

AN INCHOATE UNIVERSE: JAMES'S PROBABILISTIC UNDERDETERMINISM

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In this paper, I challenge the traditional narrative that William James's arguments against determinism were primarily motivated by his personal struggles with depression. I argue that James presents an alternative argument against determinism that is motivated by his commitment to sound scientific practice. James argues that determinism illegitimately extrapolates from observations of past events to predictions about future events without acknowledging the distinct metaphysical difference between them. This occupation with futurity suggests that James's true target is better understood as logical determinism rather than causal determinism. This has consequences for James's proposed alternative, which I call his *probabilistic underdeterminism*, a conception of the universe that is built on chance, choice, and a local teleology. All of this forms part of a broader criticism of the scientific practices of his day based on their widespread failure to acknowledge the distorting effects of observation on that which is observed.



The traditional narrative about William James's arguments against determinism suggests that his hostility to determinism was motivated primarily by his personal struggles with depression. This view is reinforced by the fact that James tends to resort to moral arguments instead of metaphysical or scientific ones, even when he is working within such a context. If this is the case, then scholars are right to view James's arguments as an exercise in self-assurance rather than a serious challenge to the doctrine. However, I believe that this narrative is incomplete. While it is right to claim that there is a deep connection between James's mental and physical health and his attitude towards determinism, he presents an alternative argument against determinism that is nuanced, powerful, and in no way motivated by his personal struggles. The purpose of this paper is to articulate this argument and draw out its consequences for our approach to James on this topic.

In the first section of this paper, I argue that the target of James's arguments against determinism is not as straightforward as traditionally thought, for he accepts that certain forms of determinism are explanatorily helpful in scientific activity. As such, I argue that it is more helpful to think of James's arguments as being against logical determinism rather than causal or material determinism. In section two, I articulate James's argument against logical determinism that is motivated not by his personal struggles, but rather his commitment to sound scientific practice. James argues that logical determinism illegitimately extrapolates the causal structure of future events from that of past events without acknowledging either the metaphysical difference between those events or the distorting effect that observation has on our conception of those events. James's proffered alternative to logical determinism is presented in section three; which I refer to as his *probabilistic underdeterminism*. In section four, I demonstrate how this argument is part of a broader criticism of the prevailing scientific methodologies of James's day in order to bolster my claim that this is scientifically motivated, and consider what this means for our conception of James as a scientist.

WHICH DETERMINISM?

The traditional narrative about James's struggle with determinism has two key features. First, it holds that his struggle with determinism was intimately connected with his physical and mental health. Second, it holds that James's ultimate rejection of determinism was on personal, non-scientific grounds. I wish to affirm the first feature and deny the second feature.

The relation of James's struggle with determinism to his physical and mental health is well-documented and, in my estimation, above dispute. As the story goes, James's severe depression in his youth made determinism attractive, and his deterministic mindset deepened his depression. Robert D. Richardson notes that James's initial attraction to determinism was intimately connected to the physical health of himself and those close to him; the death of a close friend hit him particularly hard.¹ Jacques Barzun observes that a significant low point for James occurred as he was undertaking his medical degree, given reductive materialism's explanatorily powerful role in that science.² John J. McDermott suggests that questions of free will were integral to James's contemplation of suicide.³ Most commentators agree that James only emerged from his depression after having been, in the words of Richardson, "reborn emotionally" through the professional and personal stability gained by securing a position at Harvard and marrying Alice Gibbens.⁴ This emotional rebirth coincided with his engagement with the works of Charles Renouvier, which eventually emboldened James to make his first act of free will: to believe in free will.⁵ This led to James writing his 'crisis texts,' which sought to "develop a doctrine to sustain such a belief [in free will]";⁶ it is here that we find James's most ardent anti-determinist writings. Thus, the first feature of the traditional narrative about his struggle with determinism seems well-established: The struggle was, in some way, intimately connected with James's physical and mental well-being.

The second feature of the traditional narrative concerns the nature and merit of the specific arguments James advances against

determinism. Many scholars hold to the idea that since his struggle with determinism was highly personal, James's arguments against determinism are personally motivated to an unacceptable degree. This idea is presented most forcefully by Richard Gale. Gale, who claims that James's arguments against determinism "amount to nothing but a skein of question-begging rhetorical definitions."⁷ Further, Gale argues that James's positive arguments for indeterminism employed emotive language and traded on common sense intuitions about regret in the place of an intellectually rigorous argument.⁸ Gale sees James's arguments against determinism as a psychological exercise meant to assuage his own concerns about freedom rather than being a rigorous philosophical engagement.⁹ As such, they are unworthy of serious consideration outside of biographical interest about James.¹⁰ Similar, albeit more charitable, examples of this narrative can be found in the works of Charlene Haddock Seigfried,¹¹ McDermott,¹² Richardson,¹³ and others.

While personal motivations undoubtedly played a role in James's rejection of determinism, I believe that James's motivations are more complicated than is traditionally assumed. The traditional narrative fails to capture two aspects of James's arguments against determinism. First, it does not recognize that his hostility is reserved only for one form of determinism. I argue that taking James's target to be logical determinism, rather than causal determinism, better reflects his concern with futurity and foreknowledge. Second, the traditional narrative does not pay sufficient attention to the scientific motivation behind James's argument against determinism. I will discuss the first point in this section and address the second point in the next.

