

James and Evolution

James was an evolutionary thinker who was critical of evolutionism; this chapter is an attempt to explain this strange state of affairs.¹ In the first section, I will sketch James's reaction to evolutionary ideas in the 1860s, especially those of Darwin: although he showed great interest, he stopped short of active endorsement. I will spend the bulk of the rest of the chapter detailing James's response to the work of Herbert Spencer, seen at the time as the most important philosopher of evolution. James argued against Spencer's evolutionism in the 1870s, but from the perspective of a broader naturalism. According to James, Spencer ignored important mental phenomena, in particular subjective interests and selective attention. Finally, I will briefly discuss how James deployed evolutionary ideas in his later writings on ethics and pragmatism. My overall thesis is that although James opposed—often on scientific grounds—much of the philosophical work inspired by evolution, his philosophy was nevertheless built on its own evolutionary foundation.

Early Encounters with Darwin

As several generations of scholars have noted, someone coming of age intellectually in the 1860s and 1870s could hardly avoid the topic of evolution (Perry 1935, 1.463-493; Hofstadter 1944, 103-120; Wiener 1949, 97-128; Russett 1976, 47-81; Kuklick 1977, 5-27; Richards 1987, 409-450; Croce 1995, 83-148). James began his scientific education at Harvard in 1861, enrolled in the Lawrence Scientific School rather than the college. Darwin's *On the*

¹ “[James] was Darwinian, but he was not a Darwinist” (Menand 2001, 141). I will only be able to scratch the surface of this exciting topic, which has lately been attracting renewed interest. Just in the past few years, several dissertations have been written in the area (Shaw 2010; McGranahan 2012; Brady 2013, chap. 2).

Origin of Species (1859) had recently given new life to the idea of evolution. A series of discussions of the *Origin* in 1860 at the American Academy of Arts and Sciences involved not only Harvard naturalists such as Louis Agassiz and Asa Gray, but also Francis Bowen, who taught philosophy at Harvard, and Chauncey Wright, a mathematician-philosopher who was later a friend and mentor to James (*Proceedings* 1860, 410-416, 432-433; Bowen 1860; Wright 1860).

Although studying chemistry at the Lawrence Scientific School, James still travelled to Boston to hear Agassiz's lectures on *Methods of Study in Natural History*. James was impressed by the Swiss naturalist: "he is an admirable, earnest lecturer, clear as day and his accent is most fascinating. I should like to study under him" (CWJ 1861, 4.41-43). Agassiz described these lectures, when they were published as a book, as entering an "earnest protest against the transmutation theory [i.e., evolution], revived of late with so much ability." He pulled no punches: naturalists like Darwin were "chasing a phantom," and there was "a repulsive poverty" in their explanation of life (Agassiz 1863, iii-iv). Apart from a short argument against Darwin's move from artificial to natural selection, however, the lectures themselves contained few criticisms of evolution. James was likely more fascinated by the content of Agassiz's lectures than their context: they covered everything from the general classification of organisms to the complex life cycles of marine invertebrates. James soon embraced the persona of budding naturalist, submitting a "future history" to his family in November: "1 year Study Chemistry, then spend one term at home, then 1 year with [the anatomist Jeffries] Wyman, then a medical education, then 5 or 6 years with Agassiz, then probably death, death, death with inflation and plethora of knowledge" (CWJ 1861, 4.52).

James started another year of chemistry at Harvard in 1862, but switched to comparative anatomy the following fall to begin studying—a bit later than predicted—with Wyman. James

was at this stage still unsure about his future profession, and told his cousin that he had four alternatives: “Natural History, Medecine [sic], Printing, Beggary.” He was drawn to natural history, and bragged of working “in a vast museum, at a table all alone, surrounded by skeletons of mastodons, crocodiles, and the like.” By December, however, he had chosen medicine—which seemed to combine his scientific interests with the necessity of making money—and he began attending medical lectures in 1864 (CWJ 1863, 4.81-87).

In September of 1863, when he was still deciding whether or not to pursue a career in natural history, James began reading and taking notes on Darwin’s *Origin*. Unfortunately, these notes are lost (Richardson 2006, 57). Thus our earliest hint of his opinion of evolutionary ideas comes in his very first publication, a review of Thomas Henry Huxley’s *Elements of Comparative Anatomy* (1864). James did not endorse evolution in his review. However, referring to Huxley’s *Evidence as to Man’s Place in Nature* (1863), he did suggest that much of the opposition to it was emotional rather than scientific:

[Huxley] jovially says that, if we admit the transmutation hypothesis at all, we must apply it even unto majestic man, and see in him the offspring of some great ape, pregnant with Futurity. Probably our feeling on this point, more than anything else, will make many of us refuse to accept any theory of transmutation. This is indeed not the place to discuss the question, but we think it could be easily proved that such a feeling has even less foundation than any other aristocratic prejudice. . . . Perhaps, by accustoming our imagination to contemplate the possibility of our ape descent now and then, as a precautionary measure, the dire prospect, should it ever really burst upon us, will appear shorn of some of its novel horrors, and our humanity appear no less worthy than it was before.

James gave a list of recent converts to the evolution hypothesis, declared that it “cannot but be treated with some respect,” and offered an amusingly reticent prediction as to its future success: “we may well doubt whether it may not be destined eventually to prevail” (ECR 1865, 198).

Thus when this review was written late in 1864, James was at least somewhat attracted to Darwin’s views—perhaps not surprising given that his teacher Wyman supported evolution and

had publically endorsed it the year before (CWJ 1864, 4.92-94; Appel 1988, 84-85; Croce 1995, 142).

Despite these sympathies, James would soon become an employee of evolution's fiercest critic: Agassiz. In April of 1865, a few months after the Huxley review was published, James was heading to Brazil as one of Agassiz's assistants—and one of the objects of the expedition was to find evidence against species evolution (Lurie 1960, 345).² During the voyage south, Agassiz gave a series of scientific lectures to James and the other assistants to prepare them for their work in Brazil. The last of these, on April 20, concerned “the development theory” (i.e., evolution). Although Agassiz was clearly critical, he ended by urging his students to let the facts speak for themselves:

I bring this subject before you now, not to urge upon you this or that theory, strong as my own convictions are. I wish only to warn you, not against the development theory itself, but against the looseness in the methods of study upon which it is based. Whatever be your ultimate opinions on the subject, let them rest on facts and not on arguments, however plausible. This is not a question to be argued, it is one to be investigated. (Agassiz and Agassiz 1868, 43-44)

In a letter written the day after this lecture, however, James expressed skepticism that Agassiz was pursuing a “just the facts” approach, alluding to the religious motivation of his scientific views:

Last Sunday, [Bishop Alonzo Potter] preached a sermon particularly to us “savans” as the outsiders call us, and told us we must try to imitate the simple child like devotion to truth of our great leader [i.e., Agassiz]. We must give up our pet theories of transmutation, spontaneous generation &c, and seek in nature what God has put there rather than try to put there some system wh. our imagination has devised &c &c. (Vide Agassiz passim.) The good old Prof. was melted to tears, and wept profusely. (CWJ 1865, 4.101)

² There is a large literature on the Agassiz trip and on James's involvement in it: see Winsor (1991, 66-80), Irmischer (1999, 236-281), Menand (2001, 117-148), Machado (2006), and Richardson (2006, 65-74).

The theological basis of Agassiz's position on evolution was obvious, according to James—"vide Agassiz passim" means "see Agassiz's works, throughout." As in the Huxley review, it was feeling and not fact that turned people away from transmutation.

