophical Foundations of Neuroscience*, 230.

17. Coyne, "Why You Don't Really Have Free Will."

## III

More fundamental objections to the claims of neuroscience would reflect on the very status of these sciences themselves. For it may be said that these sciences, in the very act of denying free will, must presuppose it. One may see this *ex negativo* when a proponent of the deterministic conclusions drawn from neuroscience comes to the conclusion that, in what is visible to neuroscience, there is no distinction between conscious action, reflex, and disease.<sup>18</sup> However, if this were true or if it were the whole story, it would imply that neuroscience itself is indistinguishable from reflex and disease, because doing science is itself one of those activities that neuroscience can observe in the brain.

However, no science, including natural sciences such as neurophysiology, is possible if it has no space for rational argument. Yet rational argument requires that we be free to follow the arguments and go where the premises lead us. If the scientist were really determined by readiness potentials, then he would not be free to follow premises and reasons; his thought processes would instead track physical causes. His science would accordingly result not from the prescriptive laws of logic but from the descriptive laws of nature, not from arguments but from brain physiology.<sup>19</sup> This kind of physiology might as well be pathological without us being able to know it. On its own premises, it would not only be empirically indistinguishable from “reflex and disease,” but also logically indistinguishable: evaluating for pathologies requires precisely the kind of rational argument it makes impossible in principle. Not everything can be the result of physical determinism if we are able to discover such determinisms in the first place.

What we tend to forget when we stare at brain scans is the larger background within which science itself operates and makes its abstractions and proposals. Metareflections on the practice of science allow us to see this larger background,

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18. Blakemore, *The Mind Machine*, 270. See also Tallis, *Aping Mankind*, 246.

19. This is what Sam Harris claims when he says that even our conscious thoughts and “deliberations” just appear in our mind based on these causalities (Harris, *Free Will*, 33), yet this would at best be forms of association, not deliberation.

which Edmund Husserl calls the “lifeworld.” It is that in which and for which science operates and in which it remains rooted. This subjective background and its larger space of freedom and possibilities is presupposed when science formulates its deterministic views and hypotheses.<sup>20</sup> Robert Spaemann notes that determinists, in their denial of free will, forget how we define the very notion of determinism in the first place. If we had to define determinism or necessity, how else could we do it if not negatively, by negating all alternative possibilities?<sup>21</sup> What is determined is that to which there are no alternative possibilities. In terms of modal logic, therefore, possibility is more fundamental than necessity, for necessity presupposes the possibilities that it denies. This is at least true *quoad nos* and in the order of knowing: our primordial understanding of possibilities is derived from the experience of our *own* possibilities, since we, as free beings, understand our lifeworld through such possibilities.<sup>22</sup> Neuroscience cannot deny these possibilities if its assertion of determinism is to mean anything. Deterministic science thus presupposes free will in an incompatibilist sense.

This forgotten lifeworld also forms the background of Libet’s experiments (and others of its kind). It is in this lifeworld—temporally preceding the experiment and spatially outside the laboratory—that we find the subject’s free choice to enter the experiment as a participant. As physicist Carl Friedrich von Weizsäcker notes, “Freedom is a prerequisite of the experiment. Only where my action and thought are

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20. Thus “colonializing” the lifeworld with its determinism, substituting the part for the whole.

21. It will not do to appeal instead to entailment relations between propositions expressing laws of nature and complete descriptions of the world. To claim that something is a law of nature is just to claim that there are *no possible alternatives* to the course of events circumscribed by them, given initial conditions. Such a definition of determinism would already contain its *definiendum*.

22. E.g., Robert Spaemann, *Personen. Versuche über den Unterschied zwischen “etwas” und “jemand”* (Stuttgart: Klett-Cotta, 1996), 283–86. Edith Stein suggests that the causal determinism of science is itself the product of an abstraction from all motivation, i.e., from all that we could empathize with. Cf. Marianne Sawicki, *Body, Text, and Science* (Dordrecht, Netherlands: Kluwer, 1997), 239–41. However, this abstraction is itself a motivated action, i.e., chosen within the lifeworld of our possibilities, thus presupposing possibilities and motivations.



not determined by circumstances, urges or customs but by my free choice, can I make experiments.”<sup>23</sup> Making experiments presupposes the ability of the subject to follow through on promises and commitments to cooperate with the experimenter,<sup>24</sup> to report truthfully and not to lie about what one is doing in the machine.<sup>25</sup> Subjects without free will would be unable to guarantee such future behavior.

Again, it is important to make these metareflections because they are precisely what is lost in the blind spot of popular “neuromania,” as Tallis calls it. But this is not the only argument that needs to be made.

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23. Carl Friedrich von Weizsacker, *The World View of Physics* (Chicago: University of Chicago Press, 1949), 203, as quoted in Robert M. Augros and George N. Stanciu, *The New Story of Science* (Lake Bluff, IL: Regnery Gateway, 1984), 32. See a similar statement by John Eccles in *ibid.*, 31–32.

24. It may appear that only determinism would allow us to predict our future actions and therefore permit us to make a promise. But this would oddly assume that a promise is only the ratification of what happens anyway; promises would then also be otiose. It would put us in the situation of being mere bystanders of our “choices.” This at least seems to be what Peter van Inwagen suggests in “A Promising Argument,” in *Thinking about Free Will* (Cambridge: Cambridge University Press, 2017), 166–76. The underlying assumption seems to be that free will does not exist in the first place: for if free will existed, then our will would have its own causal powers, and *these* powers would then “determine” the outcome. I.e., if we are free, then *we* determine the outcome, not some probabilities ranging across possible worlds (who else would determine those probabilities anyway?). We do not relate to our own will as to an external mechanism like a car (Inwagen’s example). If such external mechanisms are determined by something else, then indeed we should not ever make a promise. But free will just means that our will determines the outcome—promises being a paradigm case if they mean anything at all.

25. Cf. a similar point in Edward Feser, *Aristotle’s Revenge: The Metaphysical Foundations of Physical and Biological Science* (Neunkirchen-Seelscheid, Germany: Editiones Scholasticae, 2019), 444–45. Richard Swinburne recently argued that the *reporting* of these readiness potentials must itself display a mind-to-brain causality, i.e., must not itself be merely caused by yet another readiness potential; the experiment relies on something that it aims to disprove (Richard Swinburne, *Are We Bodies or Souls?* [Oxford: Oxford University Press, 2019], 134–36). This first-person reporting also cannot be replaced if we are interested in identifying the relevant mind-brain correlations. For this, even a third-person observer must rely on a first-person report (including the reliability of a first person’s apparent memories) and on his own intentional exploration (*ibid.*, 137–38).