A strong point in favor of the idea that James does not reject all forms of determinism is that James himself explicitly endorses determinism under certain specific circumstances, a point to which he returns repeatedly, especially in his more scientific works. In the preface to *The Principles of Psychology*, James claims that a psychologist "assumes certain data uncritically" for his or her work to even be possible (e.g., the existence of thoughts and feelings).¹⁴

This statement caused a furor in the scientific community, provoking negative reviews and responses to *Principles*.¹⁵ James defended his claim in his 1892 article, “A Plea for Psychology as a ‘Natural Science,’” in which he observes that any natural science must “make a number of convenient assumptions” in order to function.¹⁶ Whatever these assumptions are, they are all validated in the same manner: by their explanatory or predictive power as determined through their careful deployment in hypothesis-testing.¹⁷ James makes the same point in his 1911 book *Some Problems of Philosophy* and illustrates his point with the example of atomistic physics. Although atomism is *prima facie* “absurd,” James notes that it is so useful for explaining scientific observations that “we adopt [it] unhesitatingly” along with the related assumption that “the laws by which we describe [atomic structures’] habits are uniform in the strictest mathematical sense.”¹⁸ In this, we see the same commitment expressed twenty years earlier, that science must posit “convenient assumptions” to function. If they are unhelpful or lead to questionable predictions (or retrodictions) about observed phenomena, then the assumption would be abandoned in favor of a more explanatorily powerful assumption.¹⁹

James claims that the most important convenient assumption of any science is that of hard determinism, or the belief that all events will progress according to observable and predictable laws.²⁰ This is the case because “[a]ll natural sciences aim at practical predictions and control,” which is only possible if like causes lead to like events in a lawful manner.²¹ James gave longstanding support for the idea that psychology should follow the natural sciences, including the incorporation of hard determinism into its methodology. Years before his “Plea,” or even the publication of *The Principles*, James stated in an 1884 letter to the editor of *Open Court* that he “claim[s] determinism in the interest of scientific activity” to rebuff the charge that he held an anti-scientific methodological libertarianism.²² James carried this methodological hard determinism with him throughout his career, and not just in his psychology. In *Pragmatism*, James explicitly rejects the

possibility that there can be events which cause other events, but are not themselves caused.²³ Ultimately, like all convenient assumptions, determinism must be judged on its usefulness. James finds it quite useful—and indeed, necessary—in certain domains, a position he never recanted. Determinism *qua* determinism does not seem to be the target of James's arguments.

The question of which forms of determinism are the true targets of James's arguments persisted throughout his career, exacerbated by his notorious penchant for being unclear with his terms and inconsistent with their use. This penchant carried over into James's correspondence as well. In Shadworth Hollway Hodgson's March 6, 1886 letter to James, Hodgson complained that in previous correspondence James had taken determinism to be synonymous with fatalism and then had proceeded to criticize this strawman of his position.²⁴ The clearest distinction James makes between the two is in "The Dilemma of Determinism," where he argues that the "fatalistic mood of mind" is one possible response to the particular form of determinism with which he takes issue;²⁵ or seen in another way, fatalism is a *subspecies* of the problematic form of determinism. The form of determinism that leads to fatalism is the form that:

professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall be. The future has no ambiguous possibilities hidden in its womb; the part we call the present is compatible with only one totality. Any other future complement than the one fixed from eternity is impossible. The whole is in each and every part, and welds it with the rest into an absolute unity, an iron block, in which there can be no equivocation or shadow of turning.²⁶

This passage gives us two features of the "iron block" view of the universe that James finds problematic. First, such a view holds that for any point in the future, there is, at most, one possible state of

affairs. Such a view holds that for any event p , the antecedent states of affairs of p are the sufficient cause of p . As such, to understand why p is the case, we merely need to examine the antecedent state of affairs while armed with a knowledge of the causal mechanisms of physics. If we have a complete idea of all the forces at play, we can, in principle, perfectly predict all future states of affairs. The second feature of such a view is a consequence of the first. If there is at most one possible state of affairs, then any appearance of multiple possible future states of affairs (what James calls *ambiguity*) is illusory. If the future looks ambiguous, then there must be an as-yet undiscovered cause that, once discovered, would eradicate the apparent ambiguity. This is typically explained as a function of our limited viewpoint: If we had improved methods of observation, then we would be able to see the necessity of each state of affairs. Any form of determinism that makes both claims falls under this category and is subject to James's arguments.

James's rejection of the iron block view has been noticed by James scholars; the very term is one of the rhetorical definitions about which Gale complains.²⁷ James's hostility to the iron block view creates a tension in his thought. Although James claims determinism precisely for the predictive ability that it affords, he rejects the iron block view, in part, due to its use of that predictive ability. This tension is central to those who advance a "divided self" narrative of James, wherein his scientifically-minded self is constantly at odds with his moralistically-minded self. However, it is only maintained in conditions under which James believes that the debate cannot be settled in his favor. Most treatments of determinism, including those of James's arguments against determinism, extrapolate the causal structure of future events from those of past events. James believes that such an extrapolation will invariably lead to an iron block view of the universe, and as such, any claim to indeterminism is obviously false.²⁸ James believes that extrapolating the future from the past is neither necessary nor legitimate, for extrapolating in this fashion ignores significant differences in the causal structures between past events and future

events.²⁹ While this argument developed slowly and was only explicitly articulated later in his career, James's concern with futurity is reflected throughout his corpus and his personal correspondence. It was noted explicitly by Hodgson, who remarked that James was preoccupied with forms of determinism that make a claim to a static future, such as predeterminism or fatalism, to the exclusion of forms of determinism that did not make such claims about the future.³⁰ This suggests that despite laying out the iron block view in the manner previously described, James's primary concern is not the claim that the universe progresses in a lawlike fashion, but rather that the progression of the universe is towards one necessary future state of affairs. He accepts that there will be only one way that the future will be, but rejects that there is more than one way it could be.

