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Chapter Eight

A Moralist in an Age of Scientific Analysis and Skepticism

Habit in the Life and Work of William James

David E. Leary

In June 1874, a thirty-two-year-old sometime instructor of anatomy and physiology at Harvard College ruminated on the situation faced by the novelist George Eliot, especially as regarded her recent novel, *Middlemarch* (1871–1872), which he had previously described as “fuller of human stuff than any novel that was ever written.”¹ “She seems to me to be primarily a moralist,” he wrote, though “she writes in an age of scientific analysis and skepticism, and her own lot has been cast in a circle whose way of feeling and thinking is particularly adverse to anything like moral unction or enthusiasm.” As a result, he continued, she “never gets her imagination fairly warmed and going without proceeding to reflect upon it herself and make a critical, often ironical, commentary as it runs.” Thus, “the *mass* of her mental energy never pulls together,” and the inner tension within her work leaves the reader “with an annoying uncertainty as to her purpose.” Ah, but “what she might have done in an age of belief, when the best thought around her was constructive and enthusiastic and strengthened her native feelings instead of throwing cold water on them”! Had that been her lot, she would have been “twice as great as she is now.”²

Thus wrote William James (1842–1910) in words he might have used to describe his own situation. For if Eliot was “married to [George] Lewes, hand in glove with [Thomas] Huxley, [Herbert] Spencer and a host of people” of that sort, as James said,³ he himself was deeply engaged in reading the works of those same individuals and was thoroughly immersed in the same atmosphere, as represented and promulgated by his own older friend

Chauncey Wright, a similarly and in fact even more aggressively and reductively minded empiricist.

Just two years before he offered this assessment of George Eliot, James wrote a draft of what he hoped to be his first publication in psychology, a manuscript now labeled a "Draft on Brain Processes and Feelings" (1872). In that draft, as he told a colleague seventeen years later, he "excogitated" a "conscious automaton theory" that depicted human thought and action as produced automatically and entirely by brain processes that cause feelings of effort and decision along with thought and action. Though we might *feel* that our will had something to do with our thought or action, in fact (James had written) that feeling was determined mechanically, just as the thought and action were. James never published this draft, and soon ceased to advance its central argument, having come to realize "grounds to doubt it."⁴ And seven years later, in an article entitled "Are We Automata?" (1879), he explained *why* he had become so adamantly opposed to that theory.

In this chapter I will review how James got from his earlier position, which so readily fit the scientific and skeptical tenor of his age, to his later position, and I will indicate how the views he began to articulate by the mid-1870s became central to the doctrines he presented in his magisterial *Principles of Psychology* (1890) and in his subsequent work in psychology and philosophy. Along the way I will make it clear that even before 1872, when he was attending lectures and doing physiological research in Harvard's Medical School, James was a deeply engaged advocate of philosophy, which he was determined to advance through a thorough yet critical understanding of the biological foundations of human thought, feeling, and action. He viewed this scientifically oriented yet analytical approach to philosophy as a means of clarifying not just what *is* the case in human life, but also what *should be* life's outcome. Morality, in short, was always interpolated in his thinking, teaching, researching, and writing. Although he took a biological view of cognition, and embedded it within a Darwinian selectionist framework (which he extended "all the way up" from the level of sensation through perception to cognition and beyond), his "naturalist approach" was not meant to eliminate consideration of "struggling with temptation" or the identification of the sources and targets of "true moral energy," as he put it in "Are We Automata?"⁵ Quite the contrary!

1. YEARNING FOR ORDER, ACHIEVEMENT, AND SELF-ASSERTION

Habit, I plan to show, was the key to James's solution of the dilemma that he faced as he weighed the *intellectual* attractiveness of an entirely materialistic and causal explanation of human existence (a mode of explanation accepted

by many in his scientific and skeptical age) against the equally compellingly *moral* imperative to believe that he could and should live a responsible and meaningful life (a life in which real decisions were made about actually possible alternative courses of action). James's interest in the nature and utility of habit reached back into the 1860s. It first appeared as a function of personal rather than professional concerns, initially revolving around his sensitivity to the possibly ameliorative effects that habits might bring into his life. For well before the beginning of his career, James sought greater direction and regularity in what he had come to experience as a somewhat random and purposeless life.

As already amply documented, James was the son of a wealthy and quirky father, whose whims assured that James spent much of his childhood and youth moving from place to place, from this to that side of the Atlantic, shifting tutors and schools, studying in one language and then another, while focusing now on science, now on art, now on something else, depending on whatever suited the present time, place, inclination, or available instruction.⁶ And beyond the lack of sequential learning and personal stability that resulted from this fickle regimen, James was, by temperament, more than a little variable in his own inclinations. As his sister Alice famously put it, he was "just like a blob of mercury." It was impossible to "put a mental finger upon him."⁷ Similarly, his brother Henry recalled that in their early years James "was always round the corner and out of sight."⁸ And later in life, James exhibited "an extremely impatient temperament," as he himself admitted, adding that "I am a motor, need change, and get very quickly bored."⁹

Countering this tendency, James believed from early on—as early as 1858, at the tender age of sixteen—that it "ought to be everyone's object in life" to be "as much use as possible" in the grand scheme of things, not only because it is the "duty" of every person to be of "use," but also because no one, and certainly not himself, "would wish to go through life without leaving a trace." This personal concern about humans *leaving a trace*, not as passively mechanical objects but as actively choosing subjects who contribute "something which without us could not be," was so persistently important to James that he reported nine years later, in 1868, that the only thing keeping him from giving up and committing suicide during those "skeptical intervals" when "the waves of doubt are weltering" was the "feeling that by waiting and living by hook or crook long enough I might make my *nick*, however small a one" and thus "*assert my reality*." For James, only by asserting his personal reality, which he associated with "the thought of my having a will," could he alleviate the depressive effects of contemplating the kind of determinism typically associated with scientific understanding and analysis.¹⁰

Habit figured in two ways during and after these crucial years of James's personal development. In contrast to the "hundred side-tendencies, ambitions, interests" that pulled him this way and that, he came to realize that he

had to choose “a few tolerable simple peaceable desires” and then pursue them with “simple patient monotonous” regularity. He felt that this alone—leading a life of more habitual behavior—would put him “on the path to accomplishing something some day.” (His behavior had been so erratic, he said, that “I feel as if the greater part of the past 10 years had [been] worse than wasted.”) And in addition to reforming his behavior, he determined that he had to cultivate “habits of attention and order in thinking,” including attending to the thought of “my having a will,” which alone could provide the “moral support” he so desperately needed.¹¹

Such resolutions dot James’s diary entries and letters from the 1860s into the 1870s, as do indications of the many starts and stops that characterized his tortured, by no means linear progress toward personal maturity, mental health, and professional achievement. Making matters more difficult, his resolve was complicated by his decision not only to commit himself to scientific endeavors but also to persevere in his ruminations upon the philosophical implications of those endeavors. Consistent with his strenuous approach to other issues, James chose not to take the easier route away from science, by which he could have escaped a key source of his anxiety and depression. Instead he took what he considered to be the more honest and manly approach,¹² embracing his attraction to science *as well as* his concern for morality, thus assuring continued conflict between the specter of scientific determinism and his yearning for moral efficacy. It all came to a head, though not a final conclusion, in an often cited crisis that began in early February and culminated in late April 1870.

On February 1, 1870, James recorded in his diary that he had “about touched bottom” and had to “face the choice with open eyes,” whether to “throw the moral business overboard” or to “follow it, and it alone.” Saying that he would “give the latter alternative a fair trial,” he admitted that “hitherto I have tried to fire myself with the moral interest, as an aid in the accomplishing of certain utilitarian ends of attaining certain difficult but salutary habits,” but “in all this I was cultivating the moral int [i.e., interest] only as a means, & more or less humbugging myself.” Now, he wrote, “I must regard these useful ends only as occasions for my moral life to become active.” Whatever the immediate result of this conviction, James’s next diary entry is a drawing of a tombstone, commemorating the death of his beloved cousin Minny Temple on March 9. The entry after that, on March 22, is addressed to Minny and includes the comment: “Minny, your death makes me feel the nothingness of all our egotistic fury.” One can only imagine what was going through James’s mind at the time, but on April 30 he reported that

I think yesterday was a crisis in my life. I finished the first part of [Charles] Renouvier’s 2nd Essays and saw no reason why his definition of free will—the sustaining of a thought *because I choose to* when I might have other

thoughts—need be the definition of an illusion. At any rate I will assume for the present—until next year—that it is no illusion. My first act of free will shall be to believe in free will.

James ended the paragraph noting that if he was better by the coming January, he might “perhaps return to metaphysic study & skepticism without danger to my powers of action.” But in the meantime, he wrote, he needed to “recollect that only when habits of order are formed can we advance to really interesting fields of action” and that “one link dropped” from the interlocking chain of habit “undoes an indefinite number.” And further on in the same diary entry, he remarked that

Hitherto, when I have felt like taking a free initiative . . . suicide seemed the most manly form to put my daring into; now, I will go a step further with my will, [and] not only act with it, but believe as well; believe in my individual reality, and creative power.

Henceforth, he declared, he would put his faith in “the self governing *resistance* of the ego to the world.”¹³ Whatever he wrote next has been torn from his diary.