James had great respect for Agassiz as a naturalist, but thought him close-minded and biased when it came to evolution. In a letter to his brother Henry during the trip, James attributed this to a general character flaw: "[Agassiz] is doubtless a man of some wonderful mental faculties, but such a politician & so self-seeking & illiberal to others that it sadly diminishes one's respect for him" (CWJ 1865, 1.8). After returning home, James said the whole endeavor had been

more profitable in the way of general experience than of Science.—For the manual labor of collecting and packing took so much time and energy that little was left for dissecting and studying specimens and "the principal light of modern science" [i.e., Agassiz] is not exceedingly communicative of his learning except in the way of damning the Darwinians, wh. though instructive is open to the charge of being monotonous. (CWJ 1866, 4.142)

Although James enjoyed poking fun at Agassiz's animosity towards Darwin's views, it is not obvious whether James counted himself among "the Darwinians" in 1866. Even in two reviews of Darwin's *Variation of Animals and Plants under Domestication* (1868), James emphasized the probabilistic character of evolutionary reasoning: "it may never be any more possible to give a strict proof of it, complete in every link, than it now is to give a logically binding disproof of it" (ECR 1868, 239). Nevertheless, James had more respect for Darwin's position than for Agassiz's, as is apparent from a letter to his brother Henry:

The more I think of Darwin's ideas the more weighty do they appear to me—tho' of course my opinion is worth very little—still I *believe* that that scoundrel Agassiz is unworthy either intellectually or morally for him to wipe his shoes on, & I find a certain pleasure in yielding to the feeling. (CWJ 1868, 1.38-39; see also CWJ 1870, 4.404)

This letter and several others (see below) indicate that James had embraced evolution by 1868—but it had taken him a while, especially when compared to friends like John Fiske and Chauncey Wright, who signed on almost immediately (Fiske 1860; Wright 1878, 43).

What is the significance of this delay? First, it helps to highlight certain subgroups among those involved in the famous “Metaphysical Club” of the early 1870s. Fiske and Wright had been committed to evolutionary ideas for over a decade when the club began meeting, and had even corresponded with evolutionists such as Darwin and Spencer. Along with Francis Ellingwood Abbot, they were also both positivists in the broad sense: that is, they thought that science should remain agnostic about anything beyond the phenomena (Pearce 2015). James and Charles Sanders Peirce, in contrast, were sympathetic to religion and often critical of positivism—it is these views that may have made them reluctant to endorse evolution, at least initially. Second, the delay suggests that James may even at this early stage have been struggling to reconcile evolutionary ideas with more traditional accounts of human thought and action.³ After briefly adopting a sort of narrow evolutionary empiricism in the late 1860s, James spent the rest of his life attempting to work out a broader compromise position—to construct a scientific and philosophical narrative that distinguished him from his positivist friends. Who better to cast as the villain than Fiske’s hero, Herbert Spencer?

James and Spencer

Looking just at James’s early book reviews and his journey with Agassiz, it might seem as if Darwin should be the main character in any story about James and evolution. But Herbert Spencer was the best known advocate of an evolutionary philosophy, and thus Spencer had the

³ Such struggles were not uncommon among those interested in both science and philosophy: George Herbert Mead is a similar case (Pearce 2016).

biggest impact on James, who saw himself more as a philosopher than a naturalist (Perry 1935, 1.474-493; Leary, this volume). James later acknowledged the overwhelming influence of Spencer's multi-volume *System of Synthetic Philosophy*, the first three parts of which were published in the 1860s and early 1870s:

Who, since [Spencer] wrote, is not vividly able to conceive of the world as a thing evolved from a primitive fire mist, by progressive integrations and differentiations, and increases in heterogeneity and coherence of texture and organization? Who can fail to think of life, both bodily and mental, as a set of ever-changing ways of meeting the "environment"? (EPh 1903, 97)

The general idea of evolution—cosmic, organic, social—as a change from incoherent homogeneity to coherent heterogeneity was the centerpiece of *First Principles* (1862), a book that would soon be included on philosophy syllabi in the United States (*Harvard University Catalogue* 1879, 84; *Harvard University Catalogue* 1885, 95; *Calendar of the University of Michigan* 1886, 55; *Calendar of the University of Michigan* 1892, 61; ML, 146-177). Life as a correspondence between organism and environment—inner relations adjusting to outer relations—was the foundational commitment of both *Principles of Biology* (1864, 1867) and *Principles of Psychology* (1870, 1872).⁴ This organism-environment dyad was linked to Spencer's progressive account of evolution: he saw science and civilization as crowning illustrations "of the truths, that Life is the maintenance of a correspondence between the organism and its environment, and that the degree of Life varies as the degree of correspondence" (Spencer 1870, 376).

James's reading of Spencer and other empirically oriented writers affected him both intellectually and personally (Richards 1987, 409-450). In the late 1860s, James told his friend Oliver Wendell Holmes, Jr. that he was "tending strongly to an empiristic view of life":

⁴ Spencer introduced this account of life to the English-speaking world after encountering a version of it in the work of Auguste Comte (Pearce 2010, 2014; see also Spencer 1864, 74n).

I shall continue to apply empirical principles to my experience as I go on and see how much they fit. One thing makes me uneasy. *If* the end of all is to be that we must take our sensations as simply given or as preserved by natural selection for us, and interpret this rich and delicate overgrowth of ideas, moral, artistic, religious & social, as a mere mask, a tissue spun in happy hours by creative individuals and adopted by other men in the interests of their sensations—how long is it going to be well for us not to “let on” all we know to the public? (CWJ 1868, 4.302)

This outlook was probably inspired by Spencer’s *First Principles* (1862), which placed evolution in the background of our entire mental and social life.⁵ In his diary at around the same time, James wondered how one might explain aesthetic appreciation “on utilitarian or Darwinian principles” (James 1868). He corresponded frequently with Thomas Wren Ward, a friend from the Agassiz expedition who had begun to question religion after “a casual reading of Herbert Spencer” (CWJ 1868, 4.322). Unfortunately, James’s enthusiasm for the empirical perspective was accompanied by depression. As he wrote years later, probably thinking of his own case, “the purely naturalistic look at life, however enthusiastically it may begin, is sure to end in sadness” (VRE 1902, 119).⁶ James told Ward that in the winter of 1866-67 he had been “on the continual verge of suicide,” and he was apparently having similar thoughts in the fall of 1868: “I am poisoned with Utilitarian venom, and sometimes when I despair of ever doing anything, say, ‘why not step out into the green darkness?’” (CWJ 1868, 4.248, 4.347).

As is well known, James emerged from this depression guided at least in part by the work of the French philosopher Charles Renouvier.⁷ That same fall, James had stumbled across Renouvier’s long essay on nineteenth-century French philosophy, “De la philosophie du XIX^e siècle en France” (CWJ 1868, 4.342). After reviewing the work of Henri de Saint-Simon and

⁵ Although he emphasized the direct shaping of the organism by the environment—on which more below—Spencer also thought that natural selection was an important factor in evolution (Spencer 1862, 297-298; 1864, 443-463).

⁶ See Croce (2009) for more on this topic.

⁷ The full story is more complicated than a simple “Renouvier cure”: see Leary (2015).

various forms of positivism and socialism, Renouvier criticized what all of these philosophical approaches had in common—not only a “belief in the natural and necessary progress of humanity,” but also an “avowed determinism, the negation of freedom, and the substitution of the idea of evolution for that of fixed laws” (Renouvier 1868, 88). The “evolution school,” said Renouvier,

is forced to explain the constitution of apparent individualities by the action of environments [*milieux*] exclusively. . . . It must explain their faculties and their acts via suggestions coming from outside. Empiricism and sensualism work for this school to establish the laws of these suggestions, reducing almost to nothing the internally given. (Renouvier 1868, 92-93)

Although Renouvier only briefly mentioned Spencer, he did connect him to “ideas of development and progress,” and it would have been natural for James to see him as part of the criticized “evolution school” (Renouvier 1868, 7).

As Spencer’s work became more widely known in France, Renouvier and his collaborator François Pillon began to attack it in their new journal *La Critique Philosophique*.⁸ For example, Pillon argued that Spencer’s psychology “systematically reduces innateness to the inheritance of acquired modifications,” and thus represents “the negation of all mental nature, of all intellectual constitution, of all mental law, of all psychological specificity” (Pillon 1872, 214). James was happy to have found an alternative to the Spencerian approach, as he observed in a letter to Renouvier written a few months later:

Over here, it is the philosophy of [John Stuart] Mill, [Alexander] Bain, & Spencer that presently carries all before it. This philosophy produces excellent works in psychology, but from the practical point of view it is determinist and materialist . . . Your phenomenist philosophy seems well suited to make an impression on the elevated minds of the English empirical school. (CWJ 1872, 4.430-431)

⁸ James wrote a notice of this journal early in its existence (ECR 1873, 265-266; see also CWJ 1876, 4.542). He later dedicated *Principles of Psychology* to “my dear friend François Pillon, as a token of affection, and an acknowledgment of what I owe to the Critique Philosophique” (PP 1890, 3). Spencer’s work was not well known in France until the 1870s (Becquemont and Mucchielli 1998, 257-274; Beck 2014, 49-64).

