

Science and Pragmatism

AN INTRODUCTION

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CHAUNCEY WRIGHT, CHARLES S. PEIRCE, AND WILLIAM JAMES WERE THE HEARTH and heart of the original Metaphysical Club. Their philosophical agility shaped the legacy that would solidify pragmatism as America's most significant contribution to philosophy. The essays and reviews anthologized here not only unearth the foundation of this revolutionary worldview, but also offer a personal glimpse of three lifelong friends whose disagreements are as insightful as their shared commitment to a philosophy of action, problem solving, and experimentalism.

CHAUNCEY WRIGHT AND THE EVOLUTION OF CONSCIOUSNESS

Chauncey Wright (1830–1875) was a popular fixture at the many informal discussion groups that sprang up in Cambridge in the 1850s and 1860s. Wright's writings are often ponderous, and his few attempts at academic teaching ended in failure. He struggled to support himself as a computer tallying lengthily figures. Awkward and shy in most public settings, among close friends he blossomed into the "Local Socrates" who "lived for conversation."¹

Wright met Charles Sanders Peirce (1839–1914) at one such group in 1857, the first of "a thousand close disputations" preceding the formation of the Metaphysical Club.² Wright was one of the few interlocutors Peirce considered his intellectual equal—a "boxing master" whom the younger philosopher frequently faced "to be severely pummeled."³

Wright's enthusiasm for Peirce's emerging philosophy is evident in a published comment about the latter's 1871 review of A. C. Fraser's *The Works of George Berkeley*. Peirce had been teasing an eclectic reading of scholastic realism and Kant into a rebuke of rationalism and nominalistic realism. Wright praises Peirce for challenging the popular misconception that scholastic realism endorses Platonic forms or inscrutable things-in-themselves:

The realistic schoolmen were not such dolts as to contend for an incognizable reality beyond any powers we have for apprehending it, nor of the existence of universals as the objects of general conceptions existing outside the mind.⁴

To assert that “the reality of the [scholastic] realists was the final upshot of experience”⁵ is not, however, a nominalism admitting only the subjective content of individual minds that Berkeley pushed to the bizarre yet inevitable conclusion that all reality is in the mind of some perceiver—be it human or Divine.

But where Peirce sides wholly with scholastic realism, decrying the nominalists’ “veil of perception,” which fosters skepticism and nihilism, Wright urges a more balanced view. Even in exposing its own limitations, skepticism remains “the source of most of the impulses which the spirit of enquiry has received in the history of philosophy.”⁶ And where Peirce lauds the faith that sustained scholastic realism’s arduous sojourn into the anatomy of universals, Wright suspects a “conservatism and dogmatism” anathema to an experimental outlook.

Though we’ll return to the loftier aspirations of Peirce’s scholastic realism shortly, exploring Wright’s own goals may help us determine the extent to which he shared them. Wright aligned himself with “positive” philosophy, though in the tradition of J. S. Mill’s analysis of induction rather than the social utopianism of Auguste Comte. With Mill, all talk about reality beyond confirmable empirical hypotheses is forbidden. Metaphysics, whether cast in the mold of materialism, organism, or spiritualism, may be a permissible pump for the imagination, but it’s bogus when masquerading as factual description.

For Wright, the epitome of scientific philosophy is Darwin’s *On the Origin of Species*. In 1872, Wright both wrote an enthusiastic review of the sixth edition for the *North American Review* and traveled to England to meet Darwin at Down House in Kent. The two corresponded frequently thereafter until Wright’s untimely death in 1875.

In an era when American universities were still dominated by clergy, Wright was among a handful of intellectuals on his side of the Atlantic who fully understood, let alone endorsed, Darwin’s momentous idea. His review opens with the observation that Darwin’s greatest achievement lies not in advocating evolution, which dates from Empedocles in Ancient Greece and whose nineteenth-century champions include John Tyndall and Charles Lyell, but rather in a scrupulous devotion to observation and evidence. Indeed, Darwin’s methodology is as important as his findings: though the facts will take decades to fully process and fathom, from the outset it’s clear that the cautious positing of hypotheses—framed in abundant data from multiple perspectives—minimizes bias and promotes stable results. Respect for this approach also sets an appropriate bar for future discussion and debate.⁷

Darwin’s thesis is that evolution occurs by variation and natural selection. Lacking a proper understanding of genetics, he had no adequate explanation for variation by mutation. But selection was a different matter, for there are many examples of both planned and accidental variations in creatures that survive to pass the trait to their offspring in an altered environment where those without it perish.

Wright's views were sharpened by a debate in print with the prominent Jesuit naturalist St. George Mivart. In 1871 Wright reviewed Mivart's book *On the Genesis of Species* and compared it unfavorably to Darwin's superior *On the Origin of Species*. Mivart, though initially a supporter of Darwin's theory, was bothered by the vagaries of variation, and ultimately rejected it on the ground that there are no *accidents* in nature. He published a response to Wright in early 1872. Mivart likened the notion of accidental or random variation to the atheism of the Ancient atomists. Nature, said Mivart, is orderly, rather than chaotic. Environmental conditions do evolve species by natural selection, but only by actualizing latent traits already within them by divine design.⁸ Wright replied to Mivart by pointing out how Mivart's speculations are both ad hoc and slipshod about meaning. Accidents, as Darwin intends the word, are neither uncaused nor random. Instead, they merely denote events we can't fully anticipate from our current fund of knowledge, and thus challenge us to investigate their underlying causes. In natural selection, as well as everywhere else, "accidents" are relative to our knowledge of causes.⁹

In his reviews of Darwin, and in an unpublished "Fragment on Cause and Effect" penned five years later, Wright clarifies the broader question of "causality" itself. Metaphysicians are fond of forcing reality into universal chains of causation bound by notions such as "quiddity," "similarity," or "dependence." But, notes Wright:

Scientific doctrines and investigations are exclusively concerned with connections in phenomena which are susceptible of demonstration by inductive observation, and independent of diversities or resemblances in their hidden natures, or of any question about their metaphysical derivation, or dependence.¹⁰

As such, causality signifies relations *we* select and hope to associate by inductive inference. It is *not* the underbelly of existence, be this mechanistic materialism or, with Mivart, the lawful ordering of a divine intellect. Our tenuous search for meaning is insignificant in a vast and indifferent cosmos which, like the weather, is subject to change but oblivious to notions such as progress or improvement.