2. PREPARING FOR A CAREER IN PSYCHOLOGY AND PHILOSOPHY

The fact that James articulated a “conscious automaton theory” in his “Draft on Brain Processes and Feelings” (1872) written just two years after his famous declaration of free will, suggests the jagged path he still had to traverse, sometimes turning toward and sometimes away from a completely deterministic account of human behavior. In any case, James’s next diary entry—the next one not ripped from his diary—is dated February 10, 1873, and it records his decision “to stick to biology for a profession in case I am not called to a chair of philosophy.” Despite this prospect, James wrote that he would nevertheless continue to regard philosophy as his “vocation” and would “never let slip a chance to do a stroke at it.”¹⁴ Then, on April 10, James reported in his diary that he had told Charles Eliot, his former chemistry teacher and the current and subsequently long-serving president of Harvard, that he would “accept the anatomical instruction [i.e., instructorship] for next year, if well enough to perform it.”¹⁵ At the time, James was already engaged in teaching a semester-length course in comparative anatomy and physiology at Eliot’s prior request. Thus James had begun to move from attending lectures, doing laboratory research, and engaging in a wide range of reading, to his first gainful employment, which led in turn to his appoint-

ment as acting director of Harvard's Museum of Comparative Anatomy (in 1874) and then as assistant professor of physiology (in 1876).

In the six years between his appointment to the Museum and 1880, in addition to teaching comparative anatomy and physiology, James offered the first course—a graduate course—in the new physiological psychology (in 1875), established and had his students use the first laboratory of experimental psychology in the United States (also in 1875), began teaching undergraduate and graduate courses in psychology under the auspices of the Philosophy Department (in 1877), delivered the Johns Hopkins University Lectures in Baltimore on “The Senses and the Brain and Their Relations to Thought” (1878), delivered the Lowell Institute Lectures in Boston on “The Brain and the Mind” (1878), directed the first Ph.D. in psychology—through the Department of Philosophy—at Harvard (in 1878), and finally received his coveted appointment as assistant professor of philosophy (in 1880). By then he had signed a contract (in 1878) to produce his *Principles of Psychology* and published his first substantive articles in psychology and philosophy (in 1878 and 1879). Thus he was well on his way to becoming the person who is now known as a founder of both scientific psychology and pragmatic philosophy.

To understand James's development and then rejection of “conscious automaton theory,” and to situate his distinctive treatment of habit within its contemporary scientific context, we need to look back from his subsequent fame to the early 1860s, when he enrolled as a student at Harvard's Lawrence Scientific School. Having just given up his study of art in Newport, Rhode Island, James came to Cambridge to fulfill an earlier interest in natural history¹⁶ under the guidance of such distinguished scientists as the zoologist and geologist Louis Agassiz, the botanist and taxonomist Asa Gray, and the anatomist Jeffries Wyman. All three, in varying ways, were intimately connected to significant ongoing scientific developments—the first two (Agassiz and Gray) having particularly close, though quite different relations to Charles Darwin, whose revolutionary *On the Origin of Species* (1859) was then just two years old. In addition, James came into contact with Charles Sanders Peirce, another student at the Scientific School, who would become one of his most treasured intellectual interlocutors.¹⁷ Thus, when James turned toward the study of medicine in 1864, and returned to it after a year-long research trip to Brazil with Agassiz (in 1865–1866), he already had a solid grounding in science. And while in the Medical School, working towards his 1869 M.D. degree, he continued to explore anatomy with Wyman even as he studied medicine with Oliver Wendell Holmes Sr. In addition, during a break from his medical studies (in 1867), he spent time in Europe (in Berlin in particular), where he attended courses and lectures on physiology and was especially impressed by the eminent physiologist Emil Du Bois-Reymond's research on electrical charges accompanying muscle action, a topic that would be relevant to James's later understanding of habit. It was

during this same stay in Europe that he became familiar with the experimental research of Hermann von Helmholtz and Wilhelm Wundt, and concluded that “perhaps the time has come for Psychology to begin to be a science.”¹⁸ From that time on, his interest in “mental science” solidified and became more prominent in his thinking.¹⁹

All in all, the 1860s were a heady time for James, even given his well-known bouts of ill health, and he absorbed all that he could from class, reading, laboratory, and conversation. Throughout the decade, as he pursued coursework in chemistry, natural history, anatomy and physiology, he also followed the most recent developments in the scientific study of force, energy, and matter, and he supplemented his scientific studies by reading broadly in psychiatry, philosophy, and literature. Besides Peirce, his friends toward the end of the decade included James Jackson Putnam, later a leading neurologist; Henry Bowditch, a future pioneering physiologist in whose laboratory he would continue his own research into the 1870s; and Chauncey Wright, a philosopher with broad and lively interests, whom Darwin would invite to address “when a thing may properly be said to be effected by the will of man.”²⁰ The result of Darwin’s invitation to Wright was an important article on the “Evolution of Self-Consciousness” (1873). At the same time, in the early 1870s, Wright was active in the Cambridge Metaphysical Club in which participants (including James and Peirce) addressed many of the pressing philosophical issues of the time, especially in relation to the import of scientific theory and practice.²¹ And in the same period James initiated correspondence with Charles Renouvier and then, in mid-decade, participated in a second philosophical discussion group that focused primarily on Hegel.

Though James started his formal course of scientific and medical study from a less advanced position than students like Peirce, he quickly demonstrated sufficient ability and insight to capture the attention of his teachers. One of those teachers, Charles Eliot, remembered later in life that James had been “a very interesting and agreeable pupil,” who supplemented his work in chemistry with “excursions into other sciences and realms of thought.” “He liked experimenting,” Eliot recalled, “particularly novel experimenting.” And noting that James “possessed unusual mental powers,” he added that James later came to be admired as a teacher and scholar for “his penetration, his mental alertness, and his free spirit.”²² In fact, Eliot told James himself in 1894 that, among his many stellar achievements as president of Harvard, “your coming to the University and your career as a teacher and writer” had offered some of “my most solid grounds of satisfaction.”²³

The main point I wish to make by reviewing this information is simple, but too rarely recognized: James made his initial mark and earned his later opportunities at Harvard by distinguishing himself in his early scientific studies and early teaching in scientific fields. He was not a dilettante who spied on science, psychiatry, or psychology from afar, much less from a

proverbial armchair. He did his turn in the lab; he visited leading laboratories and attended lectures by leading scientists in Europe as well as in the United States; he became intimately familiar with the major scientific developments of his time; he reviewed significant works in anatomy, physiology, neurology, psychiatry, and natural history, including Darwin's work, for major periodicals; he visited asylums and clinics; he was seriously considered for an appointment at the new research-oriented Johns Hopkins University as well as at Harvard; and due to his unusual linguistic abilities, he enjoyed direct access, like few others, to multiple national literatures and to the preeminent scientific and clinical research of his time: the French and German, in particular, as well as the British and just-then-emerging American research.²⁴ So when James aimed his gaze toward psychological phenomena, he was not only prepared through reading, thinking, and conversations about philosophical authors and issues, he was also prepared through his training in science, which allowed him to make the best possible sense of these phenomena from the perspectives of evolutionary, physiological, neurological, and even physical science.²⁵

3. FROM AUTOMATION TO HABIT

So what, then, about habit? And how did this topic—and James's distinctive take on it—relate to James's thoughts on "conscious automata"? We have seen that James turned to habit in the 1860s in the hope of bringing order and direction into his life, as he yearned not only for a sense of purpose but also to achieve something as the result of his own self-assertion. (The *possibility* of self-assertion, we saw, became for him a moral as well as scientific issue.) We have also noted that James spent the 1860s and '70s developing a first-hand understanding of major developments in the natural, biological, and medical sciences. Habits, he came to know, had been discussed by Darwin and others in relation to instinct; and the evolutionary approach—especially the question, what are habits good for?—was soon at the forefront of his consciousness. But beyond reflecting on this evolutionary question, James approached habit from a physiological and, more specifically, from a neurological perspective. And he subordinated these perspectives, in turn, to the emerging view of the universe as a theater of energy and force. Thus, when he focused on leading-edge research regarding the activity of the nervous system, he tended to conceptualize it in terms of the flow and transformations of measurable electrophysiological "currents" and "impulses."²⁶

In this context, in 1870, James's former teacher Oliver Wendell Holmes Sr. delivered his notable Phi Beta Kappa address on *Mechanism in Thought and Morals* (1871). Although he explicitly stated that he was concerned only with "that part of mental and bodily life" that is "independent of our voli-

tion,” thus indicating that (in his view) not all human thought and action was purely mechanical, Holmes nevertheless presented a strong case for the operation of “mechanistic principles” in human experience.²⁷ Just two years later, James extended Holmes’s proposition, applying mechanistic analysis to *all* of human functioning in his “conscious automaton theory,” as he called it seventeen years later, using terminology made famous by Thomas Huxley’s celebrated address of 1874.²⁸ Interestingly, James admitted in his draft that he was offering only “a plausible hypothesis” and was doing so because he felt it necessary “to refute the charge that certain characteristics of thought cannot *possibly* depend on *mere* nerve action.”²⁹ Thus, his proposing of conscious automata could be interpreted as simply doing what he would be doing throughout the rest of his career: giving the devil his due. But even if that was all that he intended, it is still relevant to ask how he justified his later rejection of what he had presented in this draft as an intellectually viable argument, one that incorporated contemporary notions of “habitual channels” for nervous impulses and that reduced “the Will” to a “quantum of force” resulting from “oscillations” of “current,” which eventually overcomes “the mutual interferences and inhibitions of the conflicting waves” set up by these oscillations. What we typically regard as a voluntary “decision” at the end of this process, James conjectured, is simply a misconstrued sense of effort and achievement conveyed by prolonged tension followed by an abrupt resolution or action. The entire process is “determined mechanically” and “is not in essence a whit different from what we have all so often observed in flying a kite,” during which “the play of the various forces” make the kite dart up and down, left and right, before it suddenly “sweeps headlong from the zenith to the ground.”³⁰