By the early 1870s, James had moved away from Spencer's empirical outlook and adopted Renouvier's "phenomenist philosophy": "the knowable universe is . . . a system of phenomena," but contains within it the possibility of freedom (ECR 1873, 266).⁹

James's opposition to Spencer's evolutionary empiricism began with Renouvier, but he soon found additional allies: Shadworth Hodgson and Wilhelm Wundt. In the work of these philosopher-psychologists, James discovered the two concepts that would frame his critique of Spencer: interest and attention. Hodgson had introduced the notion of interest in his book *Time and Space* (1865) as part of a chapter on "Spontaneous Redintegration"—the involuntary restoration of a past state of consciousness. When we have a new experience, it sometimes calls to mind a past experience. But why some particular past experience? According to Hodgson, redintegration has two stages: first, those parts of an experienced object that are uninteresting fade from consciousness; then the remaining interesting parts of the object combine with those past objects with which they have been habitually associated, yielding a new object. This cycle is ongoing:

Scarcely has the process begun, when the original law of interest begins to operate on this new formation, seizes on the interesting parts and impresses them on the attention to the exclusion of the rest, and the whole process is repeated again with endless variety. (Hodgson 1865, 266-268)

Hodgson thus called interest the "secret spring" and "motive power" of spontaneous redintegration (Hodgson 1865, 266).

James was intrigued by the implications of Hodgson's "law of interest" for psychology generally, as it seemed to undermine Spencer's more passive account of the experiencing mind. The mind's active role was even more obvious in voluntary (rather than spontaneous) redintegration. As Hodgson wrote,

⁹ For more on James and Renouvier, see Perry (1935, 1.654-710), Viney (1997), Girel (2007, this volume), and Dunham (2015).

it is impossible there to suppose consciousness to be a mere foam, aura, or melody, arising from the brain, but without reaction upon it. The states of consciousness are, in voluntary redintegration, links in the chain of physical events or circumstances in the external world. (Hodgson 1865, 280; quoted in ECR 1874, 273 and MEN 1872, 249)

James thought that Hodgson had identified a deficiency in Spencer's view—something it had missed. According to Spencer, feelings of pleasure evolved because “those species survived which came to have emotions of pleasure associated with experiences that were useful to them, whilst others perished” (ECR 1874, 272; cf. Spencer 1870, 280). But on this story, said James, “the purely *conscious quale* of the mental event seems to act as a determinant link in the chain of physical causes and effects,” which contradicts Spencer's broader claim that “the links of the chain of conscious events” are mere “concomitants of those of the chain of successive physical phenomena” (ECR 1874, 271-272). Physical and mental events do not form two independent and parallel chains, as Spencer argued; they are at least sometimes links in the same chain. More specifically, the evolution of pleasure is an example, according to James, of how “quality of consciousness as such, instead of being discontinuous with all the facts of nerve vibration, may influence them in direction or amount” (ECR 1874, 273).¹⁰

The above discussion of Hodgson's work appeared in a review of William Carpenter's *Principles of Mental Physiology* (1874). In that same review, James declared that Carpenter's chapters on sensation and perception were “very inadequate” in comparison to research “by German inquirers, among whom we may mention [Wilhelm] Wundt . . . and the immortal

¹⁰ In the quoted texts, James and Hodgson were attacking and Spencer was defending what is now called epiphenomenalism, “the view that mental events are caused by physical events in the brain, but have no effects upon any physical events” (Robinson 2015). Hodgson attacked epiphenomenalism in *Time and Space* (1865, 273-283)—the text quoted here by James—but then embraced it in *Theory of Practice* (1870, 1:416-436); conversely, James seems to have supported epiphenomenalism only a few years before this explicit rejection of it (MEN 1872, 247-256; Perry 1935, 1.615). For more on James and epiphenomenalism, see Klein (this volume).

[Hermann von] Helmholtz in his Optics” (ECR 1874, 273).¹¹ Both of these authors emphasized the activity of the mind in perception. Helmholtz claimed that “the connection of the sensation with the idea of the object . . . depends in large part on acquired experience, and thus on mental activity,” although he argued that most of this activity was unconscious (Helmholtz 1867, §26).¹² Wundt went even further in his *Grundzüge der physiologischen Psychologie* (Principles of physiological psychology):

[Psychology] has tacitly presupposed that the course of sense-perceptions recapitulates immediately and essentially unchanged the temporal course of external impressions. But this is not so; rather, the way in which external events are pictured in our ideas is co-determined by the qualities of consciousness and attention. (Wundt 1874, 726)

The importance of consciousness and attention in experience would become a major theme in James’s own psychology, and the main weapon in his attack on Spencer.

James’s 1875 review of *Grundzüge* contained almost all of his characteristic criticisms of Spencer, later presented in a series of journal articles (EPh 1878, 7-22; EPs 1878, 1-37; EPs 1879, 38-61).¹³ In the book, Wundt’s reaction time experiments had provided empirical evidence for the importance of attention. In particular, they showed that reaction time could be altered by manipulating attention (Wundt 1874, 727). As James summarized,

the experimental circumstances which shorten the time of reaction are mainly those which define beforehand as to its quality, intensity, or time, the signal given to the observer, so that he may accurately expect it before it comes. The focusing of the attention takes place under these circumstances *in advance*.

In other words, if subjects are prepared for the signal, they react more quickly—not surprising perhaps, but now “mathematically” demonstrated (ECR 1875, 299-300).

¹¹ James had planned to study in 1868 with both Wundt and Helmholtz at the University of Heidelberg, but ended up leaving Heidelberg after less than a week, worried about his health (CWJ 1868, 4.292, 4.326-327).

¹² On Helmholtz’s psychology of visual perception, see Hatfield (1992, 165-234). Helmholtz placed much more emphasis on the active mind in his optics than in his account of musical hearing—he did not think the latter even required a psychology (Pearce 2008, 86-91).

¹³ Richards (1987, 433-435), McGranahan (2017, chap. 1), and Leary (this volume) also highlight the importance of this review and James’s criticisms of Spencer.

After describing Wundt's experiments, James launched into a tirade against Spencer and the "*a posteriori* school," repurposing Hodgson's notion of interest:

The *a posteriori* school, with its anxiety to prove the mind a *product, coûte que coûte* [whatever the cost], keeps pointing to mere "experience" as its source. But it never defines what experience is. *My* experience is only what I agree to attend to. Pure sensation is the vague, a semi-chaos, for the *whole* mass of impressions falling on any individual are chaotic, and become orderly only by selective attention and recognition. These acts postulate *interests* on the part of the subject,—interests which, as ends or purposes set by his emotional constitution, keep interfering with the pure flow of impressions and their association, and causing the vast majority of mere sensations to be ignored. It is amusing to see how Spencer shrinks from explicit recognition of this law, even when he is forced to take it into his hand, so to speak. (ECR 1875, 300)

James argued that subjective interests lead to selective attention, which in turn has a major role in determining our experience.¹⁴ He thus defended a loose psychological analogue of Kant's famous Copernican turn: the mind is not a mere product, but itself shapes and orders experience (Kant 1998, Bxii-Bxviii; ECR 1875, 301). James criticized Spencer for ignoring the empirically demonstrated importance of the active mind.