Given James's acceptance of hard determinism in some cases and his overriding concern with claims to the necessary state of future events, I submit that it is more fruitful to think of James's target as being logical determinism rather than causal determinism, even if he never expressed it in those terms. Logical determinism claims that all propositions about future events have a definite and static truth value. Since this is the case, all future events must occur by logical necessity. Gilbert Ryle explains this position as being:

Whatever anyone does, whatever happens anywhere to anything, could not *not* be done or happen, if it was true beforehand that it was going to be done or was going to happen. So everything, including everything that we do, has been definitely booked from any earlier date you like to choose. Whatever is, was to be.³¹

Causal determinism claims that one could perfectly predict any future state of affairs if armed with a sufficiently detailed knowledge of physics and knowledge about a past or present state of affairs. In such a scheme, predictions will only be validated (or

falsified) when the predicted event occurs (or fails to occur). Logical determinism makes an even stronger claim—that since proposition *p* about future event *e* already has a truth value, there is already a fact of the matter about *e* that allows for *p* to have its truth value. In some sense, *e* has *already happened*. J. R. Lucas argues that logical determinism “exclude[s] the possibility of a subsequent change of mind, and in some cases—long-range predictions—exclude[s] the possibility of any factor under the agent’s control being relevant.”³² The notion of agential control is central to James’s antipathy towards this form of determinism. As we shall see, he argues that what an agent does can be relevant to causal determinism if causation is understood probabilistically. Logical determinism admits no such possibility; the future is, in the words of Ryle, definitely booked. This explains why James thought that fatalism was a “mood of mind” brought about by his target form of determinism: if the future is fixed, then one naturally wonders how the future is fixed. One possible explanation is divine predetermination, whereby the fixity of future events is rooted in God’s infinite knowledge and infallibility. If His knowledge is infinite, then God knows what will happen in the future. If God is infallible, then whatever He believes about the future is true and unchanging. Necessitarianism and fatalism are other explanations for why the future is as static and fixed as the past.

The context of Hodgson’s termination of his correspondence with James further reinforces the appropriateness of considering James’s arguments in the light of logical determinism. Hodgson eventually terminated his correspondence with James because James refused to budge on his position that determinism and free will are incompatible, especially with respect to bringing about future states of affairs.³³ James, however, never shows any reluctance to talk about physiological or psychological causes of behavior or deny the fact that all behavior will have a cause. It is the status of future events that troubles James—the idea that the world could be otherwise. In fact, his entire project of meliorism rests on the assumption that the universe is responsive to individual

striving; this would be impossible if the future was already as set as the past.

Understanding James's target as logical determinism alleviates much of the tension described earlier. He can maintain methodological hard determinism while rejecting logical determinism given the role that determinism is meant to play in science. The scientific upshot of methodological hard determinism is its predictive power. As an assumption, it is quite successful. Logical determinism, in contrast, affords no extra success to science while making unnecessary metaphysical commitments about the state of the universe. Logical determinism adds nothing to science that causal determinism does not bring to the table, while entailing more problematic views about the state of the universe. Given James's standards for maintaining or rejecting the convenient assumptions of science, logical determinism ought to be jettisoned, while causal determinism ought to be maintained.

In sum, James does not reject all forms of determinism, but only a particular subclass thereof. This alone problematizes the feature of the traditional narrative that James rejected determinism for personal reasons; he cannot be said to have rejected determinism wholesale if he claims determinism for himself in some cases. However, it could still be the case that James rejected logical determinism for merely personal reasons. I will now turn to a neglected argument against determinism that is motivated by James's commitment to sound scientific practice and its attendant commitment to methodological hard determinism.

CONCRETE POSSIBILITIES AND LOGICAL DETERMINISM

James's scientifically-motivated argument against determinism is straightforward yet powerful. In a nutshell, James claims that determinists fail to consider the effect that one's observational standpoint has on one's conception of the thing observed, especially with respect to how an event's temporal status affects its causal history. Past events will always *appear* to have been determined because they are past; the passage of time has whittled

away possible alternatives that existed before that event was in the past.³⁴ The previously dynamic relations between that event, the events preceding it, and the events to which it leads are made static. One should expect that past events look determined, because past events *are* wholly determined. The mistake is to expect that future events would have the same static relations, since static relations are solely the property of past events.

James's argument rests on his account of how *concretely possible* events are actualized. He notes that everything is possible when taken abstractly—even a squared circle—but there are barriers to those abstract ideas from being actualized.³⁵ For James, an event is concretely possible if there are no “preventative conditions” present for that event to occur and that some “conditions of production” of that event are met.³⁶ Preventative conditions are general for and apply to all events. They include logical impossibility, “incompatibility with the given laws of nature,” and contradiction with incompatible actual facts.³⁷ Conditions of production are specific to the event in question, because each kind of event will have a unique set of conditions required for that event to come about.³⁸ As preventative conditions disappear and more conditions of production are met, the event becomes more and more concretely possible. James applies this to the case of a chicken: “Thus concrete possible chicken means: (1) that the idea of chicken contains no essential self-contradiction; (2) that no boys, skunks, or other enemies are about; and (3) that at least an actual egg exists.”³⁹ In this example, (1) and (2) are the preventative conditions, while (3) is a condition of production. While (1) is common across all events, (2) introduces probabilistic considerations regarding the specific type of event under consideration. Incompatible actual facts do not make it any less possible that chickens *qua* chickens exist, but rather affect the probability that a chicken can be found in such circumstances. James summarizes, “As the actual conditions approach completeness the chicken becomes a better-and-better-grounded possibility. When the conditions are entirely complete, it ceases to be a possibility, and turns into an actual fact.”⁴⁰ James's universe is

dynamic and in a state of perpetual growth that requires constraints to keep the growth in check.⁴¹