The soft spot in James’s drafted argument, which led to his later rejection of conscious automaton theory, was his explicitly stated recognition that while “in ordinary thinking association by contiguity plays a dominant part,” things are different in “rapt or passionate thought,” in which “association by similarity is a marked peculiarity.” In this latter case, James noted, “we are more intent” and “occult [distant and unexpected] analogies are apt to come to light.” As a result, we not only “generalize,” we also “make discoveries,” seeing that “at bottom *this* . . . is really nothing but a case of *that*.”³¹

In his draft, James swept the “peculiar” character of thought-by-similarity (thinking that is dependent upon the association of ideas, things, and properties that are similar) into the same explanatory scheme as thought-by-contiguity (thinking that is dependent upon ideas, things, and properties that have been experienced as proximate to one another in time or space), but the distinction between these two traditional ways of understanding human thought was the key to his subsequent liberation from—and critique of—a strictly mechanical account of human thought and action in lieu of an account that granted a consequential role to consciousness. The pivotal factors

in this liberation were James's adoption of Darwinian *selection* as a crucial function in mental dynamics, combined with his attribution of a directive role in selection to *interest* and *attention*. Although there seems to have been no single moment of inspiration for this constellation of factors, a reconstruction of his thinking from available records reveals that a confluence of ideas—ideas taken from at least three individuals (William Wordsworth, Chauncey Wright, and Shadworth Hodgson) in addition to Darwin himself—provided the context within which he reached conclusions that remained central to his thought—and to his understanding of habit—from that time forward.³²

The first clear hint of this context was given in March 1873, when James reported to his father that he felt much better than he had over the previous year (i.e., from around the time he had written his conscious automaton draft). The principal factor, he said, was that he had “given up the notion that all mental disorder required . . . a physical basis” and now “saw that the mind did act irrespective of material coercion, and could be dealt with therefore at first-hand.”³³ This new conviction relieved his fear that he suffered, inescapably, from a physiologically based tendency toward neurasthenia, hypochondria, and melancholia—a fear that was far from assuaged by his articulation of conscious automaton theory.³⁴ Instrumental in his change of mind was not only his continued rumination upon Renouvier's philosophy, but also his reading of Wordsworth, on whom he had been “feeding” for “a good while.”³⁵ More particularly, he had been reading and reflecting on Wordsworth's long poem “The Excursion,” especially its fourth book (“Despondency Corrected”), which trumpets the healing effects associated with belief in “the mind's *excursive* power,” which is to say, the mind's ability (figuratively speaking) to *walk about* nature, not passively “chained to its object[s] in brute slavery” but rather actively conferring “order and distinctness” upon them. In short, Wordsworth's theme was the productive *marriage* of mind and matter, in which mind contributes “interest” as well as “Will” to what otherwise would have been but “dull and inanimate” matter.³⁶ In offering a persuasive rendition of this theme, Wordsworth gave James “authentic tidings of invisible things.”³⁷ And even before James had worked out the intellectual implications of these tidings, the “persuasion and belief” that Wordsworth helped bring about had “ripened,” as Wordsworth himself put it, into a “passionate intuition” that would abide from then on at the heart of James's psychological and philosophical thought,³⁸ namely, that *each and every mind is characterized by the distinctive interests and willfulness that it brings to its activities*.

James encountered the concept of interest not only in Wordsworth's idealist poetry but also in Chauncey Wright's and Shadworth Hodgson's empiricist psychology and philosophy. Wright had no doubt expressed his views to James in personal conversations, but he also gave public voice to them in his “Evolution of Self-Consciousness,” published just one month after James

had spoken with his father about Wordsworth's beneficial impact. The crucial thing about interest, Wright claimed in this article, is that it directs one's attention.³⁹ As a result, as James put it in 1875, "my experience is only what I agree to attend to."⁴⁰ This individualizing of experience as a function of one's own interest and attention became a crucial "law" for James, separating his emerging psychology from that of Herbert Spencer and Alexander Bain. As he said, "Spencer shrinks from explicit recognition of this law" while "Mr. Bain," though "in principle" attuned to it, "does not work it out."⁴¹ Only Chauncey Wright had done so, James asserted, even though he was already aware of Shadworth Hodgson's treatment of interest in *Time and Space* (1865). (In fact, he had begun a close study of this text in September 1873.) In later years it was Hodgson's, not Wright's, "law of interest" that James cited as crucially significant,⁴² perhaps because of his greater sympathy with Hodgson's overall philosophy.

The upshot was that James approached his first substantive publications and his first major public addresses (all occurring in 1878) with a firm determination to articulate a physiologically based psychology that disavowed conscious automaton theory—and any related mechanistic form of associationism—in lieu of attributing active roles in mental dynamics to interest and attention, which he came to see as not only compatible with Darwinian selectionism, but as illustrative of its reach into the realm of consciousness. Among the happy fruits of this conjunction of ideas, for James, was the possibility it opened up for the moral life, as advanced and structured through the action of consciousness and the development of habits.⁴³

The first step in articulating his emerging views, in print, took place in James's "Remarks on Spencer's Definition of Mind as Correspondence" (1878), in which he criticized Spencer's claim that the mind "adjusts" passively to its "outer relations" (i.e., its environment). To the contrary, James argued, the mind has "preferences and repugnances"—"subjective *interests*"—that guide its "selection," from among the dense array of environmental stimuli, of only those features that matter to it. The mind, in other words, has "a vote" in what it takes in; "it is in the game, and not a mere looker-on."⁴⁴

James developed this theme further in his Hopkins Lectures on "The Senses and the Brain and Their Relation to Thought" (1878), which gave special emphasis to the role of selection in mental functioning. Then, in "Brute and Human Intellect" (1878), he returned to the issue of association-by-similarity, which he had treated in his conscious-automaton draft of 1872. But now, instead of reducing it to the same mechanistic explanatory scheme that seemed to work for association-by-contiguity, he noted that association-by-similarity depends upon active selection, that is, upon the mind's *dissociating* of "interesting" features from the "originally vague syncretism [whole]

of consciousness.”⁴⁵ And in his Lowell Lectures on “The Brain and the Mind” (1878), he elaborated upon this point, arguing that features, once dissociated, are then *compared* by the mind in light of interests that are typically unique to the individual. Thus, the notion of an “impartial consciousness” that accompanies but plays no active role in mental dynamics does not fit the apparent facts. Beyond this, James laid out a systematic view of the mind as selective at each level of functioning, from bottom to top: i.e., from sensation to perception to reasoning to aesthetic activity and finally to ethical deliberation and choice. Notably, this systematic approach culminated in “the moral life” in which “choice reigns supreme,”⁴⁶ and it reflected the overall Darwinian framework of James’s lectures and thought, a selectivist framework that James extended, through his knowledge of the nervous system as well as his observations of psychological processes, well beyond the boundaries set by Darwin himself.⁴⁷

James spelled all of this out, in writing, in his article on “Are We Automata?” His explicit aim in this article was to show that the apparent functional utility of consciousness makes the existence of conscious automata unlikely. The crux of his argument revolved around the question, “Of what use to a nervous system is a superadded consciousness?”⁴⁸ Noting that consciousness has evolved across species and over time, he argued on both a priori and a posteriori grounds that the utility that prompted this evolution is almost certainly related to the fact that a selective consciousness, which can compare aspects of what is presented to it, can then focus its attention on the one that most closely accords with its vital interests. This would, in effect, “load the dice” so that the conscious individual could deal with the world in a way that is relevant to his concerns rather than suffer, without recourse, the utterly random impulses and responses to confront him.⁴⁹ As James put it in one of his most famous passages, repeated in his *Principles of Psychology*, “the mind is at every stage a theatre of simultaneous possibilities. Consciousness consists in the comparison of these with each other, the selection of some, and the suppression of the rest by the reinforcing and inhibiting agency of attention.”⁵⁰

After stating this conclusion, James returned in his article to “the ethical field” and discussed “the true moral energy” involved in striving for ends that have come to the fore through “selective attention.”⁵¹ Using the example of “an inebriate struggling against temptation,” he underscored how “the selective pressure of consciousness,” representing in this case the will to avoid alcohol, runs “counter” to “the strongest tendencies of automatic activity.”⁵² Thus, he showed how “the moral business” that had concerned him from a much earlier age could be preserved and pursued within the domain of scientific analysis. And in referring to the “tendencies of automatic activity,” he introduced the topic (habit) that would become an essential part—both

point and counterpoint—of his views on the active, even willful, activity of consciousness.⁵³

4. HABIT AT THE FOUNDATION OF JAMES'S THOUGHT

Habit, as James had already noted in his Lowell Lectures on "The Brain and the Mind," is "the great thing" that allows the cerebral hemispheres to be free for "higher flights."⁵⁴ Lower levels of neurological functioning, he explained to his audience with a series of anatomical slides, are responsible for "fatal," that is, automatic or instinctual, responses, but the higher centers are clearly essential to intelligent behavior. And more than anything else, he said, habit provides "the best explanation" of how "acts of intelligence" come to characterize human behavior. On the one hand, habits represent what an individual has learned; on the other, because they occur with a minimum of consciousness and decision-making, habits free up the individual to attend to unexpected matters that warrant intelligent response.⁵⁵ So, functionally, habits bring order to the typical routines of life while allowing consciousness to focus on events that fall outside those routines. Thus, they make good sense within an evolutionary scheme.