A few months later, citing Wundt's teaching as a model, James proposed a new Harvard undergraduate course in psychology. He suggested in a letter to president Charles William Eliot that the course would take a middle way between philosophy and physiology (CWJ 1875, 4.527-528). The course—Natural History 2: Physiological Psychology—was accepted, and James taught it for the first time in 1876-77, using Spencer's *Principles of Psychology* as a textbook (*Harvard University Catalogue* 1876, 59; ML, xxxiv). As the Wundt review had indicated, James was unhappy with Spencer's account of the perceiving mind. Becoming more and more confident in his criticism, halfway through the class James pronounced himself "completely disgusted with the eminent philosopher" (CWJ 1876, 4.552). After delivering his final lecture,

¹⁴ See Bromhall (2015, chap. 3) and Prinz (this volume) for analyses of James's notion of attention.

James sent a mocking letter to James Jackson Putnam, a clinical instructor in the medical school who specialized in diseases of the nervous system:

Poor Spencer, reduced to the simple childlike faith of merely timid, receptive uncritical, indiscriminating, worshipful, servile gullible, stupid, idiotic natures like you and [John] Fiske! Would *I* were part of his environment! I'd see if his "intelligence" could establish "relations" that would "correspond" to me in any other way than by giving up the ghost before me! (CWJ 1877, 4.564)

Behind James's jokes lay a more serious point: the idea of a correspondence between relations in the mind and relations in the environment, so central to Spencer's psychology, was difficult to interpret. What counted as a better correspondence?

James tackled this question in his first published article, written in the fall of 1877: "Remarks on Spencer's Definition of Mind as Correspondence" (CWJ 1877, 4.587). Spencer, as I have argued elsewhere, had popularized the idea of life as a relationship between two entities, organism and environment (Pearce 2010, 2014). The mind-environment dyad was merely a special case:

Regarded under every variety of aspect, intelligence is found to consist in the establishment of correspondences between relations in the organism and relations in the environment; and the entire development of intelligence may be formulated as the progress of such correspondences in Space, in Time, in Speciality, in Generality, in Complexity. (Spencer 1870, 385)

For Spencer, the evolution of intelligence is just a progressively improving correspondence between mind and environment. But how would progress be assessed? For James, this story had as its implicit "teleological factor" Hodgson's notion of *interest* (EPh 1878, 15, citing Hodgson's "Spontaneous Redintegration" chapter). As James had already insisted in the Wundt review, "subjective interests" are "the real *a priori* element in cognition" and "precede the outer relations noticed" (EPh 1878, 11n). Thus his main strategy, as Mathias Girel has shown, was to replace Spencer's two-place relation—organism-environment—with a three-place relation—organism-interests-environment (Girel 2000, 82). Only by adding this third element, which provides a kind

of norm or end, are we able to judge whether a correspondence has improved. Spencer's account could not truly avoid this teleology, said James; it just assumed very specific interests, "those of physical prosperity or survival" (EPh 1878, 11).

So James's primary critique of Spencer, first presented in the 1875 review of Wundt and elaborated in the 1876-77 course and the 1878 article, was that he ignored the importance of interests—"the very flour out of which our mental dough is kneaded" (EPh 1878, 18). When James sent his article to Renouvier, the French philosopher responded by dismissing not only Spencer but evolution in general:

[Spencer's] great renown in Europe arises from his systematization of the theory of evolution. But evolution is a passing fad. It will last 15 or 20 years, and then we'll talk about it the way they talked about Lamarck's system in the age of Cuvier. So it goes. (CWJ 1878, 5.8)

James, in contrast, was happy with the evolutionary-naturalistic picture of the mind; he just thought that Spencer had left out key elements. He summarized his critique in another early essay, "Brute and Human Intellect": "Spencer, throughout his work, ignores entirely the reactive spontaneity, both emotional and practical, of the animal" (EPs 1878, 19).¹⁵ According to James, Spencer's account of the mind as a "mere product" had absurd implications:

If Spencer's account were true, a race of dogs bred for generations, say in the Vatican, would have characters of visual shape, sculptured in marble, presented to their eyes, in every variety of form and combination. The result of this reiterated "experience" would be to make them dissociate and discriminate before long the finest shades of these particular characters. In a word, they would infallibly become, if time were given, accomplished *connoisseurs* of sculpture. The reader may judge of the probability of this conclusion. (EPs 1878, 19-20; repeated in PP 1890, 381)

¹⁵ Peter Godfrey-Smith nicely describes this as a contrast between Spencer's "externalism" and James's "internalism" (Godfrey-Smith 1996, 90-94).

That is, subjective interests—whether innate or acquired—inevitably shape our experience.

Whereas we marvel at the sculpted agony of Laocoön, a dog cares only for “the odors at the base of the pedestals” (EPs 1878, 20). Spencer’s theory, said James, could not explain this difference.

But was this really fair to Spencer? It is hard to imagine him denying Auguste Comte’s claim, in an 1843 letter to John Stuart Mill, that “it is the organism and not the environment [*milieu*] that makes us men rather than monkeys or dogs” (Littre 1863, 411; quoted in Pillon 1872, 211).¹⁶ After all, as Renouvier noted in his review of *First Principles*, Spencer had provided his own explanation for the innate features of organisms:

Innateness [for Spencer] is nothing but inheritance, an inheritance that one must follow back through the ages along the series of ancestors of each man, and along the longer series of man’s animal ancestors, to the first and evanescent origins of life. (Renouvier 1872, 15)¹⁷

Spencer’s (imagined) reply is thus straightforward: the ancestral environment is the cause of the innate differences between humans and dogs. James would certainly have been familiar with this idea, as it appeared quite clearly in Fiske’s *Outlines of Cosmic Philosophy*, a book he knew well: our minds are the product of “intercourse with their environment—both their own intercourse and that of ancestral minds” (Fiske 1874, 1.86).¹⁸

This apparent unfairness was probably the reason his friend Chauncey Wright was so frustrated with James’s attack on the “*a posteriori* school.” In the Wundt review, James had singled out Wright as one of the few empiricists who actually admitted the importance of the

¹⁶ James may have read Littre’s *Auguste Comte* (1863), since his diary list of books read includes many of Littre’s other works; he probably also read the Pillon essay in which it was quoted (James 1870 and fn. 8 above). Comte’s point was a response to Mill’s claim that further “ethological analysis of the influence of external circumstances” was needed to determine the origin of differences between men and women (Mill to Comte, 30 October 1843, in Mill 1963, 13.605).

¹⁷ This anonymous review was attributed to Renouvier by Louis Foucher, and was likely read by James (see Foucher 1927, XIII and fn. 8 above).

¹⁸ James discussed Fiske’s book with Wright, Peirce, and others shortly after its appearance (CWJ 1905, 11.94). The book was based on two sets of Harvard lectures (in 1869 and 1871) that Charles William Eliot had commissioned (Nelson 1977; Pearce 2015, 453).

active mind in experience (ECR 1875, 300, referring to Wright 1873). Nevertheless, Wright was not happy, and told Grace Norton that James had misunderstood empiricism:

In a paragraph in which he distinguishes and compliments me among the “empiricists” he has so badly misapprehended what the experience philosophy in general holds and teaches, that the compliment to me goes for nothing in mitigation of my resentment. (Wright 1875a)

Wright complained to James himself a few days later that the compliment had been “made at the expense of my friends” (Wright 1875b). But Wright was no friend of Spencer, and had even joked with Norton in the earlier letter about having recently revived his “old warfare with Spencerism” (see Wright 1865). So why was he upset? Wright probably thought that philosophers such as Mill and Bain, mentioned alongside Spencer in the review, had already embraced something like James’s position. Bain, for example, had built his account of volition around the idea of “spontaneous activity”: “our various organs are liable to be moved by a stimulus flowing out from the nervous centres, in the absence of any impressions from without” (Bain 1855, 289). Mill, for his part, had clearly acknowledged in *System of Logic* that people differed in their susceptibility to certain sensations:

Differences of mental susceptibility in different individuals may be, first, original and ultimate facts, or, secondly, they may be consequences of the previous mental history of those individuals, or thirdly and lastly, they may depend upon varieties of physical organization. (Mill 1974, 8.856)

According to James, Bain and Mill were “desperately bent on covering up all tracks of the mind’s originality” (ECR 1875, 301). According to Wright, this claim was simply false: just because Mill thought that “the German school of metaphysical speculation” had erred in failing to attribute mental differences “to the outward causes by which they are for the most part produced,” that did not mean that he denied to such differences a role in shaping experience (Mill 1974, 8.859). Mill thought these differences were “for the most part produced” by the

environment. Spencer simply extended this, arguing that even those differences that seem like “original and ultimate facts” could be viewed—from the perspective of evolution—as products of the ancestral environment.