James's account of actualization suggests that there is a distinct metaphysical structure between past and future events that will lead to identifiable and predictable differences emerging from one's observational standpoint. The process of actualization ensures that all past events or states of affairs will have a causal structure which suggests that they are determined. For *p* to be actualized, the preventative conditions of *p* must be removed and the conditions of production for *p* must be met. Only once all the necessary conditions for a state of affairs becomes sufficient, then, and only then, will that state of affairs come about. This explains why it is the case that all past events seem to be fully determined—they only happen when their conditions are met, so of course it would seem as though they were determined to come about. However, this only occurs with the fullness of time and only because of the removal of all impediments, a set which includes contrary or contradictory states of affairs.⁴² Even events or states of affairs that are the result of what James calls *absolute chance* will look determined after they happen. As James notes, any event “after it happens will *have been* necessary,” but it only appears that way because it is in the observer's past.⁴³

This passage from *Pragmatism* discussed in the previous paragraph helps clarify the point of James's example of choosing which route to take home after a lecture (found in “The Dilemma of Determinism”). James asks us to suppose that there are only two ways to walk home, either by Divinity Avenue or by Oxford Street. Further suppose that the “choice is made twice over, and each time falls on a different street.”⁴⁴ Logical determinists in each of the alternative universes will see one's choice of route as being fully determined and necessary, and would view the alternative world as an impossibility borne of our imaginations.⁴⁵ But someone from a third universe would see that each universe was possible before the choice was made; to insist otherwise is “a mere conception fulminated as a dogma and based on no insight into details.”⁴⁶ As James states, “[I]t is [determinists] rather who seem

to make nature continuous; and in their strange and intense function of granting consent to one possibility and withholding it from another, to transform an equivocal and double future into an unalterable and simple past.”⁴⁷

The ironblock universe is thus a product of not taking into account the metaphysical differences between past events and future events. An issue remains for James: Despite describing the process by which concretely possible events become actual events, James provides little insight into which possibilities will in fact become actualities. In other words, what determines the removal of the preventative conditions or the meeting of the conditions of production? How do past events lead to future events, if logical determinism is false? To answer these questions, we must look into James’s proposed alternative to determinism.

JAMES’S PROBABLISTIC UNDERDETERMINISM

James’s own view is built on three core tenets: first, the belief that chance is the vital force for determining which events occur; second, the belief that humans have evolved to a point where they have the ability to manipulate events and can therefore increase or decrease the probability of that event occurring; and third, the rejection of global teleology. These tenets are captured best by James’s assertion that in his system, “possibilities may be in excess of actualities, and that things not yet revealed to our knowledge may really in themselves be ambiguous.”⁴⁸ When taken together, these tenets establish what I refer to as James’s *probabilistic underdeterminism*.⁴⁹

The first tenet of James’s probabilistic underdeterminism is that chance is the primary means by which events are selected. This view is informed by his deep commitment to Darwinism.⁵⁰ James argues that the worldview necessitated by Darwin is that of a “sort of table on which dice are continually being thrown.”⁵¹ Chance is an integral part of James’s worldview. James notes that chance typically carries with it connotations of randomness and irrationality, but he is clear that he intends to use it in its negative sense, denoting merely cases in which an event is “not controlled,

secured, or necessitated by other things in advance of its own actual presence.”⁵² James is not claiming that there are events which do not have any causal antecedents. Rather, his argument is that there are points at which the material conditions of the universe are insufficient to cause *any* of the possible states of affairs resulting from it. Instead, the material conditions of the universe may make one state of affairs more likely than the other; however, it is still possible that this state of affairs is not actualized.

Consider this in terms of probability.⁵³ Logical determinists insist that all events have a probability of either zero or one, and that all apparent probabilities differing from this are a function of our ignorance of causes. In James’s words, according to determinism, “necessity on the one hand and impossibility on the other are the sole categories of the real. Possibilities that fail to get realized are, for determinism, pure illusions: they were never possibilities at all.”⁵⁴ James instead argues that events can have an actual probability that falls somewhere between zero and one: “Of the two alternative futures which we conceive, both may now be really possible; and the one become impossible only at the very moment when the other excludes it by becoming real itself.”⁵⁵ Note that this does not mean that the apparent probability that we assign matches its actual probability; there is still plenty of room for errors based on ignorance and standpoint.⁵⁶ The important part is that, independent of our assignment, future states of affairs can have an actual probability that has a value of between zero and one. James thus means that “possibilities may be in excess of actualities” in a literal sense: The many universes that could be actualized greatly outnumber the one universe that is actually actualized. The future is thus ambiguous, because there is nothing in the past which necessitates only one possible state of affairs.⁵⁷

For James, chance is an inextricable property of the universe, and is responsible for much of its progress.⁵⁸ While granting that all events are either more or less probable, he still acknowledges that something has to happen, and that what will happen is largely up to chance. James writes that we “must admit that the content of

the moment of choice is *chance*, as far as the rest of the world goes. The universe is as yet inchoate.”⁵⁹ The last sentence is key to understanding James’s point. The world is incomplete and growing, and as it progresses, it “would grow by finite buds or drops, either nothing coming at all, or certain units of amount bursting into being ‘at a stroke’.”⁶⁰ While some parts of the universe may influence other parts of the universe with respect to which possibilities exist, chance will always get the final say about what is actualized, when, and to what extent.⁶¹

The second tenet of James’s probabilistic underdeterminism is that despite chance having the final say, human choice has a significant role in shaping the progress of the universe. In a deterministic system, the universe is cold, uncaring, and all of one’s struggles against it are futile. Not only is your success determined by outside forces, your very struggle is subsumed by those same forces. In James’s system, the universe is still cold and uncaring, but one’s struggles actually can affect the complexion of the universe.