Impressed with Wright's review, Darwin asked the Socrates of Cambridge to help him tackle the ultimate frontier of evolution theory—how variation and natural selection might explain the miracle of *human* consciousness and will:

As your mind is so clear, and as you consider so carefully the meaning of words, I wish you would take some incidental occasion to consider when a thing may properly be said to be effected by the will of man.¹¹

Having published *The Descent of Man* the previous year, Darwin was battered by critics on three fronts: (1) unscientific souls who rejected evolution in any form; (2) those who accepted evolution for all species except *homo sapiens*; and (3) a more learned group that admitted human physiological evolution but exempted the mental realm.¹² In contemplating a response to the third group, Darwin wondered whether cognitive evolution might be a kind of "unconscious selection" patterned on the "unconscious

thoughts” manifest in hypnosis. But the idea wasn’t even clearly formed, let alone worth advocating.

Wright meets Darwin’s challenge in his signature work, “Evolution of Self-Consciousness.” Though he agrees with Locke’s claim that all knowledge arises from percepts or representations, he finds the mere “association” of such “simple ideas” both imprecise and too limiting. Instead, following Berkeley, he insists that (1) a representation is a *sign* whose function is to point to an objective existence beyond itself, and joins Peirce in noting that (2) each sign is tied to a *general* or *universal* significance we’re typically unaware of yet functions as a disposition to a predictable range of responses.

Imagine, for example, being startled by the sudden charge of a lion. For animals with brains sufficiently advanced to have a capacity for learning, previous encounters with predators have established a connection between the current percept and a general disposition to fear and flight. Moreover, in its capacity as a sign the attribution of the representation is transferred from itself to the external object. It is the lion we fear, not the representation.¹³

One of the classical pragmatists’ grandest insights—what, respectively, Peirce, James, and Dewey call “firstness,” “pure experience,” and “nonreflective having”—is that in its “integral unity” experience is not divided between subject and object, self and other, thing and thought.¹⁴ Since we’re typically not aware of either signs or general dispositions, Darwin’s intuition about “unconscious thoughts” is confirmed, though in a form that anticipates pragmatism’s dynamic problem solving rather than the id or unconscious of psychoanalysis. According to Wright, nonhuman animals are strictly limited to this reactive and noncognitive response. However, due to enhanced functions of memory and discrimination, human brains have evolved the additional ability to separate the representation from its intended object—that is, to recognize representations *as* representations of events that are external yet imminent. According to Wright, the “miracle” of human self-consciousness consists of two consequences of this capacity: (1) the gap between the representation and its object opens options for deliberation and choice not previously possible, which in turn (2) permits the initial recognition of *myself* as the author and agent of such deliberation.¹⁵

According to Wright, self-consciousness is greatly magnified when, in addition to the representation, the object itself is a sign. Beginning with simple gestures and vocal cues that later develop into speech, these “outward signs” connect to “inward signs or the representative mental images.”¹⁶ Anticipating Mead and Dewey, Wright affirms that social communication prefigures even so-called categories of human understanding.¹⁷ Such advances, however, portend no “cognitive utopia” of complete rational control. Natural selection permeates the social realm as thoroughly as it does the biological: we create meanings, but meanings direct our motives, values, and very behaviors—often in ways that are, “in fact, unconscious, if not unintended.”¹⁸

Wright aligns human will and emotion with this agency view of self-consciousness. If cognition is intrinsically the capacity for deliberation in pursuit of some external end, then *will* means simply the ability to pursue this end with focus and tenacity. A will is

“free” insofar as it can deflect impulses and distractions. As with consciousness itself, will is a function of directed behaviors, not an occult force or power.

Wright’s contribution to a scientific naturalism and pragmatism is a mixed bag of clear affinities and suggestive gaps. His credentials in science are impeccable—he was both a philosopher of science and a practicing scientist whose interests ranged from evolution to calculating leaf distributions optimal for the absorption of sunlight. And around the same time that Peirce was formulating pragmatism, Wright incorporated its central tenets of real generals, sign-indices, and noncognitive habits into his essay on self-consciousness.

Wright’s early death prevented his work from coalescing into anything like Peirce’s pragmatic *Weltanschauung* grounded in a systematic analysis of phenomenological categories. Although Wright’s positivism prefigures James’s radical empiricism in its preference for method over metaphysics, Wright would have rejected any suggestion that truth is the “cash value” of an idea. Among the classical pragmatists, Wright’s scientific empiricism most clearly anticipates Dewey’s experimental pragmatism, where truth lies in the physical confirmation of hypotheses, though even here Wright’s “cosmic weather” precludes the meliorism of his successor’s normative and social aspirations.

CHARLES S. PEIRCE AND THE CIRCUIT OF BELIEF-DOUBT-INQUIRY

As we’ve seen, Wright’s enthusiasm for Peirce’s scholastic realism is tempered by worries about a dogmatic conservatism at odds with the fallibilism and experimentalism they both share. This did not escape Peirce’s notice, whose published reply wryly thanks Wright for a “too glittering notice of my remarks” that “attributed to me a degree of originality which is not my due.”¹⁹ Peirce’s point is that his version of scholastic realism renounces all ties to the dogmatic and the absolute, and that, to the contrary, his intent was to expose the nominalist weakness for “absolutely external causes” that precludes seeing universals in actual realities “present to us.”²⁰

A closer look at Peirce’s review of Fraser’s *Works of Berkeley* both further exonerates him from any flirtation with absolutism and, more significantly, locates the opening move in a bold new philosophical gambit. Peirce insists that the greatest of the schoolmen, Duns Scotus, rejected the nominalist notion that what we call “realities” consist merely of “thought-signs” cut off from their purported external causes, holding instead the “more natural and obvious” view that objects have “an existence independent of your mind or mine or that of any number of persons.”²¹

Peirce is quick to jump on the misconception that “independent existence” denotes a thing-in-itself or even “mind-independence” per se. In a bold stroke toward pragmatism, he holds that reality is not some self-contained state or condition, but a function of a *drift* or *gravitation* from error toward truth:

To assert that there are external things which can be known only as exerting a power on our sense, is nothing different from asserting that there is a general *drift* in the

history of human thought which will lead to one general agreement. . . . And any truth more perfect than this destined conclusion, any reality more absolute than what is thought in it, is a fiction of metaphysics.²²