Though we have only James's notes from his Lowell Lectures, it is clear that by October 1878, when the lectures took place, he had developed his basic ideas about the relation between brain functioning and mental processes, and between deterministic cerebral conditions and sometimes indeterminate cognitive and behavioral responses. And though he would go on to become famous for his descriptions of consciousness and his advocacy of the will, it becomes clear, as we review the development and structure of his thought, that it is habit, not consciousness or will, that holds his system together. Habit also provides a crucial means by which he was able to respond positively to the intellectual attraction of causal explanation while also accepting that there is a moral imperative—and an actual way—to live a responsible and meaningful life, one not absolutely predetermined by causal relations. Clearly, then, James's treatment of habit resolved his earlier personal dilemma and inspired his distinctive way of integrating physiology, psychology, philosophy, and ethics.⁵⁶

One of the things that distinguished James's treatment of habit—the crucial element that he added to previous discussions of habit in the works of Spencer, Bain, and Carpenter—was his use of what he called "the Meynert scheme."⁵⁷ As early as his Lowell Lectures,⁵⁸ James had recognized that Theodor Meynert's neurological analysis of cerebral functioning provided the key to explaining "the education of the hemispheres," which is to say, the process by which human action becomes intelligent.⁵⁹ Through a lengthy review of neurological evidence, extending well beyond anything undertaken

by earlier empirical psychologists, James arrived at a modified version of the sensory-motor theory of cortical functioning as proposed by Meynert and John Hughlings Jackson.⁶⁰ Although James readily admitted “how ignorant we really are” regarding “psychogenesis,”⁶¹ he nonetheless felt confident, on both theoretical and empirical grounds, that something like Meynert’s scheme, as modified by himself, approximated the neurological basis of habit formation.⁶² James built up to this conclusion through a series of articles published in the 1880s.⁶³ What he expressed in *The Principles of Psychology*, with this and that additional flourish, was the result of these earlier cumulative efforts.

A fundamental distinction that James made was between instinctual reflexes, associated with the lower brain stem, and learned habits, associated with the cerebral hemispheres. All of scientific psychology, he felt, was developing, in the wake of evolutionary science, on the model of reflex action. The pivotal fact was that, in humans, the evolution of the hemispheres has allowed not only the emergence of full-blown consciousness but also higher orders of habit formation than we see in organisms with less developed and more rigid nervous systems. The evolutionary advancement represented by the hemispheres resides in their “plasticity,” which facilitates the establishment of new or altered neural pathways through which electrophysiological currents pass on the way from sensory input to motor output.⁶⁴ For James, electrophysiological currents always underlie conscious awareness, emotional feeling, and behavioral action, but the particular pathways by which these currents travel from the point of input to the point of output can be modified or even created anew. (This is what is made possible by the “plastic” nature of the hemispheres.) There is nothing mysterious about this. James felt: “The currents, once in [the hemispheres], must find a way out.”⁶⁵ If a pathway is blocked, some other “channel” will have to be found. Paths taken by electrophysiological currents may be either built-in or accidental, but they never come about *initially* as the result of conscious intent or willful effort.⁶⁶ Nonetheless, once a pathway has been made, consciousness can enter into the picture, *ex post facto*. This contention was central to James’s understanding of both habit and will, and it made good on his earlier claim that consciousness, as something that has evolved, must have some practical utility.

James’s classic illustration of habit formation was a child who has touched a lit candle and subsequently remembers the pain (in James’s term, the “image”) of having done so. He or she will then associate, by means of their neural connection, “the original tendency to touch” with the image of pain, and this association will inhibit “the touching tendency” the next time the child perceives a lit candle.⁶⁷ This inhibition of the electrophysiological impulse in turn will necessitate the traversing of a new pathway—a different route for the current to find its way out of the cerebral hemisphere. With

repetition, as the current flows more and more readily down this new route, the initially conscious withholding of the hand from the lit candle will become unconscious and habitual.⁶⁸ In this way, humans—and to the extent that their lesser brain capacity allows, other animals—learn both what *not* to do and what *to* do when excitation enters the cerebral hemispheres from this or that internal or external source. And what can and cannot be done—as well as what habits are formed—depends upon the extant evolution of physical structure and the associated degree of consciousness. The important thing is that, whatever happens, whether habitual or non-habitual, there will always be a specific neurological substrate, and both consciousness and habits will remain firmly rooted in neurology.

In this scheme—and thus in James's proposed physiological psychology as a whole—consciousness itself is now a causal factor. Images, or ideas in classical terminology, are posited as factors in the transmission or inhibition of neural impulses, acting now to keep the path open to action (when they prefigure desirable outcomes), acting at other times to close it (when they prefigure undesirable ones). And since "what is early 'learned by heart' becomes branded-in (as it were) upon the Cerebrum" so that "it becomes part of the normal fabric,"⁶⁹ it is crucial, James concluded, for each of us "to make our nervous system our ally instead of our enemy" by making "automatic and habitual, as early as possible, as many useful actions as we can."⁷⁰ Reflecting the hard-earned lessons of his own life, James added that "there is no more miserable human being than one in whom nothing is habitual but indecision,"⁷¹ and then he proceeded to list a series of maxims that in his view would help to assure the establishment of "moral habits."⁷² He drew these lessons in large part from Bain, but he grounded his support of them on his preceding analysis of the plastic nature of neural structures, noting that "the physiological study of mental conditions is thus the most powerful ally of hortatory ethics."⁷³

Although James admitted that many habits in humans as in other animals are built upon instinctual tendencies, his primary concern was with those habits, especially in humans, that are unique to the individual and instrumental to living a good life. Striving for the latter, as we have seen, raised for James the conundrum of the will. He addressed this conundrum at length in his *Principles*, basing his proposed solution of it—a solution that satisfied both his scientific and moral inclinations—upon the same neurological structures and other factors encountered earlier in his analysis of habit.⁷⁴ In particular, he reached back to a basic premise of his chapter on habit: that a potential "innervation" of human conduct is sometimes associated, through experience, with an "image" of how we would feel "when the innervation [i.e., conduct] is over."⁷⁵ If this "anticipatory image" provides no hindrance, the action will take place more or less automatically. But if it arouses resistance, the action will occur only if sufficient will is summoned. Such sum-

moning occurs typically when the individual has an *interest* in the imagined outcome. That interest directs and sustains the individual's conscious *attention* to the outcome, thereby triggering the action whose end has come to dominate consciousness. This directing and sustaining of attention to a desired end is, for James, equivalent to a willful assertion that it occur. As he put it in his Latinate terminology, it is the *fiat* (the decision to "let it be") that constitutes "the essence of the voluntariness of the act."⁷⁶ Intentionally affirming a mental idea or wish of this kind, James noted, "is the only psychic state which introspection lets us discern as the forerunner of our voluntary acts."⁷⁷

The key hypothesis underlying this account of willful action—action caused by conscious and even effortful attention to the idea of its consequences—is provided by James's "ideo-motor theory," which he elaborated upon Maudsley's more restricted clinical observations of "ideo-motor action."⁷⁸ According to Maudsley's observations, the idea of an action, barring effective resistance, brings about that action. James may have been attracted to this premise, initially, because it represents consciousness—and more specifically, particular conscious ideas—as effectual, but he was probably persuaded that the premise is true by his reading about and experimental duplication of various phenomena associated with hypnotic states, in which an idea (i.e., a "suggestion") is implemented without hesitation, unless some inhibitory obstruction takes place.⁷⁹

However ironic it may seem, habit is important in James's treatment of will. Once established, James argued, a habit can be triggered by "the idea of the end," which "tends more and more to make itself all-sufficient." So if the initiating idea is held long enough in consciousness, James continued, "the whole chain [of associated connections and final action] rattles off *quasi-reflexly*," as described in his earlier chapter on habit.⁸⁰ Although in some cases "the bare idea of a movement's sensible effects" is a sufficient "mental cue" to action, in other cases "an additional mental antecedent, in the shape of a *fiat*, decision, consent, volitional mandate, or other synonymous phenomenon of consciousness" must intervene "before the movement can follow."⁸¹ But when it follows, it tends to trace the path that has been established in the past, both by its electrophysiological current and by the behavioral outcome to which it has led. Though James gave only a single example of his own before referring the reader to relevant examples provided by Bain, he insisted that "it was in fact through meditating on the phenomenon in my own person that I first became convinced of the truth of the doctrine which these pages present."⁸² We have seen earlier some of the personal experiences that fed his meditations. In fact, it is noteworthy that his explanation of the will in 1890, wedded now to speculative yet experimentally grounded neurology and to the clinical observations of a leading psychiatrist, is amazingly consonant with Renouvier's definition of free will as "the sustaining of

a thought *because I choose to,*” which James had accepted as he struggled with the implications of scientific analysis and skepticism, way back in 1870.⁸³

In the next pages in his chapter on the will, James went from a discussion of simple yes-no decision-making to more complex situations in which actions result from “deliberation” over multiple, often conflicting ideas about possible actions. He also discussed five types of decision, the feeling of effort, and two kinds of “unhealthy will”: the “obstructed will” that makes normal actions impossible and “the explosive will” that makes abnormal ones irrepressible. These are interesting and relevant discussions, as are his subsequent critique of pleasure and pain as “springs of action” and his philosophical ruminations on “free-will” and “the education of the will,” which include further neurological speculations. But we have covered enough to document our central contention that habit is at the foundation of James’s thought, providing a means for the emergence of distinctly human, purposeful behavior while also playing an essential role in other aspects of psychological functioning, including the will. All that remains to underscore is James’s contention that neither habit nor will creates options out of thin air; they can only tip the balance to or from one or the other extant idea by selecting or not selecting it for attention from among “the theatre of simultaneous possibilities” for human action.⁸⁴ But though the range of potential habits is constrained and the will is not *radically* free, both being dependent on material conditions and their conscious representation, they are nonetheless indelibly individual and consequential. Each person, as James had hoped to show, is in the game, each can make a difference, and each can leave a nick in the universe by the cultivation of his or her own habits and the assertion of his or her own will.