Although mentioned briefly in “The Dilemma of Determinism,” this line of thinking comes into its own as part of James’s defense of meliorism found near the end of *Pragmatism*. James argues that “Meliorism treats salvation as neither inevitable nor impossible. It treats it as a possibility, which becomes more and more of a probability the more numerous the actual conditions of salvation become.”⁶² The “actual conditions of salvation” are something that we can do based on the choices that we make. The universe, being ambivalent about which possibilities are actualized, may end up unable to adequately effect one state of the universe to be actualized over others. James claims that these cases have “a gap that we can spring into” with “our *act*”;⁶³ that is, we can nudge the universe towards a certain state. To borrow language James uses elsewhere, the function of choice may be to “incline the beam” in favor of one probability over another, potentially tipping the scales and bringing that possibility about.⁶⁴

Observation again plays a role in determining how we interpret the progress of the universe. James opines that retrospective

analyses of events can yield a variety of equally compelling causal stories.⁶⁵ A retrospective analysis of the event could be agent-causal, if that is how one interprets the event. However, a retrospective analysis would admit to an event-causal description, or even a hard determinist view, for its relations are solidified and fixed. However, if the preferences and choices of individuals contribute to—or impede—the conditions required to actualize a state of affairs, and that chance ultimately determines which possibilities are actualized, then it cannot be the case that we could ever perfectly predict the future, let alone claim that propositions about the future have a definite truth value. The future must have multiple real possibilities that are in excess of the one reality.

The third tenet of James's probabilistic underdeterminism is that he rejects any form of global teleology, be it an underlying force compelling the universe in a particular direction (e.g., Hegel's absolute), or towards a final endpoint (e.g., Peirce's *concrete reasonableness*); James considers any such teleology to be a product of rationalism and absolutism.⁶⁶ Instead, James is more likely to use terms such as *equivocal* or *ambivalent* to describe the universe's comportment toward which possibilities are actualized.⁶⁷ Whether salvation or shipwreck, the universe continues on. Note that James does concede that chance is compatible with Providence, just as long as that Providence leaves open some points to absolute chance. In other words, James leaves the door open for any of the attempts to describe how an event has its eternal truth value—fatalism, predetermination, etc.—to be compatible with this system, just as long as the observer does not claim that every single event is captured by this system. However, I think that this is largely a concession to his audience, since it is always framed as an overbelief borne of considerations other than empirical.⁶⁸

There are two points we must address in order to avoid overstating James's case. First, we must note that the absence of global teleology does not establish the existence of free will, even when taken in tandem with the two preceding tenets. James does not require for indeterminism to be universal; in fact, he

specifically rejects the idea, saying that “indeterminism is no universal claimer. It only asks to exist *somewhere* in the world.”⁶⁹ It is still theoretically possible for there to be events which are the result of absolute chance without any of those events being a mental event where someone decides to pursue x over y. Second, even if we were to establish the existence of free will, this does not eliminate the role that chance places in determining which possibilities are actualized. James notes that our predilections and desires are only one factor at play which causes a state of affairs to occur. James claims that “[a]s individual members of a pluralistic universe, we must recognize that even though we do *our* best, the other factors also will have a voice in the result.”⁷⁰ Our ability to manipulate the probabilities of concrete possibilities is an evolutionary adaptation of our central nervous system that allows us to improve our chance of survival, but this does not make our choice the sole or even an essential feature of the progress of the universe.⁷¹

We now have a reasonable understanding of James’s account of the universe, or what I have called his probabilistic underdeterminism. It claims that all events have some probability of occurring, and, in the absence of any event with a probability of one, which event actually does occur is left to chance. It holds that humans have developed the ability to manipulate events so that the probability of an event can be either increased or decreased. While holding that we can manipulate probabilities through our pursuit of ends, James rejects any global teleology for the system, holding that the universe, while constantly growing, is ambivalent about the direction in which it grows. I offer that these tenets do not establish free will; instead, it is left as an overbelief with respect to the evidence. This is reflected in James’s declaration that his first act of free will is to believe in free will:⁷² He went beyond the evidence to posit a belief that makes better sense of experience than the alternative.

It is now clear that the idea that James’s rejection of determinism was motivated primarily on personal grounds is untenable. James “claim[s] determinism in the interest of scientific

activity”⁷³ and rejects logical determinism on scientific grounds. However, this does not mean that James was completely in line with the science of his day. In the remainder of this paper, I will argue that James’s argument against logical determinism is part of a broader criticism of the observational sciences of his day.