We usually think of realism as differentiating an inherent “fact of the matter” from the human task of confirming it, but Peirce vigorously rejects this notion of “mind-independence,” offering instead a

theory of reality instantly fatal to the idea of a thing in itself—a thing existing independently of all relation to the mind’s conception of it. . . . [My] theory involves a phenomenalism. But it is the phenomenalism of Kant, and not that of Hume. Indeed, what Kant called his Copernican step was precisely the passage from the nominalistic to the realistic view of reality. It was the essence of his philosophy to regard the real object as determined by the mind. That was nothing else than to consider every conception and intuition which enters necessarily into the experience of an object, and which is not transitory and accidental, as having objective validity. In short, it was to regard the reality as the normal product of mental action, and not as the incognizable cause of it.²³

While defending Kant’s Copernican revolution, wherein the nominalist doctrine that the mind conforms to its object is reversed such that objects conform to mind, Peirce has nonetheless outgrown Kant’s formal conception of mind consisting of sensible conditions of time and space plus intellectual categories. Following Hegel, mind is now organic—manifest in what Peirce proclaims as “the fountain of the current of human thought.”²⁴ The reality of universals is thus demonstrated in the role they play in the gravitation from error to truth:

General conceptions enter into all judgments, and therefore into true opinions. Consequently a thing in the general is as real as in the concrete. . . . It is a real which only exists by virtue of an act of thought knowing it, but that thought is not an arbitrary or accidental one dependent on any idiosyncrasies, but one which will hold in the final opinion.²⁵

Peirce is acutely aware that appealing to “opinion” risks the charge of subjectivism, especially insofar as it seems to downplay the role of perception as *representing* objects in the external world. This concern is unfounded, however, for he fully grants that sensations alert us to objects. However, they do so as sign functions *in* inferences—a shrill sound alerts us to a ceiling alarm that directs our attention to smoke as a sign of a hidden fire. In such functions, moreover, we distinguish signs with overtly external referents from thoughts and dreams without them, and thus come to differentiate objective from subjective. Sign functions are “mind-dependent” in the sense that the full series from sensation to articulated conception is, as Dewey might say, “open and above board” in the play of signs, and not the mere end-product of a thing-in-itself lurking behind a veil of perception.²⁶

If Peirce's first great step toward pragmatism is recasting Kant's Copernican revolution as a dynamic framework of rectified error, his second step is recognizing that the function of universals in this process is predominantly *nonreflective*. Where virtually all philosophies—Platonism, rationalism, nominalism, direct realism—hold that universals are bright cognitive beacons collecting likenesses from perceived particulars as the basis for recognizing other things of that kind, Scotus ingeniously hit upon the notion “that a conception exists which is in the mind *habituliter*, not *actualiter*.”²⁷ For example, we recognize a particular horse not by cognitively consulting a concept, but rather through a tacit understanding of horses coalesced in experiences that concur with the consensus of the community. Scotus's *habituliter*, recast by Peirce as habituated belief, becomes a cornerstone of pragmatism.

Peirce admits that scholastic realism was all but obliterated by the nominalism that flourished with Ockham, Hobbes, Locke, Berkeley, Hume, and Mill. In contemporary times, nominalism has even co-opted the word *realism*, and its propensity for materialism and individualism has penetrated the very sinews of science and culture. However,

the question whether the *genus homo* has any existence except as individuals, is the question whether there is anything of any more dignity, worth, and importance than individual happiness, individual aspirations, and individual life.²⁸

Peirce thought there was, and, unlike Wright, set out to create a systematic and fully integrated alternative. He knew that Kant had already begun to loosen the formal tethers of the first *Critique*, where categories of the intellect impose ready-made concepts upon sense, by suggesting that concepts are often constructed by observation and hypothesis—we learn about organisms by learning how they flourish within their environments. This practical and experimental approach to knowledge, which Kant called the *pragmatische*, inspired Peirce to a worldview he dubbed *pragmatism*.²⁹

Although there are suggestive discussions in earlier writings, what became known as the “pragmatic method” debuts in Peirce's “The Fixation of Belief” (1877). One of the few works known to be presented in draft form to the original Metaphysical Club, Peirce's expansion of Alexander Bain's notion that belief is a “bet” we're willing to act upon would have appealed to the legal minds Oliver Wendell Holmes and Nicholas St. John Green, as well as the empiricism of Wright and James.

For Peirce, the various ways we “fix” beliefs are “Illustrations of the Science of Logic”—where logic is a “habit of mind” useful in drawing sound inferences. Taking a page from Scotus's *habituliter*, he notes that such habits, or guiding principles, are seldom noticed in tasks that are routine or familiar. It is when something goes wrong—our ship becomes lost in a storm—that deliberate attention to a skill such as navigation is required.³⁰

In the broader art of navigating life we internalize countless guiding principles—social, cultural, normative, and scientific. In building a worldview, however, we look for principles that are “absolutely essential” for inference. Peirce identifies the relation of *belief* and *doubt* as “subject to some rules which all minds are alike bound by.” We must presuppose

belief and doubt “before we can have any clear conception of reasoning at all,” for these are “rules of reasoning which are deduced from the very idea of the process.”³¹

Peirce casts belief as a “calm and satisfactory state” marked by an established “habit which will determine our actions.” Belief evokes neither conscious thought nor action. Instead, it sets up a disposition to “behave in a certain way, when the occasion arises.” Doubt, to the contrary, “is an uneasy and dissatisfied state from which we struggle to free ourselves and pass into the state of belief”; it “stimulates us to action until it is destroyed.”³²

The passage from doubt to renewed belief constitutes *inquiry*, the third essential guiding principle. Inquiry emerges from “the irritation of doubt” in a concerted effort to identify and resolve what’s wrong so as to restore the serenity of nonreflective belief. For those who assert that reflective thought begins in wonder or for the sheer love of truth, Peirce’s dissent is stark: we think primarily to get ourselves out of trouble:

With the doubt, therefore, the struggle begins, and with the cessation of doubt it ends. Hence, the sole object of inquiry is the settlement of opinion. We may fancy that this is not enough for us, and that we seek, not merely an opinion, but a true opinion. But put this fancy to the test, and it proves groundless; for as soon as a firm belief is reached, we are entirely satisfied, whether the belief be true or false.³³

Here Peirce stops short of James’s later pronouncement that truth *is* such settled opinion, and Dewey’s claim that any object is an attained *objective* of inquiry. Nonetheless, it’s clear that for Peirce the circuit of belief-doubt-inquiry reconfigures the Kantian account of objectivity, and does not merely describe a subjective state or process used to access a mind-independent world:

It is clear that nothing out of the sphere of our knowledge can be our object, for nothing which does not affect the mind can be the motive for a mental effort.³⁴

Despite its nascent form, Peirce’s circuit clearly foreshadows James’s characterization of the stream of consciousness as a series of “perchings and flights” and Dewey’s famous pattern of inquiry from nonreflective experience to problematic situation, diagnosis, hypothesis, test, and final attained objective. As such, the “Fixation of Belief” is justly regarded as pragmatism’s *opus primum*.