## IV

A further argument against neurophysiological determinism concerns the very concept of what it denies, namely the concept of free will. In Libet's experiments, this concept is implied in the very setup of the test. Libet asks his subjects to press the button "when they experience an urge to act." But the first thing to notice is that this makes the whole experiment into something like a self-fulfilling prophecy: it measures an urge to act that turns out to be generated by a readiness potential. Indeed, where else would it come from? Why would anyone expect a different outcome? One does not even need to do the experiment; it is quite predictable. To be asked to notice an urge is basically the same thing as to notice a readiness potential; this is not very surprising or illuminating. In the words of Tallis, the experiment "treats individuals as passive respondents to stimuli and then discovers that they are passive respondents to stimuli."<sup>26</sup>

But this also raises the question of what the implied notion of freedom is supposed to be. Edward Feser notes that "to be moved by an urge" is, if anything, rather the opposite of a free action.<sup>27</sup> How so? To begin with, we may note the *passive* formulation: the subject of the experiment is asked to "wait" until the feeling or experience "arises," that is, until the agent "experiences the will to move." Is this what we mean by free will? Is it an experience in which we are merely passive bystanders and observers, not the doers or enactors of an intention? Or is a free choice not rather the notion of something that nobody else can do for us, let alone any other *thing*, including our own brain?<sup>28</sup> In Wilder Penfield's experiments, a doctor could raise the patient's arm by triggering a particular region in the brain. But the patient

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26. Tallis, *Aping Mankind*, 79.

27. Feser, *Aristotle's Revenge*, 453.

28. John Searle noted that one can make life-changing decisions even under the assumption that optical illusions are indeed illusions, but one can only make such decisions under the assumption that these are indeed *one's* decisions and that this is not also an illusion. See John Searle, "Wie frei sind wir wirklich?," *Frankfurter Allgemeine Zeitung*, March 23, 2008, p. 30.

remained aloof, saying, “*you* did that, not I.”<sup>29</sup> The same was true for cognitive states: the doctor could elicit *memories* by stimulating certain areas of the brain, but not *beliefs*. Beliefs include an element of freedom. Believing is something I need to do myself; nobody can believe for me, just as nobody can think for me.<sup>30</sup> Likewise, we cannot be passive bystanders of our own decisions if they are to be expressions of our free will. Yet Libet’s setup implicitly asks us to let our choices be determined by something other than ourselves, of which we are then merely the observers. In short, this is not a paradigm for free will but rather for urges that might arise in us involuntarily, such as the urge to sneeze or vomit.<sup>31</sup>

But there are more problems. The setup not only makes us passive bystanders, but it also makes free will into an *experience* or *feeling*—in this case, the feeling of an urge. The intuitive appeal of an “urge” as a paradigm case seems to come from the fact that it arises from within, not from an *external* compulsion or stimulus; therefore, it suggests some kind of spontaneity.<sup>32</sup> Yet even a feeling of spontaneity or creativity is not the same as free will. Such experiences are neither a sufficient nor even a necessary condition for free will. In fact, inasmuch as feelings are sensual, they will involve some physical organ or have some brain state correlated with them; precisely to that extent, they will *not* be free. Unsurprisingly, we find there is some readiness potential for such feelings because they depend on physical states. Since feelings are *passive* and beyond our control, they arise based on other things, on further facts of physiology or sensation. For example, I cannot choose to be in love or to hate or to desire food. Such

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29. Augros, *New Story*, 23–31. If the brain were the organ of will and thought, then we should be able to make people *believe* something or *decide* something, but, in fact, one can only move patients’ *bodies*, not their *will*; nor can one make them syllogize or do algebra (*ibid.*). Aquinas notes this, too: if the will had a physical organ, then it could be moved. See Aquinas, *De veritate*, q. 22, a. 9.

30. Augros, *New Story*, 23–31. Hence the “I think” that must be able to accompany all of my thoughts if indeed they are to be *mine*, as Kant argues.

31. While for these urges the continuation and end can, to a certain extent, be controlled, their beginning—crucial for freedom—is not. See Bennett, *Philosophical Foundations of Neuroscience*, 229–30.

32. See *ibid.*, 229.

feelings are precisely not in our hand. They are often rather an *obstacle* to free will and never its paradigm. On the contrary, free will implies that we must be able to act freely *without* any feeling or even *against* all our feelings at once.<sup>33</sup> We have already illustrated this with our ability to make promises and follow through with them, regardless of any future feelings.

It is thus a category mistake to identify free will with an experience. This is true not only against determinists but also against those among their opponents who attempt to prove free will by an appeal to such experiences. Any appeal to the evidence of freedom in our inner experience is vulnerable to counterarguments that declare these experiences to be illusions produced by other causes.<sup>34</sup> Historically, this appeal is related to a reduction of free will to mere exertions of efficient causality, independently from any consideration of final and formal causality. The concept of free will as a blind force or willpower arises with the medieval Franciscans, especially John Peckham, Peter Olivi, and William of Ockham.<sup>35</sup> In this tradition, we

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33. In other words, feelings and their correlated brain states are not only not deterministic; they also do not constitute a causally closed world. If free will is to be able to make the difference for which we are arguing here (e.g., that of freely following reasons), then it cannot merely consist in indeterminism as a form of randomness. If, as we will see, deliberation is a necessary condition of free will, then mere randomness or caprices are insufficient.

34. E.g., Harris, *Free Will*, 26. For David Hume, the feeling of “looseness” in free acts is deceptive, “a false sensation or seeming experience which we have, or may have, of liberty or indifference,” where “we feel, that it moves easily every way, and produces an image of itself (or a Velleity, as it is called in the schools) even on that side, on which it did not settle” (*An Enquiry Concerning Human Understanding*, ed. L. A. Selby-Bigge [Oxford: Clarendon Press, 1966], section 8, pt. 1, pg. 94n). For Baruch Spinoza, our feeling of freedom is merely an illusion, the result of our ignorance of all our motivations (*Ethica* II, prop. 48–49, 35). Harris even concludes that his deterministic theory allows him to experience *more* of this kind of feeling (Harris, *Free Will*, 46). Yet, in the end, he turns around to declare that the illusion of free will is itself an illusion, that we actually do not feel free (*ibid.*, 64–65). Calling an illusion an illusion is, of course, tautological. If he means that free will is not accessible to introspection into our feelings, then he is right.

35. See Ernst Stadter, *Psychologie und Metaphysik der menschlichen Freiheit. Die ideengeschichtliche Entwicklung zwischen Bonaventura und Duns Scotus* (Munich: F. Schöningh, 1971), 86ff., 121–44; Tilman Anselm Ramelow, “Die Entwicklung des Konzeptes des Willens von Augustinus bis Kant,” *Archiv für Begriffsgeschichte* 46 (2005): 29–67, at 44–46 and 51–53; Vincent Herr and John W. Stafford, “The Freedom of the Will,” *Proceedings of the American Catholic*

also find William James's definition of the will as an "effort of attention,"<sup>36</sup> which may have been what Daniel Dennett had in mind when he caricatured notions of free will as "some sort of radiation generated by gritting the teeth and saying 'move, move, move. . .'"<sup>37</sup> Reading William James may also have solicited Ludwig Wittgenstein's critical question, "what is left over if I subtract the fact that my arm goes up from the fact that I raise my arm?" If in answer to this question we are looking for some internal experience of efficient causality, we will indeed draw a blank,<sup>38</sup> to that extent, Wittgenstein is probably correct. Nevertheless, we should be able to distinguish the free act of raising our arm from the pathology of Dr. Strangelove's "alien hand syndrome." But for that we must look in the right place, and if I am right, then none of these authors, including Libet, does. Free will is not an experience of efficient causality. If anything, it is the experience of a *lack thereof*; it is the experience of an absence or a "gap" in sufficient psychological antecedents.<sup>39</sup> By itself, however, that is also not enough.