Spencer, then, could appeal to evolutionary history to explain variation in interests within and across species—something Wright thought James should have acknowledged. But Spencer’s explanation had a key weakness, according to James: it gave a misleading account of the origin of that variation. James claimed to have a better story: first, variation in interests, and thus in perception and experience, is influenced by consciousness; second, even when the environment does play a role, it merely preserves spontaneous variations.

James believed that consciousness helps determine one’s interests. Recall the line from the Wundt review, repeated almost verbatim in later works: “*My* experience is only what I agree to attend to” (ECR 1875, 300; cf. EPs 1878, 19; PP 1890, 380). James was well aware that many critics of the *a posteriori* school were theologically motivated: they wanted to preserve consciousness as something linked to the supernatural (ML 1878-79, 136; CWJ 1879, 5.34). But James had already stressed in the review of Wundt that his own approach to consciousness was strictly scientific. After all, Spencer’s own evolutionism implied that consciousness must have a function:

Taking a purely naturalistic view of the matter, it seems reasonable to suppose that, unless consciousness served some useful purpose, it would not have been superadded to life. Assuming hypothetically that this is so, there results an important problem for psycho-physicists to find out, namely, *how* consciousness helps an animal. (ECR 1875, 302)

James’s answer was that it may make us more streamlined and efficient in our response to stimuli—that “much complication of machinery may be saved in the nervous centres . . . if consciousness accompany their action”:

Might, for example, an animal which regulated its acts by notions and feelings get along with fewer preformed reflex connections and distinct channels for acquired habits in its nervous system In a word, is consciousness an economical *substitute* for mechanism? (ECR 1875, 302-303)

According to James, a mechanical response to a series of individual environmental stimuli might be unwieldy compared to a response regulated by consciousness—and this could be an explanation of why consciousness evolved in the first place. Thus James accused Spencer of ignoring not only interests and attention, but also the function of consciousness in experience.

These three notions came together in the 1879 essay “Are We Automata?” James repeated his earlier points about the active mind: “Whoever studies consciousness, from any point of view whatever, is ultimately brought up against the mystery of *interest* and *selective attention*” (EPs 1879, 46). Spencer, ignoring these two concepts, seemed to claim that a highly evolved mind would be exquisitely tailored and completely responsive to each and every aspect of its environment—this would be perfect correspondence. James’s reply was that in fact

the most perfected parts of the brain are those whose action are least determinate. It is this very vagueness which constitutes their advantage. They allow their possessor to adapt his conduct to the minutest alterations in the environing circumstances, any one of which may be for him a sign. (EPs 1879, 42)

According to James’s own evolutionary account, the contribution of consciousness is to, “by its selective emphasis, make amends for the indeterminateness” of what is otherwise “a happy-go-lucky, hit-or-miss affair” (EPs 1879, 43, 56). Thus the different aspects of James’s critique of Spencer were linked: only by emphasizing the discriminating power of consciousness—“the mind’s selective industry”—could we explain its evolution (EPs 1879, 49).

Spencer could have replied that James’s own account of the evolution of consciousness relied implicitly on the ancestral environment: organisms with consciousness persisted and progressed because they coped with environmental challenges more successfully than those

without consciousness. But in “Are We Automata?” James seemed to suggest that “ancestral choice”—and not only the ancestral environment—was an important factor in evolution:

We may even, by our reasonings, unwind things back to that black and jointless continuity of space and moving clouds of swarming atoms which science calls the only real world. But all the while the world we feel and live in, will be that which our ancestors and we, by slowly cumulative strokes of choice, have extricated out of this, as the sculptor extracts his statue by simply rejecting the other portions of the stone. Other sculptors, other statues from the same stone! Other minds, other worlds from the same chaos! Goethe’s world is but one in a million alike embedded, alike real to those who may abstract them. Some such other worlds may exist in the consciousness of ant, crab and cuttle-fish. (EPs 1879, 51-52)

James was obviously enamored of this image, as he returned to it several times in later works (PP 1890, 277; P 1907, 119). It is consistent with his example of the dogs as well: the canine experience of a museum is different because dogs, like crabs and cuttle-fish, live in a different world. For James, one’s world is the product not only of one’s environment and that of one’s ancestors, but also of a long series of “cumulative strokes of choice.”

It is difficult to determine exactly what role James was granting to consciousness and choice in evolution. He was not alone in considering the question. The paleontologist Edward Drinker Cope, a prominent American defender of evolution, had recently argued that “intelligent choice taking advantage of the successive evolution of physical conditions, may be regarded as the *originator of the fittest*, while natural selection is the tribunal to which all the results of accelerated growth are submitted” (Cope 1871, 259). The sculpture metaphor, with its emphasis on choice, suggests that James might have agreed with Cope on this point. Like Cope, he thought that consciousness could “immensely shorten the time and labor of natural selection” (EPs 1879, 53). On the other hand, he was also in the midst of developing a new critique of Spencer that downplayed the importance of direct adaptation to the environment and thus seemed to rule out any cumulative evolutionary effects of intelligent choice.

This new critique, first presented in the third version of James's Natural History 2 course (now rechristened Philosophy 4), claimed that Spencer had given an incorrect account of the origin of variation.¹⁹ According to James, Spencer had failed to distinguish two independent causal factors in evolution: "the regulator or preserver of the variation, the environment, is a different part from its producer" (ML 1878-79, 137). James pointed out that Darwin's phrase "spontaneous variation" was meant to capture the fact that variations usually stem from "unknown physiological conditions" (ML 1878-79, 138). In Darwin's view, the environment does not normally directly shape organisms, but rather selectively preserves those that happen to possess beneficial variations.²⁰ Thus he argued that "in most, perhaps in all cases, the organisation or constitution of the being which is acted on, is a much more important element than the nature of the changed conditions, in determining the nature of the variation" (Darwin 1868, 2.291). Spencer, in contrast, had argued that "the production of adaptations by direct equilibration" becomes more important as organisms become more active—in animals and especially in humans (Spencer 1864, 468). For Spencer, the environment was primarily a producer of variation; for Darwin, it was primarily a preserver of variation.²¹

Darwin and Spencer saw their debate as largely empirical, having to do with which sort of process was actually more prevalent in evolution. Both acknowledged that the other sort of process could and did occur.²² So why was it so important to James? The full answer became

¹⁹ Having used a different textbook for 1877-78, James returned to Spencer's *Principles of Psychology* for the 1878-79 academic year (*Annual Reports* 1880, 60; ML, xxxiv).

²⁰ McGranahan (2017) describes how James generalized this Darwinian account of selection and applied it to psychology, sociology, and ethics. Relatedly, Richards (1987, 436) and Klein (2013, 418) have both claimed that James's epistemology was fundamentally evolutionary.

²¹ James repeated much of this discussion in the opening section of his 1880 paper "Great Men, Great Thoughts, and the Environment," later collected in *The Will to Believe* (see WB 1897, 167-169).