In the breezier second half of the essay, Peirce considers historically significant ways of “fixing” or achieving belief: (1) the method of tenacity, where I cling to a belief *because* it is mine; (2) the method of authority, where tenacity expands to embrace socially approved truths; and (3) the a priori method, where agreement by appeal to “reason” actually masks aesthetic preferences. While each has its merits, Peirce unsurprisingly stumps for (4) the method of scientific investigation, due to its objectivity, fairness, and capacity for producing verifiable results.³⁵

In characterizing the method of science, Peirce makes an oft-quoted claim:

There are real things, whose characters are entirely independent of our opinions about them; those realities affect our senses according to regular laws, and, though our sensations are as different as our relations to the objects, yet, by taking advantage of the laws of perception, we can ascertain by reasoning how things really are.³⁶

Unlike the codicil in “The Works of Berkeley,” on this occasion Peirce does not repeat Kant’s warning that “real things” are nonetheless perceiver-dependent—an omission many cite as evidence of a swing toward a realism more conventionally externalist than the modified scholastic realism we’ve tracked. Though such an interpretation is plausible, it’s worth noting that Peirce’s allusion to “existence independent of your mind or mine or that of any number of persons” is virtually identical the earlier phrase where he insists that reality independent of “any number of persons” is *not* independent of the eventual agreement of the *community* of observers, and that *sensation* is an originating event in a play of signs, not the causal imprint of some mind-independent realm.

This observation, of course, does not counter the possibility that Peirce changed his mind about realism somewhere between 1871 and 1877. To assess this possibility, let’s consult the 1878 sequel to “The Fixation of Belief.” Peirce opens “How to Make Our Ideas Clear” with a scathing indictment of the rationalists’ foundation of clear and distinct ideas. For Descartes, a clear idea is one “recognized whenever it is met with.” But, chides Peirce, this just amounts to “familiarity,” which cannot distinguish ideas that *are* clear from those that merely *seem* clear.³⁷ A *distinct* idea fares no better, since it merely “contains nothing which is not clear.” Anticipating Quine’s critique of analyticity, Peirce also mocks Leibniz’s aligning an idea with its definition, inasmuch as “nothing new can ever be learned by analyzing definitions.” Accordingly, “that much-admired ‘ornament of logic’—the doctrine of clearness and distinctness—may be pretty enough, but it is high time to relegate [it] to our cabinet of curiosities.”³⁸

Unsurprisingly, Peirce’s counterproposal for conceptual clarity counsels the attentive cultivation of the method of belief-doubt-inquiry. After all, the full course of our lives is permeated with the ebb and flow of security and disruption: from mundane annoyances such as searching for cab fare to full-scale emergencies, belief is beset by challenges “slight or energetic, calm or turbulent.”³⁹ As the *immediate* locus of disruption, sensation protrudes from the background of *mediate* guiding principles to initiate the inferential sign-sequence of inquiry; thought then supervenes as “a thread of melody running through the succession of our sensations” until belief returns as “the demi-cadence which closes a musical phrase in the symphony of our intellectual life.”⁴⁰

Practically speaking, ideas are clearer when we minimize distinctions among beliefs that differ only in their grammatical construction or mode of expression. But the highest grade of clarity is achieved by acknowledging the inseparable bond between our idea of a thing and its observed sensible effects:

Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then the whole of our conception of those effects is the whole of our conception of the object.⁴¹

To illustrate this, Peirce asserts that something may be called *hard* only when “it will not be scratched by many other substances.”⁴² In other words, and coordinate with belief itself, meaning is a *disposition* for something to behave in observable and predictable ways when put to the test of inquiry. According to Peirce, both science and philosophy would greatly benefit by adhering to this maxim—for example, to define “mass” as a capacity for sustained movement in the absence of an opposing force, or even “force” itself as regularities observed in various changes of motion, removes all traces of occult “powers” from scientific explanation and metaphysical essences from philosophy.⁴³

Peirce anticipates the externalist complaint that his dispositional criterion confuses the human *observation* of effects with properties things themselves possess regardless of such tests. Isn’t it ludicrous, after all, to say a diamond that’s never tested isn’t really hard, or becomes hard only to the extent to which it’s tested? Similarly, aren’t we slighting the meaning of force in reducing it to mere observations of acceleration when we should be looking for it as the *cause* of acceleration?⁴⁴

Peirce’s analysis of “properties things possess of their own accord” echoes his attack on “in-itself reality” in “The Works of Berkeley.” While it’s logically possible to speculate on the status of untested diamonds, for all practical purposes it’s completely idle to do so—a diamond that becomes hard only when tested is empirically indistinguishable from another that’s hard all along; hence, the difference exists only at the level of language. The same argument extends to deciding whether force *is* or is the *cause* of acceleration—if the alternatives are unobservable in principle, there’s no factual dispute, though in this case the tendency to lapse into thinking of force as a mysterious power is sufficient to avoid such speculation.⁴⁵

Combined with the habituated belief of real generals and the circuit of belief-doubt-inquiry, Peirce’s pragmatic maxim yields a principle sound enough to support further approaches to inquiry developed by James and Dewey. We have not yet resolved, however, the lingering question of Peirce’s realism, which he takes up at the end of his essay. Here, we’re reminded that insofar as we generally have no problem distinguishing thoughts and dreams from perceived externalities, we “define the real as that whose characters are independent of what anybody may think them to be.” However, we’ve no clear idea of “reality” on the basis of this definition alone:

Here, then, let us apply our rules. According to them, reality, like every other quality, consists in the peculiar sensible effects which things partaking in it produce. The only effect which real things have is to cause belief, for all the sensations which they excite emerge into consciousness in the form of beliefs.⁴⁶

In other words, as late as 1878 Peirce still insists that reality is not a mind-independent cause or antecedent condition of our awareness of things, but an effect, or *realization*, forged in

the problem-solving function of belief-doubt-inquiry. And if reality is optimally the “settled opinion” of competent observers, the same holds for “the ideas of truth and falsehood, [which] in their full development, appertain exclusively to the scientific method of settling opinion.”⁴⁷ Together, truth as *experimental* and reality as *realization* renders “How to Make Our Ideas Clear” wholly consonant with his earlier pronouncement:

Reality is independent, not necessarily of thought in general, but only of what you or I or any finite number of men may think about it. . . . The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real. That is the way I would explain reality.⁴⁸

Though Peirce’s view of reality after 1878 is beyond this volume’s purview,⁴⁹ let’s recall his debt to Kant in (1) deriving pragmatism from the *pragmatische*, thus (2) preserving the Copernican Revolution’s dictum that objects conform to mind—where (3) “mind” is the dispositional matrix of habituated guiding principles and (4) whose “essential” categories comprise the circuit of belief-doubt-inquiry. These tenets establish Peirce’s pragmatism as a new and—dare we say?—“systematic” worldview that outpaces Wright’s protean positivism, or for that matter the aspirations of any other member of the original Metaphysical Club.⁵⁰

WILLIAM JAMES AND THE WILL TO RECOVER

Four years Peirce’s junior, and twelve years Wright’s, William James (1843–1910) was still gaining his philosophical legs when the Metaphysical Club first met in 1872; as such, the bulk of the pieces collected here are reviews and commentaries that predate by a decade his first seminal contributions to psychology and pragmatism. James met Peirce upon enrolling in Harvard’s Lawrence Scientific School in 1861, and shortly thereafter was introduced to Wright. Youth was not the only factor that delayed his development. In the late 1860s James fell into a “vastation” he described as “a horrible fear of my own existence.”⁵¹ The core of his spiritual and philosophical views surfaced in his arduous recovery from this affliction.

If Wright was Peirce’s boxing master, James must have felt like a sorcerer’s apprentice under the mercurial Peirce. Lacking his mentor’s expertise in logic and mathematics, the young medical student was alternately mesmerized and confused by his “exceedingly bold subtle & incomprehensible” arguments.⁵² James gradually earned Peirce’s respect, after James refused to “be overawed by his sententious manner and his paradoxical & obscure statements,” and began to “grasp firmly, contradict, push hard, make fun of him.”⁵³

James’s relationship with Wright was even more complex. His natural amiability easily cut through the older philosopher’s social unease and inertia. Their friendship was deep and abiding, with Wright a fixture at the James family home in Cambridge.⁵⁴ And while it would take years for James to assimilate Peirce’s systematic pragmatism, Wright’s lean antimetaphysical empiricism meshed well with his yen for psychology.

Wright's influence on James is evident in an 1872 review of Hippolyte Taine's *On Intelligence*. Despite sound credentials as a literary theorist and historicist, James suggests that Taine is out of his league when dabbling in speculative philosophy. Indeed, *On Intelligence* is an ungainly pairing of a famished nominalism that pulverizes concepts into particular acts of naming with a gluttonous metaphysics that elevates general qualities to the status of ultimate reality.⁵⁵ Taine's theory of perception is similarly askew: he effectively undercuts his own endorsement of Mill's restriction of reality to "permanent possibilities of sensation" by oddly insisting that such "hallucinations" become "veridical" in correspondence with genuine external qualities.

Wright's antipathy toward metaphysics, extreme nominalism, and correspondence realism are all evident in this review. Nonetheless, and as we've touched on earlier, Wright and James came to loggerheads over a dispute that ultimately rattled their friendship. The source of James's dissent goes back to his vastation struggles. Grasping for hope, he was buoyed by Charles Renouvier's deft defense of free will: if all beliefs are determined, then my very affirmation of this is also determined, in which case I have no way to tell whether it's actually true. To avoid this conundrum, I affirm free will on the observable grounds that I can *choose* to do so when I might have other thoughts.⁵⁶

Renouvier's avowal of free will marked the turning point in James's recovery. He next embraced pioneering psychiatrist Henry Maudsley's hope that mental afflictions can be overcome by acts of sheer will. In *The Prevention of Insanity*, Maudsley tags inheritance and intemperance as the two chief causes of mental illness. But even these, it so happens, are remediable. The key, as James quotes Maudsley in an 1874 review, is the insight that each of us "has a power over himself to prevent insanity." For, indeed, "Not many persons need go mad, perhaps—at any rate from moral causes—if they only knew the resources of their nature, and how to develop them systematically."⁵⁷

The *systematic* development of the resourceful mind led James to the work of the prominent English philosopher, actor, and scientist George Henry Lewes. James found Lewes thoroughly versed in, and somewhat sympathetic to, the positivistic empiricism of the mid-nineteenth century. Such philosophers deny all continuity in nature itself: "The syntheses of data we think necessary are only so to *us*, from habit."⁵⁸ However, even Mill, the arch-positivist, must concede that the only world *for us* is the world *as we can come to know it*—thus, to subtract the human framework through which we investigate the world is to leave us with no world at all. James applauds Lewes for his willingness to embrace such a world—a world inherently relational and continuous; in short, a *uni*-verse.⁵⁹

If Mill is the king of positivism, Wright is lord executioner who wields the scythe of cosmic randomness against any suggestion of ultimate order or purpose. James's discontent eventually swelled to the point of challenging his mentor directly. "Against Nihilism," an unpublished 1874 essay likely circulated within the Metaphysical Club, opens with a blunt attack: "My complaint against Wright's Nihilism after all amounts to this: that he denies this to be a Universe, and makes it out a 'Nulliverse.'" For Wright, existence is sheer happenstance without rhyme or reason. But this "contradicts the vague but deep notion of common sense"

that each thing “has a *meaning*, serves a purpose, is a cause, or an end.”⁶⁰ Even more tellingly, Wright ignores Peirce’s dictum that the real is *relational*—according to which nature itself is real only insofar as it exhibits connectedness or continuity. In denying any such continuity, Wright effectively “denies that there is any universe.”⁶¹ But, as Lewes and Peirce insist, perception of things is no mere sequence of unrelated sensations, but inferential sign-activity where part of the past is preserved in a present that opens into a *directed* future. Such continuous transition is not sheer happenstance, but normative and teleological: a

“relation of reality which implies not only that we feel so & so, but that we *should* feel so, that we are meant to feel so, that there *is* something outside of the feeling itself as an instant conscious existence.” Metaphysical speculation aside, this minimally asserts “the *continuity* of the real world,” thus rebuffing the sheer particularism of nihilism.⁶²

A year later James was emboldened enough to make his attack public, and indulge in a bit of cosmic speculation of his own.