## V

Missing from most of these accounts are the formal and final causality of our free will, though the importance of formal and final causes should be obvious from the element of *deliberation* that is essential to free acts. Our free choices are not based on feelings or

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*Philosophical Association* 16 (1940): 143–53. For Aquinas, faculties are instead known by their objects (*actus specificatur ab obiecto*), and this includes free will (*De malo*, q. 6 ad 18).

36. Bennett, *Philosophical Foundations of Neuroscience*, 231; and Tilman Anselm Ramelow, "Nachwort," in Thomas Aquinas, *Über die Wahrheit*, vol. 5: *Quaestiones disputatae: De veritate (Q. 21–24)*, trans. and ed. Tilman Anselm Ramelow (Hamburg: Felix Meiner Verlag, 2013), 311–99, at 373–76.

37. Daniel Dennett, *Content and Consciousness* (London: Routledge, 2010), 171.

38. Ludwig Wittgenstein, *Philosophical Investigations*, n. 621, trans. G. E. M. Anscombe (Oxford: Blackwell, 1986), 161; see also Bennett, *Philosophical Foundations of Neuroscience*, 225, 230–31.

39. John Searle, *Rationality in Action* (Cambridge, MA: MIT Press, 2001), 61–96.

urges but on rational intentions, on reason and thought. Indeed, we do not consider ourselves free if we do not know what we are doing. As a thought experiment, we may imagine being asked to choose between two closed envelopes: one containing a check for over one million dollars, and the other containing our death sentence. It is safe to assume that, after we happen to choose the envelope with our death sentence, we will protest our execution. Yet, apparently, we freely chose it ourselves; nobody forced the envelope on us. The principle of alternate possibilities applies here, too: we could have chosen the other envelope. Nevertheless, we will not own that decision, for we did not know what we were doing; we did not make an “informed choice.” While knowledge may not be a sufficient condition for freedom (a point to which we will return), it is nevertheless a *necessary* condition. In its absence, free choice cannot exist. This is why, morally, “invincible ignorance” excuses.<sup>40</sup>

Now, where in Libet’s experiment does this knowledge or deliberation occur? Not only does it not occur, but it is exactly and explicitly what is excluded from the experiment: the subject is instructed to wiggle the finger “without planning ahead” and without thinking. Thus the experiment purposely, by definition and instruction, eliminates a necessary condition for free choice, and therefore it cannot be considered an experiment on free will at all.

Nevertheless, there is deliberation here as well if we include our previous reflections on the larger context. In the background of the experiment, in the lifeworld, an actual choice of free will does happen, one that involves reason, deliberation, and the planning ahead that Libet wants to exclude. This choice is

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40. This is also why we cannot will as such what we know to be *impossible* (*Summa theologiae* [= *ST*] I-II, q. 13, a. 5); there can be no *reason* for it (nor does this necessarily limit our free will, since even God is subject to that condition). See Tilman Anselm Ramelow, “Unmöglichkeit,” *Archiv für Begriffsgeschichte* 43 (2001): 7–36, at 22–23; and Rogers Albritton, “Freedom of Will and Freedom of Action,” *Proceedings and Addresses of the American Philosophical Association* 59 (1985): 239–51, at 240–41. It can be at most a *velleitas* (Aquinas, *De veritate*, q. 24, a. 4 c., arg. 10, and ad 10). Most properly, though, the will is not about the possible or impossible, but the actual (for which possibility is a mere pre-supposition, even in God) (Klaus Riesenhuber, *Die Transzendenz der Freiheit zum Guten. Der Wille in der Anthropologie und Metaphysik des Thomas von Aquin* [Munich: Berchmanskolleg, 1971], 128–29).

made much earlier and underlies, in unacknowledged ways, the whole experiment: it is the choice to participate in the experiment in the first place.<sup>41</sup> The wiggling of the finger has nothing to do with free will; instead, the decision and deliberate commitment to enter into the procedures is the true act of free choice—including the deliberate commitment not to interfere with the urge, that is, the decision not to interfere with *something else* that is *not* our decision.

Artificial though Libet's experiment seems, many of our choices may indeed be like it. Consider, how do we get out of bed in the morning? The alarm clock may startle us out of sleep—no act of free will there. Then we have a choice: we can follow the call of duty or turn off the alarm and go back to sleep. Suppose we decide to get up. We still may not do so immediately; it usually takes us a little while. But then we suddenly find ourselves outside of the bed. We may not quite know when and how exactly that happened, but there we are.<sup>42</sup> What happens here is the following: we make a decision to get up and get out of bed; that is our free decision. But then we wait until we or our blood circulation are in the right place actually to make the move. The move itself is triggered by something else: blood pressure, readiness potential in the brain, or whatever. Nevertheless, this move was governed by our choice made earlier: we chose to allow ourselves to be determined by our physiology or brain.

Many other choices are of that kind. If we perform certain actions, we may make one act of the will that governs the more detailed motions. We may decide to utter a thought, but not every word or letter of a word is uttered with a separate act

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41. Similar Tallis, *Aping Mankind*, 248–49; the deliberation reflects the larger context: “My participation in the experiment originates in a huge space of possibility, the human world, to which my self is addressed, the theater of its activity. . .” (ibid., 249). This, in turn, requires a temporally continuous and unified self (ibid., 250–53), even a unified, historically shaped cultural world of joined possibilities, a society as the arena of the self. “It is a mistake to try to stuff all that back into the brain. . . .” “Stuffing it back in the brain, of course, is the first step to handing it all over to the no-person material world, and then tiptoeing back to determinism” (ibid., 255 and 261.) We should also wonder whether, without such a self, there is actually anything there to be determined.

42. See a similar example in Robert Spaemann, “Hirnforschung und Willensfreiheit,” in *Schritte über uns hinaus*, vol. 2 (Stuttgart: Klett-Cotta: 2011), 146–64, at 151–52.

of the will.<sup>43</sup> If we play tennis, we let our trained reflexes act after having decided to enter the game. If we had to decide every twitch of our muscles, we would be too slow to hit the ball.<sup>44</sup> Nevertheless, we do not play tennis against our will but voluntarily; we *decide* to play, by our free choice. Our reflexes are not an obstacle to our freedom, but its tool and expression; we freely make use of our neuroplasticity and our readiness potentials.<sup>45</sup>

Entering Libet's experiment may be similar in kind, with the difference that we can enter into serious deliberations about whether playing tennis is good for our health or whether we should defy duty and the world by staying in bed. Wiggling a finger, on the other hand, is not much to deliberate about. After all, what serious reasons could we entertain to do it or not do it? Nothing else seems to hinge on it.