²² For this reason, I think characterizing James's late-1870s critique as an attack on Spencer's "Lamarckism" is anachronistic: all of the points James makes against direct adaptation are consistent with the inheritance of acquired characters, which most naturalists (including Darwin) accepted at the time. Thus I think we should resist reading

clear only later, in *Principles of Psychology*. In the very last chapter of this book, James returned to these questions as part of a larger argument that “the experience of the race can no more account for our necessary or *a priori* judgments than the experience of the individual can” (PP 1890, 1216). To support this thesis, James needed his earlier distinction between the production and preservation of variation. He began with a concession: Spencer’s environmentalist account of the mind is true, but only for the special case of “time- and space-relations”:

Here the mind is passive and tributary, a servile copy, fatally and unresistingly fashioned from without. . . . The degree of cohesion of our inner relations, is, in this part of our thinking, proportionate, in Mr. Spencer’s phrase, to the degree of cohesion of the outer relations; . . . and we are, in so far forth, what the materialistic evolutionists would have us altogether, mere offshoots and creatures of our environment, and naught besides. (PP 1890, 1229)

James claimed that the evolution of this aspect of our intelligence, which we have in common with other animals, was equivalent to a steady improvement in the correspondence between relations in the environment and relations in our minds. That is, the “experience of the race” can account for judgments of this general sort. However, James thought Spencer’s approach inadequate when it came to abstraction, classification, logic, aesthetic appreciation, and other more advanced forms of judgment. Referring to his broader critique of Spencer’s account of evolution, discussed above, James argued that the external environment was not the direct cause of these judgments. Instead, proposed James, they may

be pure *idiosyncrasies*, spontaneous variations, fitted by good luck (those of them which have survived) to take cognizance of objects (that is, to steer us in our active dealings with them), without being in any intelligible sense immediate derivatives from them. (PP 1890, 1228)

Sometimes, said James, experience directly teaches the mind by impressing its order upon it, as in the case of time and space relations. But more often, he suggested, what does the work are

James’s later critique of Lamarckian theories of instinct back into these earlier papers (PP 1890, 1270-1280). See also fn. 23 below.

“indirect causes of mental modification—causes of which we are not immediately conscious as such, and which are not the direct *objects* of the effects they produce.” Most of the interesting aspects of the human mind, according to James, stem from the latter kind of process:

Our higher aesthetic, moral, and intellectual life seems made up of affections of this collateral and incidental sort, which have entered the mind by the back stairs, as it were, or rather have not entered the mind at all, but got surreptitiously born in the house. (PP 1890, 1225)

Thus for James our higher mental life is the product of spontaneous variations, only some of which have been preserved.

But what determines which variations survive? The environment, at least in part: if they do not “steer us in our active dealings with [objects],” variations will not persist. Thus “natural selection” of helpful thoughts should produce a rough correspondence between mind and environment, even without direct adaptation. However, as in his earlier critique, James claimed that our subjective interests—especially our need for system—also play a key role, undermining the correspondence:

The popular notion that ‘Science’ is forced on the mind *ab extra* [from outside], and that our interests have nothing to do with its constructions, is utterly absurd. The craving to believe that the things of the world belong to kinds which are related by inward rationality together, is the parent of Science as well as of sentimental philosophy. (PP 1890, 1260)

James insisted that this “rational order of comparison” is part of the selection process; thus it is not adequate to say that our knowledge is shaped by the environment, whether that shaping is direct or indirect.²³

²³ The relevant sort of inheritance here might be cultural rather than biological. However, it is worth noting that James did not criticize Lamarckism in the section described above, which was devoted to “the *theoretic* part of our mental structure.” He only emphasized the contrast between Lamarck and Darwin when it came to the “practical parts of our organic mental structure,” i.e., “the origin of instincts” (PP 1890, 1270-1280). See also fn. 22 above, and for a contrasting view, see Klein (2016, 9-17).

Despite James's critique of Spencer, he was indebted to the English philosopher's broader naturalistic approach and especially to his organism-environment framework. In a letter to Henry Holt, publisher of the *Principles*, James made this perfectly clear:

So far am I from leaving out the environment, that I shall call my text-book "Psychology, as a Natural Science," and have already in the introduction explained that the constitution of our mind is incomprehensible without reference to the external circumstances in the midst of which it grew up. My quarrel with Spencer is not that he makes much of the environment but that he makes *nothing* of the glaring and patent fact of subjective interests which cooperate with the environment in moulding intelligence. (CWJ 1878, 5.24-25)

James made good on his promise: in Chapter 1 as published, he contrasted the fertility of Spencer's naturalistic approach with that of traditional psychology:

On the whole, few recent formulas have done more real service of a rough sort in psychology than the Spencerian one that the essence of mental life and of bodily life are one, namely, 'the adjustment of inner to outer relations.' Such a formula is vagueness incarnate; but because it takes into account the fact that minds inhabit environments which act on them and on which they in turn react; because, in short, it takes mind in the midst of all its concrete relations, it is immensely more fertile than the old-fashioned 'rational psychology,' which treated the soul as a detached existent, sufficient unto itself, and assumed to consider only its nature and properties. (PP 1890, 19)

James's critique of Spencer was not that he was too naturalistic or scientific, but rather that he neglected certain facts about subjective interests, mental activity, and consciousness.

James often explicitly bracketed his own metaphysical stance when engaging in these arguments. Discussing his account of the evolution of consciousness, for example, James insisted that "free-will is in short, no necessary corollary of giving causality to consciousness. My phrase about choosing one's own character is perfectly consistent with fatalism" (CWJ 1879, 5.34).

When he later applied his psychology to the topic of education, he encouraged his audience of teachers "to adopt with me, in this course of lectures, the biological conception, . . . and to lay your own emphasis on the fact that man, whatever else he may be, is primarily a practical being,

whose mind is given him to aid in adapting him to this world's life" (TTP 1899, 24). In sum, although James was criticizing the "*a posteriori* school," he was doing it with respectably naturalistic arguments: "The antithesis between inner and outer may subsist on a purely natural plane and a Philosophy accentuating the inner element be true without in any sense being a supernatural Philosophy" (ML 1878-79, 136). As he wrote in the last chapter of *Principles*, "the account which the apriorists give of the *facts* is that which I defend; although I should contend . . . for a naturalistic view of their *cause*" (PP 1890, 1216). Thus James opposed Spencer's evolutionism from the viewpoint of a broader evolutionary naturalism.

James's Later Work

Evolution primarily functioned as a sort of background assumption in James's later work: we know that human beings have an evolutionary history, and we need to take that into account in our philosophy. In this section I will very briefly indicate the role of evolution in James's ethics and in his account of knowledge and reality.

In 1891, James published his first and only explicit discussion of ethics: "The Moral Philosopher and the Moral Life." He claimed in this paper that evolutionists in ethics were often concerned with "the historical *origin* of our moral ideas and judgments" rather than with our ethical obligations as such (WB 1897, 142).²⁴ Nevertheless, James's picture of ethics inspired the evolutionary approach of younger philosophers such as John Dewey, whose work James would later endorse. James's thesis in "The Moral Philosopher" was that "we all help to determine the content of ethical philosophy so far as we contribute to the race's moral life" (WB 1897, 141). Ethics, for James, stems from the wants and needs of real people rather than from some "abstract

²⁴ There were no changes between the 1891 version of the article and the version published in *The Will to Believe* (1897); thus I will cite the latter.

moral order”: there is an ethical obligation whenever there is “a claim actually made by some concrete person” (WB 1897, 148).²⁵ The development of ethics has been the history of attempts to satisfy jointly as many demands as we can: “*Invent some manner* of realizing your own ideals which will also satisfy the alien demands—that and that only is the path of peace!” (WB 1897, 155). Ethical progress is experimental: radicals and conservatives alike

are simply deciding through actual experiment by what sort of conduct the maximum amount of good can be gained and kept in this world. These experiments are to be judged, not *a priori*, but by actually finding, after the fact of their making, how much more outcry or how much appeasement comes about. (WB 1897, 157)

That is, ethics is a series of human experiments in attempting to satisfy our diverse and often conflicting desires. This open-ended viewpoint, highlighting the endless struggle inherent in any attempt to achieve a broader satisfaction, contrasted with that of Spencer, who insisted on a final “perfectly-evolved condition” in which “all our virtue is to flow spontaneously from our natural constitution”—a kind of end of ethical history in which everyone takes supreme pleasure in altruism (ECR 1879, 351; Spencer 1879, 275).²⁶

A few years later, Dewey—who was delighted by James’s essay—would frame this humanistic, experimental approach to ethics in explicitly evolutionary terms (Dewey to James, 3 June 1891, in Hickman 1999–). Equally opposed to Spencer’s “insipid millennium,” Dewey reinterpreted James’s “experiments” as ongoing attempts to adapt ethics to an ever-changing social environment (Dewey 1898, 333-335). The benefit of what Dewey called the “evolutionary method” in ethics was that it used history to understand how different moral norms responded to particular social problems, and thus helped explain the present success or failure of certain norms

²⁵ Greg Priest (2017, 590-593) has suggested that James’s view of ethics was directly indebted to that of Darwin.