In 1852, William Thomson had published a theory, later known as the second law of thermodynamics, about the “universal tendency in nature to the dissipation of mechanical energy.”⁶³ The alarming thought that the entire universe was unraveling from complex to simpler forms soon captured the imagination of scientists and the literate public alike. Two Scottish physicists, Balfour Stewart and Peter Guthrie Tait, capitalized on this frenzy in *The Unseen Universe*. Their theory, as reviewed by James, accepts the disintegration of complex physical orders, but argues that their “memory” is preserved in an ether, cosmic backdrop, or “hidden world.” Indeed, they argue, the true nature of the universe is the reverse of what we’ve supposed: in this hidden realm is the cognitive blueprint of the physical universe—the latter, having run its course, is now being called home. For Stewart and Tait, it’s but a short step to identify this cosmic mind with God, whose beloved Son is immanent in the physical world.⁶⁴

For James, *The Hidden Universe* offers an inviting account of how the continuity of mind extends into the realm of the physical—the thesis of “Against Nihilism.” At the same time, he deems the overall project so speculative that its tactics are “identical with those of the most primitive, ‘unscientific,’ and short-winded theologians.” In fact, believing in a divine blueprint would call for an act of faith as indulgent as that “of the most narrow minded old woman [who] so quickly embraces her briefly-recited cosmogony.”⁶⁵

Just as we think James is about to consign the theory to an ash pile, he conjures a burning bush:

We, for our part, not only hold that such an act of trust is licit, but we think, further, that *any one to whom it makes a practical difference* (whether of motive to action of mental peace) is duty bound to make it. If “scientific” scruples withhold him from making it, this proves his intellect to have been simply sicklied o’er and paralyzed by scientific pursuits.⁶⁶

For Wright, this was the proverbial last straw. He'd been acutely aware of his protégé's "rebellious" attacks, both private and public. Giving as good as got, Wright excoriated James's appeal to faith as puerile and gutless. Confronting James to his face on the outrageous claim of being *duty bound* to faith, Wright managed to wring a retraction of the "duty" to believe.

Some themes explored in these early reviews, such as the continuity of thought and the will—if not the duty—to believe, became hallmarks of James's later philosophy.⁶⁷ Overall, however, Wright's criticism seems fair insofar as James's indulgences reveal not just immaturity, but a lingering cloud of spiritual angst.⁶⁸

Sadly, Wright did not live long enough to reconcile their dispute, or to witness James's slow delivery from metaphysical mysticism into what he had once dismissed as the "sick-lied" science. Nonetheless, the sky was brightening. James soon abandoned Maudsley's suggestion that a disciplined mind is sufficient to ward off insanity: Most individuals so incapacitated require help, and only the occasional genius can transform cognitive affliction into productive and creative acts.⁶⁹ Even more significantly, though still decades away from espousing pragmatism as an experimental methodology that supplants metaphysics, James was now inclined to tether such speculation to the natural sciences.

This is evident in an 1875 review of Wilhelm Wundt's *Grundzüge der physiologischen Psychologie*.⁷⁰ James praises Wundt's years of laboratory work under the guidance of the German physician and physicist Hermann von Helmholtz. Grounded in physics and physiology, the *Grundzüge* marks Wundt's groundbreaking foray into psychology. For James, Wundt leads a vanguard committed to revitalizing philosophy through science.

Ever since Descartes, philosophers had assumed that perception is a mechanical process of stimulus and response. Upon receiving a percept, sense organs transmit a signal to the brain that produces a direct motor response. The mind becomes aware of this reflex arc, but plays no role in its transmission. While noting such invariant physiological elements, Wundt's experiments determined that response time also depends upon psychological factors, including the perceiver's *selection* of sensations and her *expectations* about the perceptual experience. Indeed, given these factors, Wundt surprisingly showed that motor response often begins *before* the stimulus is received.⁷¹

Wundt's findings convinced James of the folly of both the mechanical Cartesian arc and empiricism's isolated sense impressions merely bundled into complex ideas by the mind. It confirmed his intuition that matter and mind, the physical and the psychological, are thoroughly entwined and reciprocally interdependent—themes that figure prominently both in James's mature psychology and Dewey's ventures beyond the reflex arc to an *organic circuit* of mind, body, and environment.

Further evidence of James's retreat from metaphysics is evident in an 1878 critique of Herbert Spencer's metaphysics. Spencer's cosmic evolution had been a favorite target of Wright, whom he accused of substituting his own pet theories for physical evidence in an especially egregious example of metaphysical whimsy. James presses this charge: the "correspondence" Spencer expostulates between "inner and outer relations" in the process

of mental evolution (1) is pure intellect with no acknowledgment of emotional, aesthetic, or normative content, (2) assumes a wholly materialistic basis without argument or justification, and (3) holds that all evolution is merely the inevitable unfolding of traits fully defined in an embryonic state.⁷² Moreover, this obscure “correspondence” is cashed out in equally vague synonyms such as fit, adjustment, and conformity. And though Spencer ultimately characterizes fitness as “survival at any price,” as a *summum bonum*, this shamefully eschews values such as caring, cooperation, and sacrifice that “make survival worthwhile.”⁷³

James’s loudest complaint is that Spencer’s universe of unfolding latent traits precludes human agency empowered to shape a novel future. Yet *survival* itself is an anticipated outcome of how we *should* act. Indeed, and more generally, what we call an outer existence is the projection of a hypothesis successfully realized. Thus,

the knower is not simply a mirror floating with no foot hold anywhere and passively reflecting an order that he comes upon and finds simply existing. The knower is an actor, and co-efficient of the truth on one side, whilst on the other he registers the truth which he helps to create. Mental interests, hypotheses, postulates, so far as they are bases for human action—action which to a great extent transforms the world—help to *make* the truth which they declare.⁷⁴

James’s pilgrimage toward Peirce and pragmatism takes another significant step forward in “The Sentiment of Rationality,” the only fully original published essay (not a review or critique) included in this set. His commitment to the continuity of mind and nature has not wavered, but now his analysis is wholly psychological rather than metaphysical. The basic idea is that “rationality,” hailed by others as certitude delivered on a blinding light of insight or intuition, actually expresses a *sentiment*—a “strong feeling of ease, peace, rest”:

This feeling of the sufficiency of the present moment, of its absoluteness—this absence of all need to explain it, account for it or justify it—is what I call the Sentiment of Rationality.⁷⁵

In other words, rationality is akin to what Peirce calls *belief*, or perhaps that brief moment of conceptual resolution on the verge of fading into habit.