This is the point some more recent experiments pick up that aim at clarifying the exact role readiness potentials play in the wiggling of the finger. Since all we observe is the fact that these readiness potentials *precede* the wiggling of the finger, it is not clear that this is a case of straightforward causality. A mere *post hoc* is not a *propter hoc*, even if it happens regularly. The cock's crow may always precede the sunrise, but the cock does not cause the sunrise. In order to know that, we need to know certain counterfactuals. For example, what would have happened if someone had killed the cock beforehand? Or what would have happened if someone had *not* wiggled his finger? But this we are not told. As Mele notes, "We don't know whether sometimes—even though the person didn't go on to flex—there was brain activity like what was going on in the participants a half-second

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43. Cf. Bennett, *Philosophical Foundations of Neuroscience*, 227, which argues that if willing were a causal act, then we would have to have an act of the will for each step (e.g., each letter and word in speaking would have to be willed separately): It is not clear at all why this should be the case; it is perhaps a matter of act individuation and the formal object of our acts (e.g., uttering a thought in a *sentence*).

44. Similarly, see Feser, *Aristotle's Revenge*, 452; and Tallis, *Aping Mankind*, 253–55.

45. As Tallis points out, *we* train our brains; brains do not train us or themselves. No animal does deliberate training; it is itself an expression of free will (*Aping Mankind*, 254–55). Training includes virtue and self-control (*ibid.*, 311).



before they flexed.”<sup>46</sup> If there was such activity in those cases as well, then its role *cannot* be causal. Edward Feser, in turn, points out that Libet did *not* show that the neural activity is *invariably* followed by flexing (in fact, a veto power seems to rule that out). Even if the readiness potential might turn out to be a necessary condition for flexing, it has not been shown to be a *sufficient* condition; it could be that it only happened *in conjunction with* an actual choice without causing it.<sup>47</sup>

This is indeed what a new award-winning study suggests. In 2010, Aaron Schurger, from the *Institut national de la santé et de la recherche médicale* in Paris, studied spontaneous fluctuations in neuronal activity. They are something like a continuous electrophysiological noise that rises and falls like the tides and waves of the sea, something akin to the changes in weather and in the stock market. Certain patterns and peaks can develop by random coincidences. Readiness potentials are of that kind. It was suggested and shown in tests that human beings (and the monkeys in the study) can use these readiness potentials to make choices if there is nothing else on which to base the choice.<sup>48</sup> And, as I have just suggested, this is precisely the situation in Libet’s experiment, where there is no external sensual input on which to base a choice, nor any further reasons to deliberate about. In such cases, the subject *avails himself* of the readiness potential as a trigger because he has nothing else to go by; but that choice is not itself *caused* by the readiness potential.

Since this is rather commonsensical, some philosophers have already suggested as much earlier. We can think of the situation of “Buridan’s ass,” where one would literally grasp at just any straw or suggestion to prevent oneself from starving. That straw is a symmetry-breaking signal by which one would allow oneself to be determined by whatever else is going on. Buridan’s donkey is indeed also the image that

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46. Mele, *Free*, 12–13.

47. See Feser, *Aristotle’s Revenge*, 451.

48. Bahar Gholipour, “A Famous Argument Against Free Will Has Been Debunked,” *The Atlantic* (September 10, 2019), available at <https://www.theatlantic.com/health/archive/2019/09/free-will-bereitschaftspotential/597736/>.

Mele invokes.<sup>49</sup> We can also think of it as using our brain for a mental coin toss.<sup>50</sup>

If we use such a mechanism and then “confabulate” afterward that this was our choice, then even this need not be wrong. For we indeed chose the only rational course of action: we freely allowed ourselves to be determined by whatever was going to happen in our brains. We do this in everyday life, as Mele points out, when, for example, we choose in the supermarket between two jars of peanut butter: there is no further reason to pick one rather than the other, so we let ourselves be determined by whim.<sup>51</sup> Such an action is rational and free, for whatever results from such further influences would still be controlled and governed by our “prior intention.”<sup>52</sup>

Now, this prior decision, while not physically caused, is not therefore without grounds but *informed*. Otherwise, as we have said, it would not be rational and therefore not free. It is the intellect that provides the information, the formal and final causality. To understand this necessary condition for free will, we have to turn to Thomas Aquinas.

## VI

Much of our practical reasoning is taken up by mere strategy and a clever pursuit of our goals, but we also reason about our goals themselves. In the first case, we may just appeal to the descriptive laws of nature and instrumentally employ them to achieve our goals, but this will not do where the goals themselves are in question. Here we appeal to another set of laws: moral laws, which do not describe how things are but prescribe how they ought to be. By contrast with the laws of nature, the moral law can be *counterfactually* true. The moral law is a prescriptive law; it

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49. Mele, *Free*, 29.

50. See Feser, “Reading Rosenberg, Part VIII,” available at <http://edward-feser.blogspot.com/2012/03/reading-rosenberg-part-viii.html>.

51. Mele, *Free*, 14. This also explains the experiments discussed by Harris, (*Free Will*, 24), and those of Daniel Wegner (in O’Connor, “Conscious Willing,” 177).

52. Searle, *Rationality in Action*, 290–92.

can be broken. The deterministic laws of physics, by contrast, are descriptive laws; they are never counterfactually true. The space of moral deliberation is, therefore, wider than the space of facts; it is a space of possibilities (over against which we can make sense of notions of determinism, as we saw earlier). This space of possibilities is also a space of necessities—not the necessities of determinism but those associated with obligations.<sup>53</sup> These obligations are not themselves subject to our choice, yet precisely as such they are indicative of our freedom: as Kant would argue, only free beings can experience themselves—as a “fact of reason”—under the demands of unconditionally binding prescriptive laws, for “ought implies can.”<sup>54</sup> Not our feelings, but the very fact of our moral reasoning is our *prima facie* evidence for freedom.

In a somewhat different way, Aquinas also understands freedom through the normativity necessities that are intrinsic to our will as rational appetite, though also with “descriptive” implications: for, as rational, our free will cannot—as a matter of fact—will evil as such. Because the good, as its formal object, defines the will, we cannot freely choose anything except as something good.<sup>55</sup> It may only be an apparent good, but the will cannot choose evil for its own sake. While we can choose something evil as a means to a good end, this end nevertheless must be good. The ultimate end or good is our human happiness—and nobody intentionally wants to be unhappy. This happiness turns out to be our participation in goodness itself, our rational participation in the life of God, who is the ultimate good.<sup>56</sup> This rational desire is the

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53. A necessity of the prescriptive type, duty, is not falsified by a lack of actualization (Immanuel Kant, *Critique of Pure Reason*, B 575–76; cf. Immanuel Kant, *Critique of Practical Reason*, Akademieausgabe 5 [Berlin: Akademie der Wissenschaften, 1974], 87, 96–97, and 160). Albritton (“Freedom of Will,” 247) quotes Luther’s “here I stand, I *cannot* do otherwise” (and, of course, in another sense, he *could*).

54. Can we be conditioned (e.g., by fear or upbringing) to have the experience of something unconditional? And, if so, from which perspective do we raise this very question, if not from an unconditional perspective? It is this unconditional perspective that constitutes the moral sphere and the necessity of duty rather than physics.