5. CONCLUSION

In subsequent works after the publication of *The Principles of Psychology* in 1890, James continued to direct attention to the importance of habit, most notably in his popular textbook on psychology (*Psychology: Briefer Course* [1892], an abbreviated version of his *Principles*) and in his *Talks to Teachers* (delivered throughout the 1890s and then published in 1899). In the former work, besides treating habit itself in a thorough manner, he emphasized that “what is called our ‘experience’ is almost entirely determined by our habits of attention,”⁸⁵ and he discussed a number of ways in which “the law of neural habit” has an impact on human thought, feeling, and behavior.⁸⁶ In the latter work, he hit many of the same notes, after defining education as “the organization of acquired habits of conduct and tendencies to behavior”⁸⁷ and before concluding with a Spinozistic plea that “you [should] make freemen

of your pupils by habituating them to act, whenever possible, under the notion of a good," which is to say, according to the idea of what, first, teachers and later the students themselves take to be good.⁸⁸ To the considerable extent that humans are "bundles of habit,"⁸⁹ he argued, their moral character will consist in "an organized set of habits of reaction."⁹⁰

At the same time, over the final decades of his life, a counterpoint to the positive representation of habit became increasingly apparent in James's thought and work. This counterpoint had always been a feature, though a much less prominent feature, of his work. For instance, in his very first publication on philosophy, James contrasted philosophical thinking with common ways of thinking, saying that the philosophical student had to get into the *habit* of thinking *unhabitually*! As he put it, "philosophic study means the habit of always seeing an alternative, of not taking the usual for granted, of making conventionalities fluid again, of imagining foreign states of mind. In a word, it means the possession of mental perspective,"⁹¹ by which he clearly meant the possession of a *different* perspective from that of common sense. This accorded with his understanding of "genius," which he defined early on as the ability to make *atypical* analogical connections.⁹² He repeated this definition in *Principles*⁹³ and expressed it two years later when he wrote that "genius, in truth, means little more than the faculty of perceiving in an unhabitual way."⁹⁴ In contrast, said James, most of us "have no eyes but for those aspects of things" which we have "already been taught to discern"—things that "have been labeled for us," the labels then being "stamped into our mind."⁹⁵ Thus, "most of us grow more and more enslaved to the stock conceptions with which we have once become familiar," leading to a kind of "old-fogyism" in which our thinking and behavior are all too conventional.⁹⁶ So, while it may simplify and organize life to have routine ways of perceiving, thinking about, and responding to the stream of experience, James realized that there is a potential downside to this economy of habit. Hence, he felt that *some* individuals, at least, need to see and think and act outside the box, for the sake of others as well as themselves, lest habit become too much of a good thing, stultifying and routinizing rather than freeing and guiding us.

Perhaps it was James's increasing dismay at the political and social conventions of the 1890s and early 1900s that aroused him, as it seems, to seek more pointedly *new* ways of thinking and acting after 1890.⁹⁷ But in any case, in his initial discussion of pragmatism, he represented the pragmatic philosopher as a "path-finder," even a "trail blazer," who sets out to identify new ways of trying to get to the "center" of the forest of experience.⁹⁸ It is probably relevant too that, after focusing on establishing psychology on a *scientific* basis over the preceding decades, James was now concerned, in his initial presentation on pragmatism, with making room for *religious* as well as scientific modes of understanding and living. Only a few years later, in

Varieties of Religious Experience (1902), he discussed “the hot spot in a man’s consciousness” that constitutes “the habitual centre of his personal energy”⁹⁹ and explored how this habitual center of energy might be “converted” to another set of ideas (e.g., religious ideas) by that individual’s “growth into *new* habits.”¹⁰⁰

Similarly, James expressed an increasing desire to break other kinds of barriers to innovation and revivification, such as restraints placed on the inner “energies” and “powers” of human beings.¹⁰¹ Liberating and expressing those powers, he hoped, would free himself and others from being “victims of habit-neurosis” and from “habituation” to “literality and decorum.”¹⁰² In sum, then, James seemed to be saying, in a variety of venues, that if habit can help us feel comfortable in a world of change, there are times when breaking habits, challenging beliefs, trying out new perspectives—and feeling *uncomfortable*—is more likely to prompt major advancements in knowledge, custom, and goodwill.

Perhaps James’s pragmatism can best be seen, in this context, as a way of moving from resting point to resting point along the path to fuller knowledge, more confident beliefs, and a better world. “A pragmatist turns his back resolutely and once for all upon a lot of inveterate habits dear to professional philosophers,” said James.¹⁰³ “Pragmatism unstiffens all our theories” while allowing enough lingering, if loosely held, “loyalty” to “older truths” to keep us sufficiently steady for the next step into a newer and better world.¹⁰⁴ As “mediator and reconciler,” pragmatism has “no prejudices whatever, no obstructive dogmas, no rigid canons. . . . Her only test of probable truth is what works best in the way of leading us” ahead, toward the goal of ever more useful thought and ever more satisfying life.¹⁰⁵ Perhaps it is useful to think of James urging us to develop a new habit of proceeding pragmatically, keeping one hand on the relatively known past as we reach for the relatively unknown future, striving for what is beyond our grasp but not beyond our hope.

Whether that is a useful thought or not—whether James’s pragmatism represents a blending of the habitual and unhabitual in a productive alliance—is an issue for another time. *This* chapter has been concerned primarily with exploring the role of habit in William James’s life and thought, and how it allowed him to mediate between his physiological studies, psychological speculations, philosophical conclusions, and moral aspirations. Though typically passed over as one of his more popular and least original contributions to psychology and philosophy, in fact his treatment of habit was crucial in allowing him to walk a fine line between scientific analysis (and objective determinism), on the one hand, and moral advocacy (and subjective indeterminism), on the other. It also allowed for the imposition of order upon relatively unstructured human experience (as readily illustrated in his own personal life), while providing a place, even if an admittedly small place, in which human will (considered in a new way) could be seen as playing a

crucial role in the midst of an apparently all-too-material universe. And although James spent the rest of his career, after 1890, searching for a compelling articulation of a new metaphysics that would eliminate the chasm between mental and bodily processes—maybe it would be a new kind of materialism that was somehow *aufgehoben* to incorporate consciousness as a natural, evolved, and efficacious part of nature¹⁰⁶—in the meantime his approach to habit and to the closely associated processes of cognition, feeling, volition, and action would have to “stand in,” however awkwardly at times, for this needed, eagerly anticipated, but indefinitely deferred conceptual and theoretical breakthrough.

James was not alone—and was far from the first—to show such interest in or to make extensive use of habit. He was well aware of earlier treatments by Aristotle, Augustine, the Scholastics, Jonathan Edwards, and Jean-Jacques Rousseau, and he was intimately familiar with the relevant philosophical ideas of Alexander Bain and Herbert Spencer, the physiological speculations of Thomas Laycock and William Carpenter, the psychiatric observations of Isaac Ray and Henry Maudsley, and the innovative thought of his own friends Chauncey Wright and Charles Sanders Peirce. He was also well informed about the recent results of experimental physiology and neurology in England, France, Germany, and elsewhere, including the research of David Ferrier, John Hughlings Jackson, and Theodor Meynert. His travels, studies, and reading—as random as they may have seemed to others—provided an unusually broad and solid framework for his creative thinking. It is probably safe to say that few twenty-first-century psychologists or philosophers, aside from a rather small group of dedicated James scholars, realize how deep as well as wide his reading, conversations, correspondence, and reflections were in the decades leading up to the publication of his *Principles of Psychology*, which in various ways provided the foundation for his subsequent work in philosophy as well as psychology. Everyone knows that *Principles*, his first book, was published relatively late in his career (he was forty-eight when it appeared), but a careful review of the preceding development of his thought has revealed how early he came to his basic ideas and how thoroughly he worked through their implications over the subsequent decades. In addition, tracing the development of James’s thinking has highlighted his intentions, the obstacles he met, and how he dealt with them. Seemingly simple ideas—even ones that he took directly from someone else—were often made to do distinctive work within the economy of his own evolving system of thought. This fact has often been missed by those who analyze elements of his thinking without sufficient understanding of their role within the entire corpus of his thought.

Hilary Putnam has remarked that “William James is a figure who simply won’t go away.”¹⁰⁷ One reason, as the neuropsychologist Richard F. Thompson has noted, is that “his views remain astonishingly contemporary.”¹⁰⁸

Regarding habit, for instance, James's emphasis on plasticity "has only recently regained popularity in study of the neurobiology of learning and memory," and his neurological speculations are now seen as advocating a "kind of connectionist machinery," akin to contemporary theorizing. Indeed, so much is now going the way of James's hypotheses—for instance, regarding the localization of functions and the basic structure of the brain as "a circuit, albeit an immensely complicated one"—that Thompson is confident that "James would be very pleased" by the recent body of neurological literature. Similar things have been said, from time to time, about James's ideas in other areas of psychology and in philosophy as well. Bruce Wilshire is only one among many who have called for "a serious reconsideration of William James," despite the "mixed bag" of "strengths" and "defects" that he sees in James's work.¹⁰⁹ Even regarding the controversial topic of free will, anathema in scientific psychology and much of philosophy over the past century, James's ideas and near analogues are once again receiving close, sympathetic, even appreciative attention.¹¹⁰

Further consideration of James's views, then, can advance not only our knowledge of history but also our understanding of where matters currently stand and where they might be heading in the future. With regard to the topic of habit, in particular, this chapter has clarified and expanded upon some of the basic claims that James made: claims that have sometimes been simplified by others to the point of travesty. As Charlene Haddock Seigfried has said, rephrasing what John McDermott said before her, "James is delightfully easy reading the first time around, but gets more difficult with each successive reading."¹¹¹ Unfortunately, few people bother to read James a second time, if they read him at all, and the vast majority of those who read him at all, read only selected portions of well-known classics, whether *The Principles of Psychology*, *The Will to Believe*, *The Varieties of Religious Experience*, *Pragmatism*, *A Pluralistic Universe*, *The Meaning of Truth*, or *Essays in Radical Empiricism*. Far fewer know about, much less read, the documents and other works (letters, diaries, notebooks, unpublished drafts, and early articles) that have made possible this reconstruction of his views on habit and associated matters and their relation to his views on science and morality as well as psychology and philosophy. With their aid we have seen how James used habit to mediate between scientific determinism and moral freedom, and thus to establish psychology and philosophy on a new foundation.