James also shares Peirce’s insight that *doubt* is thought’s constant companion, which he expresses in psycho-physiological terms:

All feeling whatever, in the light of certain psychological speculations, seems to depend for its physical condition not on simple discharge of nerve-currents, but on their discharge under arrest, impediment or resistance. . . . When the movement is inhibited or when the thought meets with difficulties, we experience a distress which yields to an opposite feeling as fast as the obstacle is overcome.⁷⁶

Also like Peirce, for whom the circuit of belief-doubt-inquiry is a nonmystical way to explain the “ingression” of universals upon particulars, James regards the sentiment of

rationality as middle position between nominalists content with the *clarity* of particular experiences and the *unity* longed for by metaphysicians.⁷⁷

James's compromise between clarity and unity acknowledges, with nominalism, that sensation consists of distinct qualities. Yet, says James, our ability to recognize the *same quality* of white in a cloud and in snow is a visceral continuity nominalists ignore at their peril. In assembling the contents of its world, experience tacitly sifts through multiple levels of affinities and differences guided by needs and interests. Though clearly no longer the unity of Maudsley's utopian metaphysics, the continuity of human thought is remarkable. Indeed, constructing a world through such selections is a profound source of satisfaction and well-being: "The gratification of the sentiment of rationality depends hardly at all on the worth of the attribute which strings things together but almost exclusively on the mere fact of their being strung at all."⁷⁸

James thus proposes an interface of mind and world that explains the connectedness of things without the metaphysical extravagance of Maudsley and Lewes. The mind, says James, is quantitatively limited to grasping one fact at a time; what it must connect is the qualitative diversity of its functions—sensational, volitional, normative, aesthetic. The physical universe, on the other hand, is just the opposite: though reducible to a single quality, for instance, force or matter, its sheer quantity of facts remains inexhaustible. Hence, we are compelled to accept the Kantian compromise that what the mind connects is merely the phenomenal—how things appear to us rather than as they actually are.

On its face, this seems a "most miserable and inadequate substitute for the fullness of truth." Yet perhaps this limitation is also its strength, or at least a consolation. If knowledge could be complete and final, if all limitation and doubt could be eliminated, then so too would be the sentiment of rationality itself—forged as it is in the restless swing between disruptive doubt and restored continuity.⁷⁹

Despite its palpable advance toward pragmatism, "The Rationality of Belief" remains a transitional work. James later explicitly rejects the identity of simple sensations: "*There is no proof that the same bodily sensation is ever got by us twice. . . . What is got twice is the same OBJECT;*" meaning the social artifact constructed in contexts of use.⁸⁰ And the "miserable" compromise of the phenomenal later contrasts to a "noumenal" only in the sense of experiences yet to be traversed by the serpent's trail, rather than any inkling of an inaccessible in-itself—themes that emerge a decade later in *The Principles of Psychology* and James's subsequent writings on pragmatism.

HALL'S AMERICA OF YOUTH AND CURIOSITY

Granville Stanley Hall (1846–1924) attended Williams College and taught at Antioch College before enrolling at Harvard in 1876. Arriving a year after the death of Wright and the dissolution of the original Metaphysical Club, he befriended William James, who shared his passion for Wilhelm Wundt. Hall did participate in the "Idealist" Metaphysical Club, and in 1879 received the first doctorate in psychology granted by

Harvard. After a whirlwind tour of Europe meeting luminaries such as Wundt and Helmholtz, the future world-renowned psychologist and president of Clark College returned to Cambridge to participate in a lecture series on education which inspired “Philosophy in the United States.”

Hall’s thesis is that “if philosophers in America are as rare as snakes in Norway, it is because the country is yet too young.”⁸¹ He notes that all but a handful of the several hundred colleges in the United States are controlled by clergy who censor or suppress the free pursuit of ideas, especially those lurking in “an abyss of skepticism and materialism.”⁸² A course in philosophy is a slop-bucket of religion, history, ethics, aesthetics, and syllogistic logic typically thrown together by the institution’s president. In the rare instances when teachers trained in philosophy are lucky enough to find work, they must teach an onerous course load in other disciplines, and labor in departments that are unappreciated and underfunded.⁸³

Fortunately, however, the very philistinism that compels trustees and donors to support only profitable disciplines is countered by “the enterprise and individuality which are characteristic of American life, and which have shown themselves in all sorts of independent speculation.” Thus, the slack created by narrow-minded colleges has been taken up by informal clubs and debating societies.⁸⁴

Though buoyed by philosophical enclaves such as the St. Louis Hegelians and emerging journals such as *The Journal of Speculative Philosophy* and *Popular Science Monthly*, Hall is most enthusiastic about the original Metaphysical Club. James is hailed for his advances in physiological psychology, Wright for his penetrating grasp of the evolution of self-consciousness, and Peirce for his forward-looking circuit of belief, doubt, and inquiry.⁸⁵ These three philosophers, in particular, resonate with an American sentiment that is broadly scientific, experimental, interdisciplinary, and hopeful:

It is philanthropic, full of faith in human nature and in the future. And if, according to a leading canon of the new psychology, the active part of our nature is the essential element in cognition and all possible truth is practical, then may we not rationally hope that even those materialisms of faith and of business which we now deplore, are yet laying the foundations for a maturity of philosophical insight deep enough at some time to intellectualize and thus harmonise all the diverse strands in our national life.⁸⁶

The need to harmonize strands of divisiveness is as pressing today as it was a century and a half ago. Fanaticism and religious zeal are again denying the legitimacy of science, and higher education is under the heavy thumb of the boardroom and business model: the humanities in general, and philosophy in particular, are increasingly regarded as dispensable luxuries. But if problem solving extends to the heart of our nature and the horizons of our world, if truth is revisable, if the ultimate philosophical idea is the social, the vision of the original leaders of the Metaphysical Club may yet guide us toward an identity of innovation, enfranchisement, diversity, and pursuit of the common good.