55. *ST I*, q. 82, a. 1 co.; and *ST I-II*, q. 10, a. 1.

56. Though this is initially only implicit (Aquinas, *De veritate*, q. 22, a. 2 co.) and as a beatific vision, this is *supernatural* (Aquinas, *De veritate*, q. 22, a. 7 co.).

root and nature of all our willing, the *voluntas ut natura* as Aquinas calls it in *De veritate*, because this is what the will desires by its very nature.<sup>57</sup> In this sense, the prescriptions of our practical reason are also *descriptive*, for we *cannot* do otherwise. Where we can fail, where the goodness of a moral choice remains in the realm of the counterfactual, is the realm of the means to ultimate goodness itself. Deliberation, free choice (*liberum arbitrium*), and alternate possibilities only concern the various *means* to this end, namely our particular actions.<sup>58</sup> For everything, every particular action we deliberate about is indeed just this: a particular action or good, and not the universal good that is our final and ultimate end. The universal good is the necessary presupposition of all deliberation, for it opens up a horizon that is wider than any particular means that may serve this end. Therefore, it leaves us free and indifferent with regard to the choice of the various means that lead to the end; we can take or leave them. Precisely because the end is necessary and universal, the means as contingent and particular cannot be identified with it and remain subject to choices.<sup>59</sup> This space of deliberation is, again, wider than the determinisms of physics or brain physiology and indicative of our freedom.

But even deliberation is not everything required for freedom. In *De malo* and in the *Summa theologiae*, Aquinas distinguishes between the freedom of “exercise” and the freedom of “specification.”<sup>60</sup> The intellect “specifies” and—as the formal cause—informs our choices by its deliberations. It may propose to us the conclusion of a practical syllogism as the good that is to be done (to the best of our knowledge). Our will should therefore choose it by “exercising” its efficient causality. Yet this proposal of the intellect does not *determine* the exercise of the will because, short of the beatific vision, the deliberation of the intellect proposes only particular goods that leave the will indifferent. This independent role of the will distinguishes Aquinas from

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57. Aquinas, *De veritate*, q. 22, a. 5 and a. 6. The distinction of a natural will from free choice also applies to Christ’s human will (*ST* III, q. 18, a. 1 ad 3; a. 3 ad 3; a. 4 co.; and a. 5 co.).

58. Aquinas, *De veritate* q. 24, a. 1 ad 20; *ST* I, q. 83, a. 3; and *ST* I-II, q. 13, a. 3.

59. See Aquinas, *De malo*, q. 6.

60. Aquinas, *De malo*, q. 6; *ST* I-II, q. 9, a. 1; q. 10, a. 2.

rationalists like Leibniz and, possibly, Socrates.<sup>61</sup> We *can* make the wrong choice against our better knowledge.<sup>62</sup>

There are, therefore, two faculties that collaborate in free choice: the intellect and the will. Both have universal objects: the limitless horizon of being and truth for the intellect, and the universal good for the will. Because both faculties have universal objects, they cannot have a physical organ, such as the brain. A universal cannot be instantiated in a material organ without becoming particular. Having a physical organ does limit a faculty to particular objects. If the brain were the organ of thought and will, then we would not in fact be free. We would be in the situation of animals who cannot transcend the here and now to which they are bound by their brain states.<sup>63</sup> Having a universal object under which our faculties and choices labor is evidence for the existence of freedom.

Having a universal object also results in yet another feature that cannot be supported by a physical organ, namely *reflexivity*. The intellect can think the thought of universal being, of *everything*. The thought of everything, however, includes itself: it is itself *one of* everything. No physical object can have this relationship of self-inclusion. One cannot put a material object (e.g., a briefcase) into itself. But free will has this feature, insofar as it moves *itself*, that is, with spontaneity.<sup>64</sup> The intellect can present

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61. It seems to me fairly obvious that reading Aquinas as an intellectual determinist confuses his position with that of Godfrey of Fontaine. See, for example, the discussion in chapter 10 of D. C. Schindler, *Retrieving Freedom: The Christian Appropriation of Classical Tradition* (Notre Dame: Notre Dame University Press, 2022). I cannot make this argument here but have done so elsewhere: Ramelow, “Nachwort,” in *Über die Wahrheit*, esp. 366–70. Short of the beatific vision, the intellect *cannot* determine free will in its *exercitium*; this is the root and meaning of free will for Aquinas.

62. Aquinas, *De veritate*, q. 22, a. 15 co., and q. 24, a. 1. Jesus, therefore, *rebukes* the sinner, while Socrates, for whom sin is only ignorance, counters it with mild irony. See Spaemann, *Personen*, 30. St. Paul’s tortured reflections in Romans 7 may reflect something of this new seriousness. “It isn’t for reasons, in the end, that we act for reasons” (Albritton, “Freedom of Will,” 247).

63. E.g., Aquinas, *De veritate*, q. 22, a. 4 co. Deliberation also involves more than association between sensual states, which is a causal relation (also found in animals), for it is that causal relation itself that may become the object of deliberation.

64. I will have to prescind in this context from discussing the important question of how the will requires the motion of the first cause, God. I am not presently concerned with what is *above* free will, but only with what is *below* it.

the will to itself as an object of choice, for its own act is one of the many particular good things that are subject to its choice. Hence it can take or leave its own act. This is the true condition of the possibility for Libet's "veto."<sup>65</sup> In his earlier works, Aquinas talks about free choice (*liberum arbitrium*) as a judgment about which we can always reflect again, that is, judge once more.<sup>66</sup> While free choice involves the judgment of the intellect, the will itself is also *intrinsically* reflexive and can, in that manner, move itself, as well as the intellect.<sup>67</sup>

The will is thus reflexive, but no physical object is capable of relating to itself in this way.<sup>68</sup> Cybernetic systems may

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65. *ST I-II*, q. 6, a. 3; q. 13, a. 6; q. 71, a. 5. For a late scholastic discussion of "pure omissions," see Tilman Anselm Ramelow, "Konträre oder kontradiktorische Freiheit: Gibt es reine Unterlassungen?," in *Leibniz und Europa. VI. Internationaler Leibniz-Kongreß* (Hanover: Gottfried Wilhelm Leibniz Gesellschaft, 1994), 613–20. Bennett (*Philosophical Foundations of Neuroscience*, 225–26) also characterizes the will as a two-way power to do or refrain from doing something. Not only can we veto readiness potentials, but we can veto even our rational deliberations, as long as they do not concern the ultimate good. Choosing to rebel against God would erroneously distinguish God from the good itself—an error that is possible only in this life. Cf. *ST I-II*, q. 13, a. 6.