²⁶ Spencer thought this final state provided an “ideal code of conduct” for ethics. For more details as well as criticisms from some of James’s contemporaries, see Pearce (2017, 45-47).

(Pearce 2017, 51-54). Like James, Dewey embraced the idea of ethics as the continual attempt to make things better—to seek “the richer and the more inclusive arrangement,” in James’s phrase (WB 1897, 157):

It is the lack of adequate functioning in the given adjustments that supplies the conditions which call out a different mode of action; and it is in so far as this is new and different that it gets its standing by transforming or reconstructing the previously existing elements. (Dewey 1902, 368)

Whether James was happy to frame ethics in such evolutionary terms is not easy to determine. But he did note Dewey’s “admirable writings on ethics,” and praised the philosophy of Dewey and colleagues for being “an evolutionism” with a more sophisticated account of the organism-environment dynamic than that of Spencer (EPh 1904, 103). James even lamented a few years later that Dewey’s articles on ethics would “never get the attention they deserve till they are printed in a book” (ERE 1905, 98n). Thus although James was critical of Spencer’s evolutionary ethics, he seems to have been willing to endorse Dewey’s more nuanced approach.

James appealed to evolution more explicitly in his account of our knowledge of the world around us. In his defense of radical empiricism, James gave an evolutionary explanation of why our experience is always intellectualized and categorized rather than remaining in its “pure” state of “immediate flux”:

The environment kills as well as sustains us The tendency of raw experience to extinguish the experient himself is lessened just in the degree in which the elements in it that have a practical bearing upon life are analyzed out of the continuum and verbally fixed and coupled together, so that we may know what is in the wind for us and get ready to react in time. (ERE 1905, 47)

Along similar lines, James argued in *Pragmatism* that our common sense categories “are discoveries of exceedingly remote ancestors, which have been able to preserve themselves throughout the experience of all subsequent time” (P 1907, 83). For instance, the idea of *kind* is merely a “colossally useful *denkmittel* [thought-aid],” which helps straighten “the tangle of our

experience's immediate flux" (P 1907, 87-88). The theories of both science and common sense, James declared, "are *instrumental*, are mental modes of *adaptation* to reality" (P 1907, 94).

This story about our knowledge of the world grew from James's earlier focus, in his critique of Spencer, on the importance of interest and attention: our sensations, said James, are "undoubtedly beyond our control; but *which* we attend to, note, and make emphatic in our conclusions depends on our own interests" (P 1907, 118). As in his ethics, James saw reality as fundamentally open. We could, James suggested, imagine an account of reality "which it proves impossible to better or alter," and view the permanence of this impossibility as constituting the truth of that account (P 1907, 120). But in the end what is primary is our own active role in shaping experience and reality: "We plunge forward into the field of fresh experience with the beliefs our ancestors and we have made already; these determine what we notice; what we notice determines what we do; what we do again determines what we experience" (P 1907, 122). According to James, this open-endedness was what distinguished pragmatism from its competitors: "for rationalism reality is ready-made and complete from all eternity, while for pragmatism it is still in the making" (P 1907, 123). Thus both pragmatism and radical empiricism embraced a kind of evolutionary metaphysics.

Conclusion

James developed as a thinker in the midst of discussions of evolution. Initially he was reluctant to embrace Darwin's ideas, but he seems to have done so by the late 1860s. He was greatly influenced by the evolutionary philosophy of Herbert Spencer, and spent most of the 1870s responding in one way or another to Spencer's views. Although James argued that Spencer neglected the importance of the active mind, he inherited the English philosopher's

organism-environment framework. Despite James's critique of Spencer's evolutionism, he ultimately developed his own evolutionary philosophy, pursuing an experimentalist approach to both knowledge and ethics that was grounded in his earlier psychology.

Works Cited

- Agassiz, Louis. 1863. *Methods of Study in Natural History*. Boston: Ticknor and Fields.
- Agassiz, Louis, and Elizabeth Cabot Agassiz. 1868. *A Journey in Brazil*. Boston: Ticknor and Fields.
- Annual Reports of the President and Treasurer of Harvard College, 1878-79*. 1880. Cambridge: John Wilson and Son.
- Appel, Toby A. 1988. "Jeffries Wyman, Philosophical Anatomy, and the Scientific Reception of Darwin in America." *Journal of the History of Biology* 21: 69-94.
- Bain, Alexander. 1855. *The Senses and the Intellect*. London: John W. Parker.
- Beck, Naomi. 2014. *La gauche évolutionniste. Spencer et ses lecteurs en France et en Italie*. Besançon: Presses universitaires de Franche-Comté.
- Becquemont, Daniel, and Laurent Mucchielli. 1998. *Le cas Spencer: Religion, science et politique*. Paris: Presses Universitaires de France.
- Bowen, Francis. 1860. "Darwin on the Origin of Species." *North American Review* 90: 474-506.
- Brady, Michael. 2013. "Evolution and the Transformation of American Philosophy." PhD, Southern Illinois University, Carbondale.
- Bromhall, Kyle. 2015. "James's Account of the Phenomena and Conditions of Action." PhD diss., University of Guelph.
- Calendar of the University of Michigan for 1885-86*. 1886. Ann Arbor: University of Michigan.
- Calendar of the University of Michigan for 1891-92*. 1892. Ann Arbor: University of Michigan.
- Carpenter, William B. 1874. *Principles of Mental Physiology*. New York: D. Appleton.
- Cope, Edward Drinker. 1871. "The Method of Creation of Organic Forms." *Proceedings of the American Philosophical Society* 12: 229-263.
- Croce, Paul Jerome. 1995. *Science and Religion in the Era of William James*. Vol. 1. Chapel Hill: University of North Carolina Press.
- . 2009. "A Mannered Memory and Teachable Moment: William James and the French Correspondent in the *Varieties*." *William James Studies* 4: 36-69.
- Darwin, Charles. 1859. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. London: John Murray.
- . 1868. *The Variation of Animals and Plants under Domestication*. 2 vols. London: J. Murray.

- Dewey, John. 1898. "Evolution and Ethics." *The Monist* 8: 321-341.
- . 1902. "The Evolutionary Method as Applied to Morality." *Philosophical Review* 11: 107-124, 353-371.
- Dunham, Jeremy. 2015. "Idealism, Pragmatism, and the Will to Believe: Charles Renouvier and William James." *British Journal for the History of Philosophy* 23: 756-778.
- Fiske, John. 1860. Letter to Jonathan Ebenezer Barnes. Papers of John Fiske (mssFK 1–1661), Box 2. Huntington Library.
- . 1874. *Outlines of Cosmic Philosophy, Based on the Doctrine of Evolution, with Criticisms on the Positive Philosophy*. 2 vols. London: Macmillan.
- Foucher, Louis. 1927. "Bibliographie chronologique de Charles Renouvier." In *La jeunesse de Renouvier et sa première philosophie (1815-1854)* I-XL. Paris: J. Vrin.
- Girel, Mathias. 2000. "James critique de Spencer: d'une autre source de la maxime pragmatiste." *Philosophie* 64: 69-90.
- . 2007. "A Chronicle of Pragmatism in France Before 1907. William James in Renouvier's *Critique Philosophique*." In *Fringes of Religious Experience: Cross-Perspectives on William James's The Varieties of Religious Experience*, edited by Sergio Franzese and Felicitas Kraemer, 169-199. Frankfurt: Ontos.
- Godfrey-Smith, Peter. 1996. *Complexity and the Function of Mind in Nature*. Cambridge: Cambridge University Press.
- Harvard University Catalogue, 1876–77*. 1876. Cambridge: Charles W. Sever.
- Harvard University Catalogue, 1879–80*. 1879. Cambridge: Charles W. Sever.
- Harvard University Catalogue, 1885–86*. 1885. Cambridge: Harvard University.
- Hatfield, Gary. 1992. *The Natural and the Normative: Theories of Spatial Perception from Kant to Helmholtz*. Cambridge: MIT Press.
- Helmholtz, Hermann. 1867. *Handbuch der physiologischen Optik*. Leipzig: Leopold Voss.
- Hickman, Larry A., ed. 1999–. *The Correspondence of John Dewey, 1871–1953*. 3 vols. Charlottesville, VA: IntelLex.
- Hodgson, Shadworth H. 1865. *Time and Space: A Metaphysical Essay*. London: Longman, Green, Longman, Roberts, and Green.
- . 1870. *The Theory of Practice: An Ethical Enquiry in Two Books*. 2 vols. London: Longmans, Green, Reader, and Dyer.