THE BROADER CRITICISM

The idea that James’s argument against logical determinism is part of a broader criticism against all observation-based sciences can be observed in the similar criticism levelled against the introspective psychologists of his day (e.g., Wilhelm Wundt, Edward Titchener, etc.). James argues that there are certain subjective states—namely, the feelings of relation—that can *never* be accurately captured via retrospective introspection. James writes:

As a snowflake caught in the warm hand is no longer a flake but a drop, so, instead of catching the feeling of relation moving to its term, we find we have caught some substantive thing, usually the last word we were pronouncing, statically taken, and with its function, tendency and particular meaning in the sentence quite evaporated. The attempt at introspective analysis in these cases is in fact like seizing a spinning top to catch its motion, or trying to turn up the gas quickly enough to see how the darkness looks.⁷⁴

James thought that the attempts by those such as Wundt or Titchener to make their introspective analyses more precise ought to be understood as merely getting better at turning up the gas. No matter how well they could perfect the process of introspection, or how rigorous the standards that they impose on those who engage in it, they will always misrepresent a substantial aspect of our experience due to the nature of the act of observation.

Despite this, James still held that introspection was central to the science of psychology, for it furnished the data from which

psychology built its theories.⁷⁵ The difficulty with introspection was “*simply that of all observation of whatever kind.*”⁷⁶ James notes that while it is tempting to fall into the psychologist’s fallacy where one takes one’s observation of a mental event as the mental event itself, it is possible to avoid this error if one recognizes introspection’s limitations and keeps its distorting effects in mind.⁷⁷ James did not reject the works of his predecessors or contemporaries as being without value or irredeemable, but rather saw that those works needed some specific corrections.⁷⁸

James’s argument against introspective psychology can be generalized to all of the observational sciences of his day; in each case, scientists fail to appreciate the depth of the relationship between the scientist observing a phenomenon and the phenomenon being observed, and the transformative function that the observational standpoint of the former has on the data yielded about the latter.⁷⁹ In the question of determinism, the effect of standpoint is so strong that one ought not to expect to be able to find indeterminacy through scientific observation, since the very act of observation fixes inherently indeterminate phenomena into determinate relations. Scientific observation presupposes a viewpoint and certain parameters; indeterminacy vanishes under the same viewpoint. In a sense, where observation is, indeterminacy is not; where indeterminacy is, observation is not.

James’s criticisms were not met with an enthusiastic response and only fed into the (still-lingering) narrative that James was somehow anti-science or unscientific. However, the motivating idea behind James’s argument is found throughout the philosophy of science and the physical sciences. Niels Bohr’s argument against the classical model of physics proceeds on much the same grounds.⁸⁰ Bohr argues that predicting a future state of a physical system is “only possible if the system is closed, that is, unaffected by external disturbances,” but that “any observation of the system implies a disturbance.”⁸¹ As summarized by historian of physics Max Jammer, Bohr argues that “a system, if observed, is always an open system. A space-time description, however, presupposes observation.”⁸² Bohr attributes the success of the standard model of

physics to the standpoint of the observer: The classical model works because of the limited viewpoint of the observer and the relatively small amount of data with which she has to work.⁸³ Here we see the same sort of argument as advanced by James: previous accounts of science (in this case, physics) had ignored the transformational effect of the act of observation, and once that act is considered, the closed iron block universe presupposed by those previous accounts becomes untenable.⁸⁴ Similar arguments for the importance of the observer in scientific practice can be found in the works of Thomas Kuhn,⁸⁵ Paul Feyerabend,⁸⁶ and more recently in the work of feminist philosophers of science such as Lorraine Code.⁸⁷

I do not wish to suggest that James is somehow the progenitor of this line of reasoning or to suggest that these other figures were heavily influenced by James's thought. Rather, I use these examples to suggest that James's argument against determinism, even if generalized to a criticism of the scientific methodologies of his day, does not constitute a rejection of the scientific enterprise. If it did, then we would have to attribute the same rejection to Bohr, most contemporary physicists, and many philosophers of science. It also need not be considered an unresolved tension in James's thought between his scientifically-minded self and his moralistically-minded self, but rather an objection to the science of his day *by his scientifically-minded self*. James believes that there are good scientific reasons to temper one's expectations of scientific investigations and to refrain from applying the scientific framework beyond its legitimate bounds. For example, by failing to adequately account for the distorting effects of observation, people have extended the scientific view past a methodological tool and into a cosmological commitment. James notes that the main source of logical necessity in our cosmological thinking comes from extending the natural sciences in this way, but this is an unnecessary move to make and, if James's argument about observation holds, it would be an illegitimate move to make.⁸⁸

James's attitude embodies a scientifically-minded approach to the question of determinism. James is committing himself to the

standpoint that he ought to maintain whichever belief best fits the evidence and is willing to defer to scientific consensus on that basis.⁸⁹ However, he believes that the evidence for or against both determinism and indeterminism will be necessarily inconclusive; thus, we must decide between the two on the basis of which thesis results in a more coherent worldview when we expand our evidence beyond that which is yielded by the practice of science. This is the same approach that Robert A. Beard ascribes to James in *A Pluralistic Universe*. Beard claims that James is not showing that “Absolute Idealism or any other sort of monism is false, but simply that a universe of the sort posited by such philosophies would be less rational than a pluralistic one.”⁹⁰ In the case of determinism, James must show the limitations of that viewpoint and how his proposed alternative does not suffer from the same limitations. This is the exact tack that James takes in his paper “The Dilemma of Determinism.” He shows how determinism fails regardless of which horn one takes and demonstrates how his own view of indeterminism offers a better framework in which to understand the data available. This portrait of James’s scientifically-minded approach to the question of determinism is a far cry from the common narrative of James’s rejection of determinism on personal grounds.