66. Aquinas, *De veritate*, q. 24, a. 2 co.

67. Aquinas, *De veritate*, q. 22, a. 12 ad 1: "Cum in reflexione sit quaedam similitudo motus circularis, in quo est ultimum motus quod primo erat principium, oportet sic dicere in reflexione, ut illud quod primo erat prius, secundo fiat posterius. Et ideo, quamvis intellectus sit prior voluntate simpliciter, tamen per reflexionem efficitur voluntate posterior; et sic voluntas intellectum movere potest." *ST I-II*, q. 16, a. 4 ad 3: "Quia actus voluntatis reflectuntur supra seipos, in quolibet actu voluntatis potest accipi et consensus, et electio, et usus, ut si dicatur quod voluntas consentit se eligere, et consentit se consentire, et utitur se ad consentiendum et eligendum." See also F. Russell Hittinger, "When It Is More Excellent to Love Than to Know: The Other Side of Thomistic 'Realism,'" *Proceedings of the American Catholic Philosophical Association* 57 (1983): 171–79, at 174–75; *ST I-II*, q. 15, a. 1 ad 3; Therese Scarpelli Cory, "The Reflexivity of Incorporable Acts as Source of Freedom and Subjectivity in Aquinas," in Jan Kaukua and Tomas Ekénberg, eds., *Subjectivity and Selfhood in Medieval and Early Modern Philosophy* (Cham, Switzerland: Springer, 2016), 125–41. Reflexivity also plays a role in Steven J. Jensen's account (*Sin: A Thomistic Psychology* [Washington, DC: The Catholic University of America Press, 2018], 260–84), though I think Aquinas does envision a positive act of the will, even if negative forms are also possible. See also Ramelow, "Konträre oder kontradiktorische Freiheit."

68. A faculty with a physical organ is likewise incapable of relating to itself in this way: our hearing cannot hear *itself*, since it would need another ear, and

have feedback loops, but this only means that one part may manipulate another, or the whole may eventually loop back onto itself, but not in the same moment in time. Likewise, the brain might be a cybernetic system, but it can never reflect on itself as a whole (as we do when we say “I” to ourselves). The will, on the other hand, can relate to itself as a whole (or “from the inside”<sup>69</sup>), here and now.<sup>70</sup> It is in its own control, and therefore, contrary to the materialism of Hobbes, the will itself indeed *is* voluntary.<sup>71</sup> A thermostat cannot change its most basic setting, but we can change our minds. We can also take our whole life in our hands and give it away, as we do in vows, promises, and suicides.<sup>72</sup> Relating to ourselves with this kind of reflexivity implies a distance from ourselves that cannot be spatial or temporal because it is at the same time also inside of and present to that which it reflects upon; hence it is not a distance that could be materially instantiated in a brain.<sup>73</sup>

## VII

This evidence may suffice to establish that we are free in a way that cannot be taken away by brain states, disabling the alleged counterevidence. Our specific dignity as persons, as free and responsible, can be maintained against contemporary challenges.

At the same time, this does not mean that our freedom is without limits. Aquinas does not share the exaggerated notions of free will that Sam Harris thinks are required when he

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that would also not hear *itself* but only the first ear. Cf. *ST I*, q. 14, a. 2 ad 1. See extensively on this point Scarpelli Cory, “The Reflexivity of Incorporeal Acts.”

69. Scarpelli Cory, “The Reflexivity of Incorporeal Acts,” 136–40.

70. A “subject” is “a ‘system’ which [is] once more confronted with itself as a whole, and hence cannot simply be thought of on the lines of a computer made up of different parts, which in spite of all built-in controls, cannot once more manipulate itself as a whole” (Karl Rahner, “Person,” in *Sacramentum Mundi*, vol. 4 [New York: Herder & Herder, 1969], 404–19, at 417).

71. The will is in its own power. See *ST I-II*, q. 9, a. 3.

72. The latter appears to be the apex of freedom for Jean-Paul Sartre.

73. This reflexivity—as *reditio in seipsum*—may even obtain on an ontological level. See Thomas Aquinas, *Super De causis* 1.15.

says, “Consider what it would take to actually have free will. You would need to be aware of all the factors that determine your thoughts and actions, and you would need to have complete control over those factors.”<sup>74</sup> According to Harris’s caricature, in order to be free we would have to be in control of our genome, our entire prehistory, and perhaps the big bang itself—or else “the cosmos made me do it.”

By contrast, Aquinas’s view is much more differentiated and almost disappointingly commonsensical. Aquinas did not know much about the details of our brain physiology, genetics, hormones, the laws of nature, or the preservation of energy, but what he does know and say can be related very plausibly to what we know today, especially regarding anthropology and the laws of nature.

## VIII

Regarding anthropology, Aquinas raises the question of which parts of our human nature we can control by free will—and how.<sup>75</sup>

Beginning “bottom-up,” with the very materiality of our *bodies*, he notes that we obviously can move our body by locomotion.<sup>76</sup> Though there are limits to locomotion in that we cannot make ourselves levitate or bilocate, nor—without technical assistance<sup>77</sup>—fly at will or run as fast as a cheetah.

Our *vegetative* parts are only partly in our control. Our digestion, for example, works independently from our will (for better or for worse). The heartbeat is not normally under our direct control. Breathing, on the other hand, can be done both voluntarily and involuntarily. Regarding procreation, Aquinas disagrees with Augustine, who thought that before the fall Adam and Eve could use their procreative organs by a direct command of the will, without the involvement of passions.<sup>78</sup>

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74. Harris, *Free Will*, 13.

75. See *ST I-II*, q. 17, with some examples of my own.

76. *ST I-II*, q. 17, a. 9.

77. I.e., by “basic action” (Bennett, *Philosophical Foundations of Neuroscience*, 225–26).

78. *ST I-II*, q. 17, a. 8, and a. 9 ad 3.



What we perceive by our *external senses* is also not typically under our control (unlike perhaps in the “fire walk” of Indian fakirs).<sup>79</sup> However, we can control our sense perceptions indirectly, namely by locomotion: for example, we can withdraw our hand from the hot stove when we feel the pain from the heat. Vital for our moral responsibility, our free will and locomotion allow us to withdraw from sources of temptation and occasions of sin when flight is better than fight (e.g., by turning off the computer). Since this is subject to the will, we can be held responsible for falling into temptation.

This freedom increases when we come to the *internal senses*. Not only can I distract myself by external occupations when temptations come into my imagination unbidden, but—unlike the external senses—I can also, to a certain extent, redirect my imagination itself (though we should beware of “Baudouin’s Law”<sup>80</sup>). For our imagination is not only passive (associations) but can be used creatively and at will. Likewise, by contrast with animals, we can *remember* things at will.

Now, this control of our will over our internal senses and passions is only indirect, for the medium of this control is the intellect, which is a kind of interface between the will and the other faculties.<sup>81</sup> It is not often noted that Aquinas rather consistently says that nothing can influence the will except through the intellect and vice versa: the will cannot control other faculties except through the persuasion of the intellect.<sup>82</sup> Thus, for

79. Aquinas is skeptical about the (typically more Eastern) claims, which he found in Avicenna, that mind can control matter. See Anselm Ramelow, “Miracles: Finite and Infinite Agents: How Aquinas Would Distinguish Divine Revelation from Deception,” *Angelicum* 92 (2015): 57–92, at 68–71.