The philosopher Stephen Toulmin (1922–2009), a beloved teacher and dear friend to whose memory I dedicate this chapter, once observed that "philosophy has always flourished on half-fledged sciences."¹¹² The still-fertile philosophical contributions of William James, emerging as they did from the half-tilled soil of new scientific research in anatomy, neurology, and psychology, provide as compelling an illustration as one could wish.

NOTES

1. William James, Letter to Catherine Elizabeth Havens, 23 March 1874, in *The Correspondence of William James*, 12 volumes, eds. Ignas K. Skrupskelis and Elizabeth M. Berkeley (Charlottesville: University Press of Virginia, 1992–2004), vol. 4, 486.
2. James, Letter to Catherine Elizabeth Havens, 13 July 1874, in *Correspondence*, vol. 4, 499.
3. James, Letter to Catherine Elizabeth Havens, 13 July 1874, 499.
4. James, Letter to Charles Augustus Strong, 21 October 1889, in *Correspondence*, vol. 4, 541.
5. William James, "Are We Automata?," in *Essays in Psychology*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1983), 58.
6. See, for example, Gay Wilson Allen, *William James: A Biography* (New York: Viking, 1967); Daniel W. Bjork, *William James: The Center of His Vision* (New York: Columbia University Press, 1988); Howard M. Feinstein, *Becoming William James* (Ithaca: Cornell University Press, 1984); Alfred Habegger, *The Father: A Life of Henry James, Sr.* (Amherst: University of Massachusetts Press, 1994); Ralph Barton Perry, *The Thought and Character of William James*, 2 vols. (Boston: Little, Brown, 1935); Robert D. Richardson, *William James: In the Maelstrom of American Modernism* (Boston: Houghton Mifflin, 2006); and Linda Simon, *Genuine Reality: A Life of William James* (New York: Harcourt Brace, 1998).
7. Alice James, *The Diary of Alice James*, ed. Leon Edel (New York: Dodd, Mead, 1964), 57.
8. Henry James, *Autobiography*, ed. Frederick W. Dupee (Princeton: Princeton University Press, 1983), 8.
9. William James, "James on Tausch," in *Essays, Comments, and Reviews*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1987), 190.
10. James, Letter to Edgar Beach Van Winkle, 1 March 1858, in *Correspondence*, vol. 4, 11–13, and James, Letter to Thomas Wren Ward, 7 January 1868, in *Correspondence*, vol. 4, 248, 250, italics added.
11. James, Letter to Thomas Wren Ward, 7 November 1867, in *Correspondence*, vol. 4, 225, and James, Letter to Thomas Wren Ward, 7 January 1868, 248, 250.
12. See Kim Townsend, *Manhood at Harvard: William James and Others* (New York: Norton, 1996).
13. William James, Diary [1] (1868–1873), in *William James Papers*, Houghton Library, Harvard University.
14. Perhaps it should be noted that opportunities in philosophy were severely limited and that related scholarly expectations were very different at that time. At Harvard, there was only one professor of philosophy, Francis Bowen, in 1872. Bowen taught from the texts of Scottish philosophers and was one of the exceptions among contemporary academic philosophers in that he produced his own works on metaphysics, logic, and ethics. (Most simply taught from others' texts or from their own commentaries on others' texts.) Of course, there were some instructors who helped Bowen teach philosophy to the approximately 600 undergraduates at Harvard in 1872, but their prospects for advancement were far from good. In fact, only one of the instructors from the entire decade, George Herbert Palmer, ended up becoming a professor of philosophy at Harvard (see George Herbert Palmer and Ralph Barton Perry, "Philosophy," in Samuel Eliot Morison, ed., *The Development of Harvard University since the Inauguration of President Eliot, 1869–1929* (Cambridge, MA: Harvard University Press, 1930), xc, 3; see also Bruce Kuklick, *The Rise of American Philosophy: Cambridge, Massachusetts, 1860–1930* (New Haven: Yale University Press, 1977).
15. James, Diary [1].
16. See, for example, James, Letter to Edgar Beach Van Winkle, 1 March 1858, 14.
17. It is relevant to note that Peirce developed his own views on the importance of habit in the 1860s (see, e.g., Charles S. Peirce, "Some Consequences of Four Incapacities," in *The Essential Peirce: Selected Philosophical Writings*, eds. Nathan Hauser and Christian Kloesel [Bloomington: Indiana University Press, 1992]) and further developed those views in his later, more elaborate analyses of the relations among habit, action, doubt, and belief (see, e.g., Peirce,

"The Fixation of Belief" and "How to Make Our Ideas Clear," in *The Essential Peirce*). On Peirce's views, see Sandra B. Rosenthal, *Charles Peirce's Pragmatic Pluralism* (Albany: State University of New York Press, 1994) and Gary Shapiro, "Habit and Meaning in Peirce's Pragmatism," *Transactions of the Charles S. Peirce Society* 9 (1973): 24–40.

18. James, Letter to Thomas Wren Ward, 7 November 1867, 226.

19. James used "mental science" as virtually identical with "philosophy." For him the term covered not only recent and ongoing efforts to integrate scientific research with traditional philosophical concerns about the nature of thought, emotion, will, mind, and consciousness, but also other areas of study that deal with "the Human mind, its laws, its powers & the authority of its conclusions." More specifically, as he wrote to President Eliot in 1875, these other areas of mental science encompassed logic, the history of philosophy, and metaphysics (including epistemology) (James, Letter to Charles W. Eliot, 2 December 1875, in *Correspondence*, vol. 4, 527). In arguing for his appointment in philosophy, primarily to teach the new physiological psychology, James pointed out that he offered what no "mere" philosopher or physiologist could: He had *both* "first hand acquaintance with the facts of nervous physiology" and knowledge of "the subtlety & difficulty of the psychologic portions" of the subject (Letter to Charles W. Eliot, 2 December 1875, 528). He soon expanded the argument about the benefit of a scientific background to philosophy *as a whole*, claiming that in the 1870s philosophy must, "like Molière," claim "her own where she finds it," and thus must turn to "physics and natural history" and "educate herself accordingly" (James, "The Teaching of Philosophy in Our Colleges," 6). This obviously expanded the prospects for his own future in philosophy.

20. Charles Darwin, Letter to Chauncey Wright, 3 June 1872, in *The Life and Letters of Charles Darwin*, ed. Francis Darwin (London: John Murray, 1887), vol. 3.

21. See Louis Menand, *The Metaphysical Club* (New York: Farrar, Straus and Giroux, 2001).

22. Charles Eliot, "William James" (1915), in *William James Papers*, Houghton Library, Harvard University.

23. Charles Eliot, Letter to William James, 20 May 1894, in *Correspondence*, vol. 7, 504.

24. Regarding James's scientific background, see especially Paul Jerome Croce, *Science and Religion in the Era of William James: Eclipse of Certainty (1820–1880)* (Chapel Hill: University of North Carolina Press, 1995) and "William James's Scientific Education," *History of the Human Science* 8 (1995): 9–27. See also Perry, *The Thought and Character of William James*.

25. I emphasize this point, which will be relevant to the argument that follows, because of the repetitious acknowledgment in the literature on James regarding his idiosyncratic formal education and his own typically self-deprecating statements about the negative consequences of not having been sufficiently "drilled" in the sciences and logic in his younger days (see, e.g., James, Letter to Thomas Wren Ward, 7 November 1867, 225). This has led to a vision of James as less directly knowledgeable and less prepared than he actually was to be creative and effective in his chosen line of research (first in "mental science," narrowly defined, and then, by extension, in other areas of philosophy). The relevance of science to his philosophical work *beyond* "mental science" can be underscored by the fact that the first course he taught in philosophy, other than physiological psychology, was "The Philosophy of Evolution" (in 1879). And he approached other philosophical topics, later, with the same scientifically informed consciousness that he brought to his work in psychology. It is relevant to add a word about his background in philosophy, which he had read and discussed with others since at least the early 1860s. It seems clear that he knew a wider range of philosophy, albeit unsystematically, than he would have known by simply following the standard college curriculum. There were, of course, no graduate programs in the subject at that time.

26. In the early 1860s James took Joseph Lovering's physics course, which dealt with electricity among other natural phenomena. He also read William Grove's *Correlation of Physical Forces* (1862), which presented the various natural forces as convertible into each other. And he returned again and again to reports of Michael Faraday's research, including Faraday's own *Experimental Researches in Chemistry and Physics* (1859). In the same period he read and re-read Ludwig Büchner's *Kraft und Stoff* (1858) and found it difficult to shake its central theme that without matter there was no force, and without force there was no matter.

The relevance of these overlapping ideas to his later interest in the electrophysiological research of Du Bois-Reymond, to his subsequent fear “that we are Nature through and through, that we are *wholly* conditioned, that not a wiggle of our will happens save as the result of physical laws” (James, Letter to Thomas Wren Ward, March 1869, in *Correspondence*, vol. 4, 370), and thus to his temporarily held “conscious automaton theory,” with its reduction of mental phenomena to physical matter and force, is obvious.

27. Oliver Wendell Holmes, *Mechanism in Thought and Morals: An Address Delivered Before the Phi Beta Kappa Society of Harvard University, June 29, 1870. With Notes and Afterthoughts*, in *Works of Oliver Wendell Holmes* (Boston: Houghton Mifflin, 1891), vol. 8, 261–62 (italics added).