NOTES

1. Louis Menand, *The Metaphysical Club: A Story of Ideas in America* (New York: Farrar, Straus and Giroux, 2001), 205–206.
2. Charles S. Peirce, “Essays Toward the Interpretation of Our Thoughts” (1909). MS 620, Charles S. Peirce Papers, Houghton Library, Harvard University, Cambridge, MA.
3. Charles S. Peirce, “Pragmatism,” in *Collected Papers of Charles Sanders Peirce*, ed. Charles Hartshorne, Paul Weiss, and Arthur Burks (Cambridge: Harvard University Press, 1931–1966), vol. 1, §269. Hereafter references to the *Collected Papers* (CP) are given by volume and paragraph numbers.
4. Chauncey Wright, “C. S. Peirce’s Review of Berkeley.” Note about Charles S. Peirce’s review of A. C. Fraser, *The Works of George Berkeley* in *The Nation* 13 (November 30, 1971): 355.
5. Ibid.
6. Ibid., 356.
7. Chauncey Wright, “Review of Charles Darwin’s *The Origin of Species*, 6th Ed., and George Mivart’s “Evolution and its Consequences” and “Specific Genesis,” *North American Review* 115 (July 1872): 3–4.
8. St. George Mivart, “Specific Genesis.” *North American Review* 115 (April 1872): 465–66.
9. Wright, “Review of Charles Darwin’s *The Origin of Species*,” 7.
10. Chauncey Wright, “A Fragment on Cause and Effect,” in *Philosophical Discussions by Chauncey Wright*, ed. Charles E. Norton (New York: Henry Holt, 1877), 408.
11. Charles Darwin to Chauncey Wright, 1872, in *The Life and Letters of Charles Darwin*, vol. 3, ed. Francis Darwin (London: John Murray, 1888), 164.
12. Among the latter was Alfred Russel Wallace, whose expertise in natural selection was second only to Darwin’s.
13. Chauncey Wright, “The Evolution of Self-Consciousness,” *North American Review* 116 (April 1873): 253.
14. John Dewey, *Experience and Nature*, vol. 1 of *The Later Works of John Dewey*, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1988), 18–19.
15. Wright, “The Evolution of Self-Consciousness,” 254.
16. Ibid., 269.
17. Ibid., 264.
18. Ibid., 306.
19. Charles S. Peirce, “Mr. Peirce and the Realists.” *The Nation* 13 (December 14, 1871): 386.
20. Ibid.
21. Ibid., 454–55.
22. Ibid., 456.
23. Ibid., 456–57.
24. Ibid., 458.

25. Ibid., 457.
26. Ibid., 456.
27. Ibid., 459.
28. Ibid., 472.
29. *CP* 5, 412.
30. Charles S. Peirce, “The Fixation of Belief,” *Popular Science Monthly* 12 (November 1877): 4.
31. Ibid., 4–5.
32. Ibid., 5–6.
33. Ibid., 6.
34. Ibid.
35. Ibid., 7–15.
36. Ibid., 13.
37. Charles S. Peirce, “How to Make Our Ideas Clear,” *Popular Science Monthly* 12 (January 1878): 286.
38. Ibid., 288.
39. Ibid., 290.
40. Ibid., 290–91.
41. Ibid., 293.
42. Ibid., 294.
43. Ibid., 295–97.
44. Ibid., 294, 297.
45. Ibid., 297.
46. Ibid., 298.
47. Ibid.
48. Ibid., 300.
49. For a discussion of the complexities of Peirce’s realism, see Frank Ryan, “Scholastic Realism and Pragmatic Contextualism,” in *The Future of Realism in the American Tradition of Pragmatic Realism*, ed. John R. Shook (Amherst, NY: Prometheus Books, 2003), 321–50.
50. Excepting, perhaps, John Fisk, though metaphysical aspirations were at best tangential to pragmatism.
51. William James, *The Varieties of Religious Experience* (Cambridge: Harvard University Press, 1985), 134.
52. William James, *The Correspondence of William James*, vol. 1, ed. Ignas K. Skrupskelis and Elizabeth M. Berkeley (Charlottesville: University Press of Virginia, 1995), 361.
53. Ibid., 246.
54. Menand, *The Metaphysical Club*, 218.
55. William James, “Review of H. Taine, *On Intelligence*,” *The Nation* 15 (August 29, 1872): 140. James remarks that it is little consolation that Taine limits such general qualities to predicates and adjectives—white, cold, hard—and denies them of “essences” such as mind, matter, or ego.
56. Menand, *The Metaphysical Club*, 218–19.

57. Henry Maudsley, quoted by William James in “Review of Maudsley, *Responsibility in Mental Disease*,” *Atlantic Monthly* 34 (September 1874): 365.
58. William James, “Review of G. H. Lewes’s *Problems of Life and Mind*,” *Atlantic Monthly* 36 (September 1875): 361.
59. *Ibid.*, 362.
60. William James, “Against Nihilism” (1874), in *The Works of William James: Manuscript Essays and Notes*, ed. Frederick Burkhardt et al. (Cambridge: Harvard University Press, 1988), 150.
61. *Ibid.*, 151–52.
62. *Ibid.*, 153–54.
63. William Thomson, “On a Universal Tendency in Nature to the Dissipation of Mechanical Energy” (communicated on April 19, 1852), printed in *Proceedings of the Royal Society of Edinburgh* 3 (1858): 139–42.
64. William James, “Review of B. Stewart and P. G. Tait, *The Hidden Universe*,” *The Nation* 20 (May 27, 1875): 367.
65. *Ibid.*
66. *Ibid.*
67. Menand, *The Metaphysical Club*, 220–21. James recast this argument two decades later, and it remains one of his most influential yet controversial ideas. In its mature form, an optional “will to believe” supplants the “duty to believe.” Moreover, “sicklied” science is softened to the notion that when confronted with choices that are live, momentous, forced, and *cannot be adjudicated by scientific or intellectual inquiry*, spiritual beliefs that fortify our resolve and steady our moral compass are justified. Though still contentious among secular pragmatists, the will to believe is far more palatable than any permission to ride off on metaphysical banshees masquerading as responsible science.
68. This recovery was never fully complete, and James wrestled with depression and insomnia throughout his life. See Menand, *The Metaphysical Club*, 219.
69. William James, “Notes on Insanity and Genius,” in *Manuscript Lectures*, 59 ff.
70. William James, “Review of Wilhelm Wundt’s *Grundzüge der physiologischen Psychologie*,” *North American Review* 121 (July 1875): 195.
71. *Ibid.*
72. William James, “Remarks on Spencer’s Definition of Mind as Correspondence,” *Journal of Speculative Philosophy* 12 (January 1878): 1–3.
73. *Ibid.*, 7.
74. *Ibid.*, 18.
75. William James, “The Sentiment of Rationality,” *Mind* 4 (July 1879): 318.
76. *Ibid.*, 317. James does not identify Peirce in this passage.
77. *Ibid.*, 321–23.
78. *Ibid.*, 328.
79. *Ibid.*, 334–42.
80. William James, *The Principles of Psychology* (New York: Henry Holt, 1890), vol. 1, 231.