80. “We may recall Baudouin’s Law, that when the imagination and the will are in open conflict, the imagination always wins: if by attempting a direct repudiation of the temptation, we merely cause it to loom larger and larger in the imagination, we are only courting disaster; the only hope lies in trying to engage the imagination with other things” (Gerald Vann and Paul Kevin Meagher, *The Devil and How to Resist Him* (1957; Nashua, NH: Sophia Institute Press, 1997), 63).

81. *ST I-II*, q. 17, a. 7; q. 10, a. 3.

82. Aquinas, *De veritate*, q. 22, a. 9 ad 6; *ST I-II*, q. 17, a. 7; q. 9, a. 2; q. 10, a. 3 co. and ad 3; q. 9, a. 5 co. and ad 3; q. 77, a. 1 and a. 2. The will can also move the *act* of the other faculties (including the intellect itself!)—as distinct from the *content* of these acts. But this would be indeed only as presented by

example, the will cannot move or redirect our passions directly. Its rule over the sensual part of the soul is “political,” not “tyrannical” or “despotic”.<sup>83</sup> It has to persuade the passions as a speaker does in parliament, by argument and rhetoric, perhaps akin to contemporary “cognitive therapy.” Thus, we have a certain control over our inner sensual life. But this control, indirect as it is, does not lend itself to exaggerated notions of free will. Neither is it defeatist: our will is not at the mercy of our feelings (let alone identical with them) but can change them to a certain extent by the use of reason.<sup>84</sup>

Conversely, can the other parts of our humanity move the will? For Aquinas, the only thing that can move the will with efficient causality is God,<sup>85</sup> and we have already seen that, in the absence of a physical organ, material causes have no leverage. This leaves formal and final causality, which, for Aquinas, consists exclusively in the in-formation by the intellect.<sup>86</sup> By this information, our intellect presents to the will all the other elements of our humanity as *objects* rather than *causes* of choice. For in a truly free choice we act not *from* desire but *in view of* our desires.<sup>87</sup> Our will, if it is to be free, cannot be a blind cause; rather, it must decide upon rational deliberation. Accordingly, Aquinas nowhere says that our passions can move the will directly;<sup>88</sup> they can only influence and

the intellect (including the act of the intellect itself). See *ST I-II*, q. 17, a. 6. “*Voluntas movet rationem imperando actum eius*” (Aquinas, *De veritate*, q. 22, a. 1 ad 3).

83. By contrast with the despotic control over the inert body (*ST I-II*, q. 9, a. 2; and *I*, q. 81, a. 3 ad 2), all lower faculties are dependent on the higher ones, just as the lower cosmic spheres are on the higher ones (*ST I*, q. 81, a. 3 co.).

84. See Augros, *New Story*, 22–23.

85. *ST I-II*, q. 9, a. 4 and a. 6; q. 10, a. 4. God can change not only the act but the essence, faculties, and habits of our free will. See Aquinas, *De veritate*, q. 22, a. 8.

86. On the debated question of the final and/or formal causality of the intellect regarding the will, see Ramelow, “Nachwort,” in *Über die Wahrheit*, vol. 5, 346–57.

87. Albritton, “Freedom of Will,” 248.

88. E.g., *ST I-II*, q. 9, a. 2; q. 10, a. 3. This may be different for Franciscan thinkers like Bonaventure. See Ramelow, “Begriff des Willens,” 42–43.

potentially distort the intellect's representation of the requisite information. Such distortions can result from emotions, but also from physical substances (such as drugs or alcohol) that alter the organs of the external and internal senses (brain), on whose phantasms the intellect relies. Similarly, torture can "break the will" by operating on the external senses. Psychotic episodes can do the same. (Aquinas would acknowledge the proper role of the psychiatrist and medication in restoring the playing field of free will.) None of these factors, however, operates on the will directly, that is, by efficient causality.<sup>89</sup> Even in these disastrous states, free will retains at least the capacity to veto: it can refuse to make *any* decision because there is nothing *by which* to make it. In that case, we may even be morally required to refrain from making any decision, or, knowing the requirement ahead of time, we may bind ourselves to a mast like Odysseus.

Given the many challenges to our will, Aquinas holds that, even in the state of grace, we cannot avoid every venial sin, at least *collectively*: though we can avoid each venial sin *singly* (in the "distributive" sense), on the whole, statistically, we will probably fall for at least one of them.<sup>90</sup> Aquinas is clearly not exaggerating our freedom.

## IX

Can free will be maintained over against the laws of nature? The notion of such laws originates only in the seventeenth century, but something analogous existed even in Aquinas's day. Though

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89. Aquinas, *De veritate*, q. 22, a. 9.

90. After the Fall, the intellect is (mainly) the problem: stress, tiredness, multitasking, and surprises undermine its total attention; something is bound to go wrong eventually. See Aquinas, *De veritate*, q. 24, a. 12 and a. 13. Without grace, we cannot even avoid all *mortal* sins (*ibid.*). See also Peter Lombard, *Lib. Sent. I*, d. 25, c. 5; Augustine, *De civitate Dei* 22.30. This may be true even before the Fall, rooted in our finitude (*as malum metaphysicum*). See Jacques Maritain, *St. Thomas and the Problem of Evil* (Milwaukee: Marquette University Press, 1942), 23–43; Michael Torre, "The Sin of Man and the Love of God," in John Knasas, ed., *Jacques Maritain* (Notre Dame: University of Notre Dame Press, 1988), 203–13; and Tobias Hoffmann, "Aquinas and Intellectual Determinism: The Test Case of Angelic Sin," *Archiv für Begriffsgeschichte* 89 (2007): 122–56, at 138–42.

discredited today, *astrology* was for Aquinas the best available science of his time. It resembles modern laws of nature, at least in the sense that celestial bodies operate according to strict mathematical and geometrical laws. Whether circles or ellipses, whether heliocentric or geocentric, there is in the motion of the stars a certain ideal mathematical accuracy, akin to the mathematical equations according to which we formulate the laws of nature. These modern laws of nature are different only in the sense that they have now been extended to the terrestrial or sublunar realm,<sup>91</sup> and consequently can also be found in our human bodies and brains. There, they do precisely what Aquinas and others thought the heavenly bodies did: they influence our behavior by influencing our lower appetites.<sup>92</sup> As such, one model is not intrinsically more superstitious than the other; rather, the best available science has changed and shifted its focus.

The relevant question for us is whether these laws are deterministic. Aquinas did not think so; he invoked the classical principle *astra inclinant, non necessitant*—"the stars incline, but do not necessitate."<sup>93</sup> Comparably, we might say today that the laws of physics incline us to certain behaviors but the indeterminacies of quantum mechanics allow for exceptions, since they only amount to statistical probabilities. Although this does not yet explain how matter behaves in a human brain or how our organism might avail itself of the indeterminism of quantum mechanical processes. Answers to these questions remain largely a matter of speculation.<sup>94</sup> Still, nothing requires us to believe that laws of nature hold without exception. In fact, as we have said earlier, such determinism would undermine the very science that makes the claim. It is not impossible that these laws are domain-specific and

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91. Though here they will hold only *ceteris paribus*. See Nancy Cartwright, *How the Laws of Physics Lie* (Oxford: Clarendon Press, 1983).