28. See John D. Greenwood, “Whistles, Bells, and Cogs in Machines: Thomas Huxley and Epiphenomenalism,” *Journal of the History of the Behavioral Sciences* 46 (2010): 276–99, for details about Huxley and other figures in the subsequent conscious automaton debate.

29. William James, “[Draft on Brain Processes and Feelings],” in *Manuscript Essays and Notes*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1988), 253.

30. James, “[Draft on Brain Processes and Feelings],” 252, 255, 256.

31. James, “[Draft on Brain Processes and Feelings],” 253–54.

32. I could have listed Ralph Waldo Emerson as well, but his more general, pervasive, and chronic influence was consonant in this instance with the momentarily more acute impact of William Wordsworth, who had also influenced Emerson himself decades earlier. Still, it is worth noting that Emerson’s Americanized version of Wordsworthian ideas, as set forth (among other places) in his 1870 Harvard lectures on the “Natural History of Intellect” (1870), had a significant impact on James, whose familiarity with Emersonian ideas can be traced back to childhood. When James asserted, in 1873, that “I am sure that an age will come . . . when emerson’s [*sic*] philosophy will be in our bones,” he was acknowledging, he indicated, that Emerson’s ideas had already shaped his own “dramatic imagination” of the way things are (James, “[Notes on Art and Pessimism],” in *Manuscript Essays and Notes*, 295).

33. Quoted in Perry, *The Thought and Character of William James*, vol. 1, 340.

34. Whatever the source or sources of his newfound belief in the (at least) potential, relative, or temporary independence of mind from body, James was soon elaborating upon it in two reviews of the physiologist William B. Carpenter’s *Principles of Mental Physiology* (1874), which appeared just five months after James published an endorsement of Renouvier’s “original and simple” arguments for “the *possibility*” of “free-will” (James, “Renouvier’s Contribution to *La Critique Philosophique*,” in *Essays, Comments, and Reviews*, 266). While criticizing Carpenter for his “very inadequate” knowledge of recent physiological research as well as for his “descriptive” rather than “analytic” approach (which aligned Carpenter more closely with Bain and Spencer than Wundt and “the immortal Helmholtz”), James nonetheless gave special mention to Carpenter’s “copiously and variously illustrated” discussion of “ideomotor action” (James, “Two Reviews of *Principles of Mental Physiology*, by William B. Carpenter,” in *Essays, Comments, and Reviews*, 270, 273). In another review, James outlined the basic premises of this loosely descriptive theory that a “volitional impulse” could assert itself in the natural flow of neural activity and then through repetition—“by virtue of the great law of habit”—bring about an action that becomes “automatic” and “so to speak, second nature.” And it could do this, James said, without violating the premise that “all mental action is correlated with brain function” (James, “Recent Works on Mental Hygiene,” in *Essays, Comments, and Reviews*, 278). These very general premises, embellished by James’s more sophisticated knowledge of neurology and his distinctive understanding of the role of interest-attention-and-selection, would soon define the core of his own views on the physiology of will and habit.

35. Perry, *The Thought and Character of William James*, vol. 1, 339.

36. William Wordsworth, “The Excursion,” in *The Poems*, ed. John O. Hayden (New York: Penguin Books, 1977), vol. 2, 155.

37. Wordsworth, “The Excursion,” 152.

38. Wordsworth, “The Excursion,” 156.

39. Chauncey Wright, “Evolution of Self-Consciousness,” in *Philosophical Discussions*, ed. Charles Eliot Norton (New York: Henry Holt, 1877), 216–17.

40. William James, "Grundzüge der physiologischen Psychologie, by Wilhelm Wundt," in *Essays, Comments, and Reviews*, 300.

41. James, "Grundzüge der physiologischen Psychologie, by Wilhelm Wundt," 300.

42. For example, in William James, *The Principles of Psychology*, 2 vols., ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1981), vol. 1, 538–41

43. The year 1878 has been called, with justice, James's *annus mirabilis*. His publications and lectures, drawing upon his evolutionary, physiological, and neurological knowledge, conveyed a distinctive understanding of sensation, perception, and cognition and established him as a significant newcomer in his chosen fields. Also, in June, he signed the contract that led, twelve years later, to the publication of his magisterial *Principles of Psychology*, and in July he married Alice Howe Gibbens, signaling the beginning of a considerable moderation if not a once-and-for-all end to his various nervous conditions. Finally, late that year, he submitted three additional articles for publication, including the article (published in January 1879) that explained his opposition to conscious automaton theory

44. William James, "Remarks on Spencer's Definition of Mind as Correspondence," in *Essays in Philosophy*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1978), 21.

45. James, "Brute and Human Intellect," in *Essays in Psychology*, 15.

46. William James, Lowell Lectures on "The Brain and the Mind," in *Manuscript Lectures*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1988), 27.

47. James seems to have been the first individual to extend selectionism (which was still, then and for a good while longer, a highly debated characteristic of Darwinian evolutionary theory) from the domain of Nature in general to that of Mind in particular, which was still typically seen as somehow different from Nature. He first expressed his thoroughgoing selectionist view of mental processing in the late 1870s: "The highest and most elaborated mental products are filtered from the data chosen by the faculty next beneath out of the mass offered by the faculty below that" (James, "Are We Automata?", 51). Hence, ideas and feelings regarded as ethically salient were selected from among aesthetically selected ideas and feelings, which were derived, in turn, from those ideas and feelings that were abstracted from the wide array of perceptions, which in turn were selected from among the mass of constituent elements produced by the senses, which had, after all, responded only to a rather narrow range of the full spectrum of ambient stimuli. At each level some *possible* sensations, perceptions, ideas, feelings, and reactions had been selected while others went unnoticed or ignored.

48. James, "Are We Automata?", 41.

49. James, "Are We Automata?", 51.

50. James, "Are We Automata?", 51; repeated in James, *Principles of Psychology*, vol. 1, 277. Although James mentioned his famous analogy between the mind and a sculptor in the sentences following this passage in his 1879 article, he elaborated upon it in his *Principles*, creating another classic passage that helps to explain his thought on the role of consciousness: "The mind, in short, works on the data it receives very much as a sculptor works on his block of stone. In a sense the statue stood there from eternity. But there were a thousand different ones beside it, and the sculptor alone is to thank for having extricated this one from the rest. Just so the world of each of us, howsoever different our several views of it may be, all lay embedded in the primordial chaos of sensations, which gave the mere *matter* to the thought of all of us indifferently" (James, *Principles of Psychology*, vol. 1, 277). This passage makes it clear that James was a realist, though one (like Wordsworth) who felt that reality results from a productive interaction of mind and matter.

51. James, "Are We Automata?", 58.

52. James, "Are We Automata?", 59.

53. I should note that although James felt that he had shown that consciousness matters—that it can exert causal force—he admitted to a friend that "free-will is . . . no necessary corollary of giving causality to consciousness." Someone who has a "fatalistic faith," he said, is no more compelled to change his or her mind because of his (James's) argument than a person who has a "freewill faith" is compelled to give it up because of a compelling argument in favor of non-conscious causality (James, Letter to James Jackson Putnam, 17 January 1879, in *Correspondence*, vol. 5, 34; see also James, *Principles of Psychology*, vol. 2, 1173–1182). In

the end, as Renouvier said, the belief in free will is a matter of voluntary faith. James had addressed this issue, obliquely, five years earlier, when he argued in a letter to an editor that scientists like Huxley who claim to *know* what they can only *assume* are as much swept up in "the mood of Faith" as persons who do the same thing on behalf of religious beliefs or "moral speculation" (James, "The Mood of Science and the Mood of Faith," in *Essays, Comments, and Reviews*, 115). James signed this letter "Ignoramus." He had, of course, staked his own faith on free will and felt his belief was consonant with, if not a mandatory conclusion from, coherent principles and apparent facts. He similarly foreswore any possibility of giving "a coercive demonstration" in his extensive defense of his belief in indeterminism and free will in "The Dilemma of Determinism" (1884).

54. James, Lowell Lectures on "The Brain and the Mind," 19.

55. James, Lowell Lectures on "The Brain and the Mind," 18–19.

56. James's originality, especially when it comes to his views on habit, has often been underestimated (see, e.g., John C. Malone, "William James and Habit: A Century Later," in *Reflections on The Principles of Psychology: William James After a Century*, eds. Michael G. Johnson and Tracy B. Henley [Hillsdale, NJ: Lawrence Erlbaum Associates, 1990], which is otherwise a useful and informative source). Because James drew upon the work of Bain, Carpenter, and Maudsley, among others, it is often thought that he was simply repeating what others had said. But in fact he brought to his reading of their works—and to his selective adoption of some of their ideas—a much more sophisticated understanding of evolution, physiology, and neurology than they possessed. Bain, for instance, had only a schematic knowledge of recent scientific advances, and his lack of facility in German blocked his access to the most recent literature, including the literature on the cerebral hemispheres, that was important in James's assimilation and reformulation of his views on habit. Similarly, Carpenter's knowledge of the body was based on old-fashioned empirical anatomy rather than the new experimental physiology. And Maudsley's research was largely clinical in origin and nature. See Kurt Danziger, "Mid-Nineteenth-Century British Psycho-Physiology: A Neglected Chapter in the History of Psychology," in *The Problematic Science: Psychology in Nineteenth-Century Thought*, eds. William R. Woodward and Mitchell G. Ash (New York: Praeger, 1982), and Lorraine J. Daston, "The Theory of Will versus the Science of Mind" (in *The Problematic Science*) and "British Responses to Psycho-Physiology," *Isis* 69 (1978): 192–208, for useful historical background. James adopted their ideas only if they were compatible with the most recent experimental research, and only to the extent that their adaptation made sense within the context of this research and his own analysis of the facts presented in their works and in the general literature. More specifically, although he took descriptive examples and practical maxims regarding habits from Bain and Maudsley, he turned elsewhere when he was concerned about explanation rather than description. And in the same way, he took Carpenter's description of "ideo-motor action," purportedly involved in *some* "curiosities of our mental life," and expanded it into a generalized "ideo-motor theory" that he (James) embedded, as Carpenter had not, within a contemporary neurological framework (see James, *Principles of Psychology*, vol. 2, 1131). Finally, with regard to Bain (and also to Spencer), it is worth noting that James's critique of traditional utilitarianism, especially its emphasis on pleasure as the primary motive for human action, was but one source of the important conceptual distance James created between his views and theirs. This separation was apparent as early as James, "Two Reviews of *Principles of Mental Physiology*."