CONCLUDING REMARKS

This paper has presented a sustained analysis of James’s argument against determinism and his proposed alternative. Such an analysis presents another key to our understanding of James. James himself does not reject all forms of determinism, but rather those forms that make some claim about the necessity of future events. As such, I argue that a better way of thinking about James’s target is logical determinism, the belief that all propositions about future events have an eternal and unchanging truth value at the time of utterance. James’s argument against logical determinism involves its inability to adequately account for the distorting effects that observation has on the thing being observed—in this case, on how one’s standpoint in the present, with some events being in the past

and some in the future, affects how one conceives of the past and the different causal structure between past and future events. Taking these points into account leads James to propose what I refer to as his *probabilistic underdeterminism*. This view has three main tenets—first, chance is a vital force in determining which events are actualized; second, choice is capable of manipulating the probabilities for or against a particular event; and third, there is no global, but only local, teleology. This was presented as a particular portion of a much broader criticism of the observational sciences of his day. Since observation necessarily distorts that which is being observed, science must always account for this distorting effect when considering which convenient assumptions to take up. Logical determinism not only makes unnecessary and unhelpful metaphysical commitments, but is also the product of the distorting effect of observation. As such, logical determinism—or any of its subspecies, such as fatalism, predeterminism, and necessitarianism—is not a viable convenient assumption of science. This is a scientifically-motivated argument against the use of certain conceptions in science; as such, I submit that it is impossible to maintain the view that James rejected determinism for primarily personal motivations or on primarily moral grounds.

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NOTES

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¹ Richardson, *Maelstrom of American Modernism*, 101.

² Barzun, *A Stroll with William James*, 16.

³ McDermott, *Writings of William James*, xxvii.

⁴ Richardson, *Maelstrom of American Modernism*, 176.

⁵ McDermott, *Writings of William James*, 7.

⁶ *Ibid.*, xxvii.

⁷ Gale, *The Divided Self*, 80–81.

⁸ *Ibid.*

⁹ *Ibid.*, 79.

¹⁰ *Ibid.*, 79–81.

¹¹ See Haddock Seigfried, *Radical Reconstruction*, esp. 11–12.

¹² See McDermott, *Writings of William James*, esp. xx–xxvii.

¹³ Richardson, *Maelstrom of American Modernism*, 246–47.

¹⁴ James, *Principles*, 6.

¹⁵ For a comprehensive account of the reception of the scientific community to James’s claim and how it has subsequently transformed the philosophy of science, see Klein, “*Divide et Impera!*”

¹⁶ James, *Essays in Psychology*, 271.

¹⁷ *Ibid.*

¹⁸ James, *Some Problems of Philosophy*, 77n., 78.

¹⁹ *Ibid.* For further information regarding how these convenient assumptions are tested empirically, or whether it is appropriate for science to employ them in the first place, see Klein, 141–45.

²⁰ James, *Essays in Psychology*, 272.

²¹ *Ibid.*

²² James, *Will to Believe*, 445.

²³ James, *Pragmatism*, 59. While it is beyond the scope of the present paper to address this point in any sufficient length, the rejection mentioned above also problematizes the idea that James was a voluntarist, since it cuts James off from the agent-causal mechanism required for a thoroughgoing voluntarism.

²⁴ James, *Correspondence*, 6:119. This sentiment is also found in Gale (see 78–80).

²⁵ James, *Will to Believe*, 132.

²⁶ Ibid., 117–18. This passage is central to Gale’s claim that James’s definition of determinism was question-begging and rhetorical (Gale, *The Divided Self*, 80). While the passage does display some of James’s characteristic rhetorical flourishes, it is important to note, as does Barzun (16), that this definition reflected a real and widespread view in James’s day. A prime example of this was the standard view of the organism among associationist psychologists which reduced all behavior to an inevitable by-product of the laws of nature and the organism’s physiology. Examples can be seen in the works of influential figures such as F. H. Bradley (See Bradley “Is There Any Special Activity of Attention?” esp. 360), Herbert Spencer (See Spencer, *Principles of Psychology*, esp. 185–90), and Alexander Bain (See Bain, *The Emotions and the Will*, esp. 369-71).

²⁷ Gale, *The Divided Self*, 80.

²⁸ James, *Manuscript Essays and Notes*, 34.

²⁹ James, *Problems*, 102–103.

³⁰ James, *Correspondence*, 6:111, 119–20, 180–81.

³¹ Ryle, *Dilemmas*, 15.

³² Lucas, *The Freedom of the Will*, 65.

³³ James, *Correspondence*, 6:180. Given Hodgson’s thoroughgoing and unflinching antipathy to the concept of chance, I would wager that the frustration was mutual (see Ibid., 119).

³⁴ James, *Will to Believe*, 123.

³⁵ James, *Manuscript Essays and Notes*, 34.

³⁶ Ibid.

³⁷ Ibid., 34–35.

³⁸ Ibid., 34.

³⁹ James, *Pragmatism*, 136.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ James, *Manuscript Essays and Notes*, 158.

⁴⁴ James, *Will to Believe*, 121.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid., 123.

⁴⁸ Ibid., 118.

⁴⁹ A few words about the intent and scope of my claims are in order. I do not wish to claim that James explicitly argued for this view, or that he had this account in mind when he was arguing against determinism. Instead, my claim is that the three tenets mentioned, taken together, constitute a coherent worldview that effectively rebuts logical determinism. While James himself may never have advanced this position, all three tenets are stable features of James's thought that appear throughout both his psychological and philosophical works.

⁵⁰ For an in-depth examination of the role of Darwinism in James's thought, see McGranahan, *Darwinism and Pragmatism*.

⁵¹ James, *Essays in Psychology*, 53.

⁵² James, *Will to Believe*, 120.