92. Aquinas, *De veritate*, q. 22, a. 9 ad 2; *ST I-II*, q. 9, a. 5; q. 10, a. 3.

93. Thomas Aquinas, *Summa contra Gentiles* [= *ScG*] 3.84–87; *ST I-II*, q. 9, a. 5.

94. Indeterminism is only a necessary condition, for free will is not random motion (Harris, *Free Will*, 28–29). Instead, the rational representation of reality and our goals may move our body as a whole (Searle's "system's causality"; see *Rationality in Action*, 269–98), or by way of other faculties (e.g., motor faculties).

operate without exception only in the inorganic realm, which is where they are usually tested.<sup>95</sup>

Aquinas thinks of the influence of celestial motions as a matter of mere propensities that generate probabilities rather than necessitation.<sup>96</sup> Today we could think that such propensities result from our genetic equipment or our hormonal and neurophysiological predispositions, and we may replace celestial character types with personality psychology (Myers-Briggs Type Indicator or others, whatever their merits). Yet nothing indicates that all these are more than propensities; once all the predispositions are in, we still have a choice to make.

When it comes to this choice, however, Aquinas is surprisingly pessimistic. He thinks that most people will end up following these inclinations anyway and that only the wise will resist.<sup>97</sup> Freedom for him is correlated with a degree of wisdom and education, and those without it may follow their first impulse and give in to the felt urge of their readiness potentials. Only the wise will rationally take a step back and activate their *liberum arbitrium*.

Although this might sound somewhat elitist (and perhaps self-servingly suggest that only philosopher-kings should rule), it also is a commonsense observation. Even more than in Aquinas's time, we now know that this is reflected in the results of social statistics. These statistics can predict the rates of suicides, consumer preferences on Amazon, or crime rates—all of which supposedly involve our free will and our responsibility. Already early on in the sixteenth century, Jesuits were asking whether this implies that our choices are determined. Their answer was along the lines of Aquinas's observations on venial sin: we can still avoid such choices individually, even if not collectively. Statistically, therefore, there will be a certain number of sins or other actions in a population or in an individual's life, and predictably so. But it is just as in a game of rolling dice: we can

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95. On limitations for the claims of natural law, see T. J. Mawson, "Freedom and the Causal Order," in Nancy Cartwright and Keith Ward, eds., *Rethinking Order After the Laus of Nature* (London: Bloomsbury, 2016), 143–56; and Steven Horst, "From Laws to Powers," in *ibid.*, 157–83.

96. E.g., *ST I-II*, q. 9, a. 5; *ScG* 3.85.21–22.

97. *ST I-II*, q. 9, a. 5 ad 3; Aquinas, *De veritate*, q. 22, a. 9 ad 2.

predict how the numbers will turn out collectively and statistically while nevertheless each roll of the dice is independent and not determined by the previous ones. So also each act of our free will remains free despite statistical regularities. If, statistically, one out of a thousand inhabitants of Madrid commits a mortal sin every day, this does not determine which inhabitant it is. If at 11:59 p.m. nobody else has yet done so, we are not therefore forced to commit a sin.<sup>98</sup>

There is more than statistics at play here: as those Jesuits knew, we also have inclinations rooted in our nature, with its biological needs and urges (e.g., for nutrition or procreation). All things being equal, we will predictably act on them, not as a matter of determinism nor even out of weakness of the will, but simply because it is the rational thing to do. If we are hungry, we eat, unless we have further reason not to do so (it may be Lent, or someone else needs the food)—and perhaps the wise person may have more reasons of that sort. Eating when we are hungry may not usually require us to deliberate (unless we are on a diet), yet, if someone were to ask us, we may indeed “confabulate” some reason for our eating. This would by no means be a *mere* confabulation, for, all things being equal, it *was* reasonable to follow our nature. Looking back, we *rightly* think that it was a reasonable thing to do, and we merely *explicate* (rather than confabulate) the implied reason.

Other inclinations, of course, may not be so rational. After the Fall, many of our natural instincts are distorted by inheritance, the cultural environment, or our own previous choices. Such distortions will predictably occur and are also predictably exploited and manipulated by “surveillance capitalism,” advertisement, and electoral campaigns, on social media and elsewhere. If this manipulation did not work, nobody would invest in it.

None of this would have surprised Aquinas, nor would it have made him question free will. There is no need to embrace exaggerated notions of free will for it to be real or to be considered

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98. Sven K. Knebel, *Wille, Würfel und Wahrscheinlichkeit. Das System der moralischen Notwendigkeit in der Jesuitenscholastik 1550–1700* (Hamburg: Felix Meiner Verlag, 2000).

to govern our lives.<sup>99</sup> If we ask ourselves how often we have made a conscious, deliberate choice today, the answer may well be “not very many times.” For in our everyday life we all develop routines that allow us to go on autopilot and disburden us from the need to make the same choices over and over again. When it comes to deciding which way to drive to work or school, routines are helpful. They also make our life predictable, but is this an argument against free will? In lesser matters, we may not consciously deliberate very much. Yet in many cases there was a choice that we did make initially. Even our routine habits continue to rest on earlier choices, and that is why we *own* them as ours. If we claim them and accept authorship for such actions, and if we give reasons for them, then this is not merely an “ex post confabulation” but really the truth of the matter. As we have seen earlier in the case of playing tennis or getting out of bed, the initial deliberations and choices continue to govern our current behavior. We consider them to be the outcome of our self-formation and therefore take responsibility for them, owning them as ours.<sup>100</sup> As should be evident from the foregoing, free choices are not merely atomic; they have a history. As such, they can also govern larger patterns of life. It is not as if there are only certain parts (perhaps too few) under the influence of free choice. It is not as if there is a zero-sum game between our free choices and other parts of our lives. It is rather that our choices frequently govern the whole of a complex scenario of habits and beliefs developed over time as part of our self-formation. In fact, with such a history our freedom *increases*, because much of the prehistory that influences our choices will be of our own making—even if not to the extent that Sam Harris requires.<sup>101</sup> In this way, freedom gradually acquires a content, for freedom and the self grow in parallel, as Tallis notes.<sup>102</sup>

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99. There is a genuine place for Heideggerian “thrownness” or “facticity” in which our freedom is situated.

100. This includes *beliefs* that we now hold unconsciously, but for whose formation we may have been responsible at some point in time. There is such a thing as culpable ignorance.

101. Following Robert Grosseteste, O'Connor suggests that an angel who exists only for a single instant is less free than his temporally extended counterpart, even if they share the same inclinations and capacities at that point (“Conscious Willing,” 183–84).

102. Tallis, *Aping Mankind*, 255–59.

Thus Aquinas's account is not necessarily elitist, for even the wise man does not always make conscious choices, nor even most of the time. He would not be wise if he did. He would indeed lose some of his freedom if he wanted to choose everything consciously, for human nature and our routine habits free us to pursue wider goals without being stuck in the humdrum decisions of every day. They allow us to choose and deliberate about more important, universal goods—as befits a wise person. This sets us free, even though the most universal good of all is beyond our choice. For we all seek happiness; we all seek God. □

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