- Hofstadter, Richard. 1944. *Social Darwinism in American Thought, 1860-1915*. Philadelphia: University of Pennsylvania Press.
- Huxley, Thomas Henry. 1863. *Evidence as to Man's Place in Nature*. New York: D. Appleton.
- . 1864. *Lectures on the Elements of Comparative Anatomy: On the Classification of Animals and On the Vertebrate Skull*. London: John Churchill and Sons.
- Irmscher, Christoph. 1999. *The Poetics of Natural History: From John Bartram to William James*. New Brunswick, NJ: Rutgers University Press.
- James, William. 1868. Diary Entry (April 22). William James Papers (MS Am 1092.9), item 4550, vol. 1. Houghton Library, Harvard University.
- . 1870. Diary List of Books Read. William James Papers (MS Am 1092.9), item 4550, vol. 1. Houghton Library, Harvard University.
- Kant, Immanuel. 1998. *Critique of Pure Reason*. Translated by Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press.
- Klein, Alexander. 2013. "Who is in the Community of Inquiry?" *Transactions of the Charles S. Peirce Society* 49: 413-423.
- . 2016. "Was James Psychologistic?" *Journal for the History of Analytical Philosophy* 4, no. 5: 1-21.
- Kuklick, Bruce. 1977. *The Rise of American Philosophy: Cambridge, Massachusetts, 1860-1930*. New Haven: Yale University Press.
- Leary, David. 2015. "New Insights into William James's Personal Crisis in the Early 1870s." *William James Studies* 11: 1-45.
- Littré, Émile. 1863. *Auguste Comte et la philosophie positive*. Paris: Hachette.
- Lurie, Edward. 1960. *Louis Agassiz: A Life in Science*. Chicago: University of Chicago Press.
- Machado, Maria Helena P.T., ed. 2006. *Brazil through the Eyes of William James: Letters, Diaries, and Drawings, 1865-1866*. Cambridge: Harvard University Press.
- McGranahan, Lucas. 2012. "William James's Evolutionary Pragmatism: A Study in Physiology, Psychology, and Philosophy at the Close of the Nineteenth Century." PhD, University of California, Santa Cruz.
- . 2017. *Darwinism and Pragmatism: William James on Evolution and Self-Transformation*. New York: Routledge.
- Menand, Louis. 2001. *The Metaphysical Club*. New York: Farrar, Straus and Giroux.

- Mill, John Stuart. 1963. *The Earlier Letters of John Stuart Mill, 1812-1848*. Collected Works, vols. 12-13. Toronto: University of Toronto Press.
- . 1974. *A System of Logic Ratiocinative and Inductive, Being a Connected View of the Principles of Evidence and the Methods of Scientific Investigation*. Collected Works, vols. 7-8. Toronto: University of Toronto Press.
- Nelson, Clinton Eugene. 1977. "John Fiske's Harvard Lectures: A Case Study of Philosophical Lectures." PhD, University of Iowa.
- Pearce, Trevor. 2008. "Tonal Functions and Active Synthesis: Hugo Riemann, German Psychology, and Kantian Epistemology." *Intégral* 22: 81-116.
- . 2010. "From 'Circumstances' to 'Environment': Herbert Spencer and the Origins of the Idea of Organism-Environment Interaction." *Studies in History and Philosophy of Biological and Biomedical Sciences* 41: 241-252.
- . 2014. "The Origins and Development of the Idea of Organism-Environment Interaction." In *Entangled Life: Organism and Environment in the Biological and Social Sciences*, edited by Gillian Barker, Eric Desjardins and Trevor Pearce, 13-32. Dordrecht: Springer.
- . 2015. "'Science Organized': Positivism and the Metaphysical Club, 1865–1875." *Journal of the History of Ideas* 76: 441-465.
- . 2016. "Naturalism and Despair: George Herbert Mead and Evolution in the 1880s." In *The Timeliness of George Herbert Mead*, edited by Hans Joas and Daniel R. Huebner, 117-143. Chicago: University of Chicago Press.
- . 2017. "American Pragmatism, Evolution, and Ethics." In *The Cambridge Handbook of Evolutionary Ethics*, edited by Michael Ruse and Robert J. Richards, 43-57. Cambridge: Cambridge University Press.
- Perry, Ralph Barton. 1935. *The Thought and Character of William James*. 2 vols. Boston: Little, Brown.
- Pillon, François. 1872. "L'innéité selon M. Herbert Spencer." *Critique Philosophique* 1: 209-215.
- Priest, Greg. 2017. "Charles Darwin's Theory of Moral Sentiments: What Darwin's Ethics Really Owes to Adam Smith." *Journal of the History of Ideas* 78: 571-593.
- Proceedings of the American Academy of Arts and Sciences*. 1860. Vol. 4, May 1857 to May 1860. Boston: Welch, Bigelow.
- Renouvier, Charles. 1868. "De la philosophie de XIXe siècle en France." *L'Année Philosophique* 1: 1-108.

- . 1872. “[Review of Spencer, *Les premiers principes*, trans. Cazelles].” *Critique Philosophique* 1: 12-16.
- Richards, Robert J. 1987. *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*. Chicago: University of Chicago Press.
- Richardson, Robert D. 2006. *William James: In the Maelstrom of American Modernism*. Boston: Houghton Mifflin.
- Robinson, William. 2015. “Epiphenomenalism.” <http://plato.stanford.edu/archives/fall2015/entries/epiphenomenalism/>.
- Russett, Cynthia E. 1976. *Darwin in America: The Intellectual Response, 1865-1912*. San Francisco: W.H. Freeman.
- Shaw, Elizabeth C. 2010. “William James on Human Nature and Evolution.” PhD, Catholic University of America.
- Spencer, Herbert. 1862. *First Principles*. London: Williams and Norgate.
- . 1864. *The Principles of Biology*. Vol. 1. London: Williams and Norgate.
- . 1867. *The Principles of Biology*. Vol. 2. London: Williams and Norgate.
- . 1870. *The Principles of Psychology*. 2nd ed. Vol. 1. London: Williams and Norgate.
- . 1872. *The Principles of Psychology*. 2nd ed. Vol. 2. London: Williams and Norgate.
- . 1879. *The Data of Ethics*. London: Williams and Norgate.
- Viney, Donald Wayne. 1997. “William James on Free Will: The French Connection.” *History of Philosophy Quarterly* 14: 29-52.
- Wiener, Philip P. 1949. *Evolution and the Founders of Pragmatism*. Cambridge: Harvard University Press.
- Winsor, Mary P. 1991. *Reading the Shape of Nature: Comparative Zoology at the Agassiz Museum*. Chicago: University of Chicago Press.
- Wright, Chauncey. 1860. “The Economy and Symmetry of the Honey-Bees’ Cells.” *Mathematical Monthly* 2: 304-319.
- . 1865. “The Philosophy of Herbert Spencer.” *North American Review* 100: 423-476.
- . 1873. “Evolution of Self-Consciousness.” *North American Review* 116: 245-310.
- . 1875a. Letter to Grace Norton (July 12). Letters received by the Norton family (MS Am 1088.1), item 310. Houghton Library, Harvard University.

———. 1875b. Letter to Grace Norton (July 18). Letters received by the Norton family (MS Am 1088.1), item 311. Houghton Library, Harvard University.

———. 1878. *Letters of Chauncey Wright, with Some Account of His Life*. Cambridge, MA: John Wilson and Son.

Wundt, Wilhelm. 1874. *Grundzüge der physiologischen Psychologie*. Leipzig: Wilhelm Engelmann.