⁵³ James's lifelong commitment to probability is an underexplored aspect of James's thought. Paul Croce notes that James was a pioneering figure in the advancement of statistically-informed probabilistic reasoning in both his scientific and philosophical writings (Croce, "The Probabilistic Revolution," 28–29). Setting James apart from the more mathematically minded Peirce is James's attitude towards the end product of scientific inquiry: Peirce turned towards "fallibilism, with the anticipation of ultimate certainties," while James "held out hope for a more thorough-going indeterminism" through the "embrace of chance and uncertainty" (James, *Will to Believe*, 29). As Croce notes, James did not have to reject science in this endeavour; broadly speaking, science was already moving away from determinism and towards probabilism even while James was a young scholar.

⁵⁴ James, *Will to Believe*, 118.

⁵⁵ Ibid.

⁵⁶ For James's take on what these might be, see *Some Problems of Philosophy*, 113-15.

⁵⁷ James, *Will to Believe*, 118-19.

⁵⁸ While my language may occasionally suggest otherwise, I do not mean to suggest that chance is a positive causal force. I acknowledge that for James, chance purely denotes the negative state of *not* having a particular sufficient cause.

⁵⁹ James, *Manuscript Essays and Notes*, 159.

⁶⁰ James, *Some Problems of Philosophy*, 80.

⁶¹ James, *Manuscript Essays and Notes*, 159.

⁶² James, *Pragmatism*, 137.

⁶³ *Ibid.*, 138.

⁶⁴ There is an interesting parallel between the second tenet and James's distinction between ideo-motor and wilful action in his psychology. In ideo-motor action, behavior follows unhesitatingly from one's conception of what to do (James, *Principles*, 1141). In wilful action, there are multiple competing, equally attractive ideas of how to proceed that are inhibiting each other's successful discharge into bodily movement. We feel that even though we have sufficient information to make a decision one way or another, there is no "imperative principle of choice between them," and we are left at a loss of what to do. In other words, our previously existing habits underdetermine which course of action to take (*Ibid.*). In these cases, James thinks that "we feel . . . as if we ourselves by our own wilful act "inclined the beam" to act in one way over another, thus resolving the stalemate and bringing about one state of affairs (*Ibid.*). In a sense, James's account of wilful behavior is a microcosmic version of James's account of the progress of the universe.

⁶⁵ James, *Will to Believe*, 123; *Pragmatism*, 142-43.

⁶⁶ James, *Will to Believe*, 133-34, 136.

⁶⁷ See James, *Pragmatism*, 136-37.

⁶⁸ See James, *Pragmatism*, 136-37; James, *Will to Believe*, 138-40.

⁶⁹ James, *Will to Believe*, 445.

⁷⁰ James, *Some Problems of Philosophy*, 115.

⁷¹ See James, *Principles*, 1221–22.

⁷² McDermott, 7.

⁷³ James, *Will to Believe*, 445.

⁷⁴ James, *Essays in Psychology*, 144.

⁷⁵ James, *Principles*, 185.

⁷⁶ *Ibid.*, 191. Emphasis in original.

⁷⁷ *Ibid.*, 195.

⁷⁸ *Ibid.*, 191–93.

⁷⁹ See James, *Essays in Psychology*, 145–46; James, *Principles*, 193–95, 434–35, 651–53; James, *The Meaning of Truth*, 135; etc. For another take on how James’s reflections on the nature of observation affected his understanding of science, see Gavin, “William James’s Philosophy of Science,” 413–20. Gavin employs considerations about the role of observation (specifically the role that the observer’s subjective interest has on his or her preferred scientific hypotheses) to argue that James’s implicit philosophy of science was distinctly anti-positivistic and anti-Baconian. While Gavin discusses this in relation to theoretical entities such as atoms, electrons, etc., he does not extend this to the complexion of the future.

⁸⁰ Jammer, *Conceptual Development of Quantum Mechanics*, 184.

⁸¹ *Ibid.*, 366.

⁸² *Ibid.*

⁸³ *Ibid.*, 366–67.

⁸⁴ There is much dispute over whether or to what extent Bohr was influenced by James on this point. Key to this debate is whether Bohr read James prior to 1932. Jammer, Henry Folse, and others claim that Bohr had read James while he was a student at the University of Copenhagen around 1904 (Jammer, *Conceptual Development*, 184; Folse, *The Philosophy of Niels Bohr*, 49–51); David Kaiser notes that Bohr himself suggested that this was the

case. (Kaiser, “More Roots of Complementarity,” 224–25.) However, even if Bohr had read James early in his career, this does not necessarily mean that James was a direct or even significant influence. According to Kaiser, the consensus view is that Bohr’s exposure to James in his early career was filtered through Bohr’s philosophy professor, Harald Høffding, making any influence murky (Ibid., 225n.). Given the inconclusiveness of the debate and its peripheral importance to my present argument, I will note the similarity but not make any further commitment to the connection with Bohr.

I also suggest that James’s work has found favor with more recent quantum physicists, and thus there appears to be the possibility of a fruitful exchange. See Stapp, *Mind, Matter, and Quantum Mechanics*, 131–34, 227–28.

⁸⁵ See Kuhn, *The Structure of Scientific Revolutions*, esp. 126–27.

⁸⁶ See Feyerabend, *Against Method*, esp. 46–60.

⁸⁷ See Code, *Rhetorical Spaces*, esp. 23–57.

⁸⁸ James, *Manuscript Essays and Notes*, 40.

⁸⁹ James, *Will to Believe*, 119–20.

⁹⁰ Beard, “James and the Rationality of Determinism,” 150.