57. James, *Principles of Psychology*, vol. 1, 38. On Meynert and James's use of "the Meynert scheme," see Frank Sulloway, *Freud, Biologist of Mind* (New York: Basic Books, 1979) and William R. Woodward, "William James's Psychology of Will: Its Revolutionary Impact on American Psychology," in *Explorations in the History of Psychology in the United States*, ed. Josef Brožek (Lewisburg, PA: Bucknell University Press, 1984), each of whom emphasizes how James modified Meynert's account—at once too mechanical regarding reflexes and too purposive regarding mental processes (James, *Principles of Psychology*, vol. 1, 80)—from a more up-to-date evolutionary perspective. What I wish to emphasize, in addition, is how James used his "correction of the Meynert scheme" (James, *Principles of Psychology*, vol. 1, 79) to change, in fundamental ways, previous associationist accounts of habit from which he retained much of his basic psychological vocabulary. The fact that his account

sounded like earlier accounts by Spencer, Bain, Carpenter, and others has obscured the degree to which it was significantly different. For one thing, it attempted a causal *explanation* of association rather than a verbal *description* of it (James, *Principles of Psychology*, vol. 1, 566). For another, it switched pleasure or satisfaction from a *motivation* to a *consequence* of behavior (*Principles of Psychology*, vol. 2, 1156–64). Besides inspiring John Dewey's (1896) classic discussion of "the reflex arc" and Edward L. Thorndike's (1898) studies leading to "the law of effect" as well as anticipating B. F. Skinner's (1938) operant psychology and later social learning theory (see William R. Woodward, "The 'Discovery' of Social Behaviorism and Social Learning Theory, 1870–1980," *American Psychologist* 37 [1982: 396–410]), this provided a neurological basis for the kind of trial-and-error learning that Peirce and James saw as essential to pragmatic notions of progressive truth-approximating.

58. James, Lowell Lectures on "The Brain and the Mind," 17.

59. James, *Principles of Psychology*, vol. 1, 36–39.

60. James, *Principles of Psychology*, vol. 1, 39–87.

61. James, *Principles of Psychology*, vol. 1, 84.

62. Another advantage of this scheme was that it also provided the basis for non-habitual thought, feeling, and behavior as well as the operation of the will, as we shall see.

63. Including, for example, James, "The Feeling of Effort" and "What the Will Effects," in *Essays in Psychology*.

64. "Plasticity" was a term that James took from Darwin, who used it in reference to the modifiability of the *entire* physical organism (Darwin, *On the Origin of Species*, 12, 31, 80). This is relevant to note, given the evolutionary perspective from which James approached habit formation.

65. James, *Principles of Psychology*, vol. 1, 112.

66. James, *Principles of Psychology*, vol. 1, 113.

67. James, *Principles of Psychology*, vol. 1, 86.

68. James, *Principles of Psychology*, vol. 1, 119.

69. James, *Principles of Psychology*, vol. 1, 117.

70. James, *Principles of Psychology*, vol. 1, 126, italics omitted.

71. James, *Principles of Psychology*, vol. 1, 126.

72. James, *Principles of Psychology*, vol. 1, 127–131.

73. James, *Principles of Psychology*, vol. 1, 130. At the head of his chapter on habit in his own personal copy of the abbreviated version of *Principles*, James epitomized his argument and its moral significance by inserting this handwritten summary: "Sow an action, and you reap a habit; sow a habit and you reap a character; sow a character and reap a destiny" (James, *Psychology: Briefer Course*; see Richardson, *William James*, 315).

74. Just as habit is the subject of a fundamental chapter (ch. 4) toward the beginning of James's *Principles*, so is will the subject of what is, in many respects, the culminating chapter (ch. 26) of this masterwork. Between these two chapters, which form virtual bookends that support and justify his psychological system, James frequently noted ways in which "the great law of habit" (James, *Principles of Psychology*, vol. 1, 521) plays a significant role in a wide variety of psychological phenomena, ranging across association (ch. 14), memory (ch. 16), sensation (ch. 17), perception (ch. 19), belief (ch. 21), reasoning (ch. 22), and the modification and elaboration of instincts (ch. 12). Most crucial to James, however, were phenomena associated with voluntary vs. involuntary action (ch. 26).

75. James, *Principles of Psychology*, vol. 2, 1110–1111. In treating the possibility of *voluntary* conduct, James assumed, as a prerequisite, that past *involuntary* movements have left a supply of images in the memory, which are available when the will is called into action (James, *Principles of Psychology*, vol. 2, 1109–1100).

76. James, *Principles of Psychology*, vol. 2, 1111.

77. James, *Principles of Psychology*, vol. 2, 1112.

78. James, *Principles of Psychology*, vol. 2, 1130–1135.

79. See, for example, James, *Principles of Psychology*, vol. 2, 1198–1201, and an early review of Ambrose Liébault's work in James, "Du sommeil et de états analogues, by Ambrose Liébault," in *Essays, Comments, and Reviews*.

80. James, *Principles of Psychology*, vol. 2, 1128.

81. James, *Principles of Psychology*, vol. 2, 1130, italics omitted.
82. James, *Principles of Psychology*, vol. 2, 1133.
83. James, *Diary* [1].
84. James, *Principles of Psychology*, vol. 1, 277.
85. William James, *Psychology: Briefer Course*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1984), 156.
86. See, for example, James, *Psychology: Briefer Course*, 225, 243, 254, 286, 278, 345–47, and 352.
87. William James, *Talks to Teachers on Psychology and to Students on Some of Life's Ideals*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1983), 27.
88. James, *Talks to Teachers*, 344.
89. James, *Talks to Teachers*, 48.
90. James, *Talks to Teachers*, 108.
91. William James, "The Teaching of Philosophy in Our Colleges," in *Essays in Philosophy*, 4.
92. James, "Brute and Human Intellect," 30.
93. James, *Principles of Psychology*, vol. 1, 500.
94. James, *Psychology: Briefer Course*, 286.
95. James, *Principles of Psychology*, vol. 1, 420.
96. James, *Psychology: Briefer Course*, 286.
97. On James's political and social concerns, see Deborah Coon, "'One Moment in the World's Salvation': Anarchism and the Radicalization of William James," *Journal of American History* 83 (1996): 70–99, and George Cotkin, *William James: Public Philosopher* (Baltimore: Johns Hopkins University Press, 1990). Related expressions of concern were apparent in James's criticism of the "blindness" of human beings to the inner lives of those unlike themselves (James, 1899/1983f), in his negative reaction to the "ice cream soda-water" quality and "irremediable flatness" of Chautauqua gatherings (James, "What Makes Life Significant," in *Talks to Teachers*, 152, 154), and in his objection to the standardization of intellectual activity apparent in what he called "the Ph.D. octopus" (James, "The Ph.D. Octopus," in *Essays, Comments, and Reviews*). And, of course, he was also well aware of the benefits of novel ways of thinking in science.
98. William James, "Philosophical Conceptions and Practical Results," in *Pragmatism*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1975).
99. William James, *The Varieties of Religious Experience*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1985), 162, italics omitted.
100. James, *Varieties of Religious Experience*, 197, italics added.
101. William James, "The Energies of Men," in *Essays in Religion and Morality*, ed. Frederick Burkhardt (Cambridge, MA: Harvard University Press, 1982).
102. William James, "The Powers of Men," in *Essays in Religion and Morality*, 151, 161
103. James, *Pragmatism*, 31.
104. James, *Pragmatism*, 32, 35.
105. James, *Pragmatism*, 44.
106. James, Letter to Charles Augustus Strong, 21 October 1889, in *Correspondence*, vol. 6, 541.
107. Hilary Putnam, "The Permanence of William James," in *Pragmatism. An Open Question* (Cambridge, MA: Blackwell, 1995), 5.
108. Richard Thompson, "The Neurobiology of Learning and Memory: William James in Retrospect," *Psychological Sciences* 1 (1990): 172–73.
109. Bruce Wilshire, "William James's Pragmatism: A Distinctly Mixed Bag," in *100 Years of Pragmatism: William James's Revolutionary Philosophy*, ed. John J. Stuhr (Bloomington: Indiana University Press, 2010), 96, 107.
110. The scientific literature on consciousness, plasticity, and free will has exploded over the past decade or two. Jeffrey M. Schwartz and Sharon Begley, *The Mind and the Brain: Neuroplasticity and the Power of Mental Force* (New York: Harper, 2002), and Roy F. Baumeister and John Tierney, *Willpower: Rediscovering the Greatest Human Strength* (New York: Penguin, 2011) are but two of many accessible books, each written by a leading scientist working

with a talented scientific journalist, that survey significant portions of this literature and reach conclusions remarkably consonant with James's basic arguments. Both sets of authors recognize James as a notable predecessor.

111. Charlene Haddock Seigfried, *William James's Radical Reconstruction of Philosophy* (Albany: State University of New York Press, 1990), 173.

112. Stephen Toulmin, "The Logical Status of Psychoanalysis," in Margaret Macdonald, ed., *Philosophy and Analysis* (Oxford: Basil Blackwell, 1954), 132.

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