

## Naturalism and Despair: George Herbert Mead and Evolution in the 1880s

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### INTRODUCTION

“Never before in history has mankind been so much of two minds, so divided into two camps, as it is today”—the opening lines of John Dewey’s book *A Common Faith*, published in 1934. For those in the first of these camps, he continued, “nothing worthy of being called religious is possible apart from the supernatural”; for those in the second, “not only must historic religions be dismissed but with them everything of a religious nature.” Dewey attributed the divide at least in part to advances in “geology and biology,” and went on to argue for a compromise position: perhaps we could retain the “religious factors” of experience without the “irrelevant encumbrances” of supernatural commitments.<sup>1</sup>

Today the divide is still evident, especially around the idea of evolution. One prominent atheist biologist admits the existence of religious scientists but insists that “the incompatibility between science and faith is more fundamental: their ways of understanding the universe are irreconcilable.”<sup>2</sup> A third of Americans currently believe that “humans have existed in their present form since the beginning of time,” and they probably believe this not because they are scientifically illiterate but because of the unavoidable “cultural meaning” of evolution.<sup>3</sup> Thus it is perhaps not surprising that Philip Kitcher—a philosopher of science—has recently tried to revive Dewey’s compromise approach, rejecting the supernatural but arguing that secularists need to do a better job at giving our lives “purpose and significance.”<sup>4</sup>

Dewey detailed a variety of causes of what he called “the conflict of science and religion,” including evolutionary accounts of life: “Geological discoveries have displaced creation myths which once bulked large. Biol-

ogy has revolutionized conceptions of soul and mind which once occupied a central place in religious beliefs and ideas."<sup>5</sup> Historians of science have by now put to rest the idea—invented in the late nineteenth century—of a perennial and unavoidable conflict between religion and science.<sup>6</sup> But it is undeniable that the religious beliefs of many were shaken by the ideas of Charles Darwin, Herbert Spencer, and others. George Herbert Mead, a friend and colleague of Dewey, is one notable example. By the end of his career, Mead was arguing—as would Dewey—that an evolutionary worldview was consistent with the preservation of human values and ideals. Yet in college and for several years afterwards, Mead struggled with depression brought on by agnosticism, in turn produced by his reaction to modern science.

This chapter examines Mead's encounter with evolution in the 1880s, demonstrating that evolutionary ideas could have a devastating effect if they were interpreted as threatening life's meaning. I argue that Mead could not fully embrace the evolutionary perspective that characterized his mature philosophy until the work of Josiah Royce and Hermann Lotze showed him that evolution and science were compatible with significance and purpose. Mead's own trajectory suggests that Dewey and Kitcher are right: we should not assume "that correction of belief about the occupants of the cosmos can automatically be articulated into a satisfying vision of what is valuable in one's life."<sup>7</sup>

In the first section of the chapter, I demonstrate that debates in biology were a part of Mead's undergraduate education at Oberlin College from 1879 to 1883. I then outline how modern scientific ideas were involved in Mead's struggle with agnosticism during the mid-1880s, including a minor obsession with criticizing the argument from design. Finally, in the last section of the chapter, I argue that Mead's course on the philosophy of nature with Royce at Harvard and his reading of Lotze's book *Microcosmus* in Germany allowed him to reconcile the notion of evolution with his idealist and spiritual tendencies. I conclude by briefly examining Mead's mature account of religion and values.

### EVOLUTION AT OBERLIN, 1879–83

In 1869, when George Herbert Mead was six years old, his father—Hiram Mead—took up a position as Professor of Sacred Rhetoric at Oberlin College in Ohio. George attended the Classical School in the university's Department of Preparatory Instruction from 1875 to 1879 before beginning his four-year undergraduate degree in the autumn of 1879.<sup>8</sup> By the late

1870s, evolution and natural selection were being discussed everywhere: open up any book, magazine, or newspaper in this period and you were likely to find a reference to or an extended discussion of the ideas of Darwin, Spencer, Thomas Henry Huxley, and others. I will show in this section that Mead encountered these ideas in his textbooks, his classes, and his extracurricular activities at Oberlin.

The curriculum at Oberlin was similar to that of other American colleges at the time. Everyone in a given cohort took the same classes, which for Mead—over four years—included classical and modern literature (Greek, Latin, English, French, German), History, Economics, Logic, Rhetoric, Mathematics, Physics, Astronomy, Engineering, Chemistry, Physiology, Botany, Zoology, Mineralogy, Geology, Psychology, Ethics, Art, The Bible, and Evidences of Religion. Mead's textbooks for botany in 1881 were Asa Gray's *Manual of the Botany of the Northern United States* and *Lessons in Botany and Vegetable Physiology*, both of which went through many editions.<sup>9</sup> The *Manual* described and classified plants, whereas the *Lessons* discussed their development and structure. Although Gray was an early defender of Darwin's theory, he did not discuss evolution in these books. A likely reason for this absence is that the early editions of these texts were published before the *Origin of Species*. Thus both the 1857 and 1875 editions of the *Lessons* contain the following declaration: "the Creator established a definite number of species at the beginning."<sup>10</sup>

In zoology and geology, however, which Mead took in the spring and fall of 1882, evolution did play a major role. His teacher for these two classes, Albert Allen Wright, embraced evolution and did not see any conflict between evolution and religion. Wright was primarily a geologist. He published little, but his various unpublished writings illustrate his evolutionary views. An obituary recalled that, because of his training at both the Union Theological Seminary and the Columbia School of Mines, Wright was frequently "called upon by ministerial associations to address them upon the scientific evidences of Evolution and the bearing of its conclusions upon Biblical interpretation and Christian faith."<sup>11</sup> His endorsement of evolution was unambiguous: in a lecture on Charles Darwin at Oberlin in the autumn of 1882, he praised Darwin's "inductive method" of developing theories from a great number of facts, and spoke of the "almost universal acceptance . . . by working naturalists" of Darwin's theories. As mentioned, Wright's account of evolution did not include a rejection of religion: he lamented Darwin's inclination toward deism but agreed with his view that religious opinion and scientific knowledge "are not at all necessarily connected to each other."<sup>12</sup> This latter point was emphasized in an

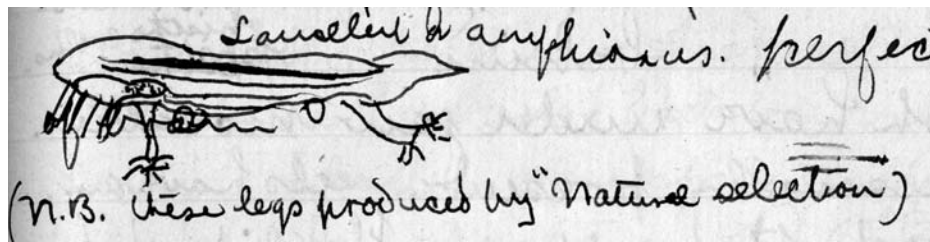
editorial of the *Oberlin Review*, the university newspaper edited by Mead's friend Henry Castle, assisted by Mead himself. The editors reported that

the lecture given some weeks ago on Charles Darwin has impressed us more favorably than any. It is pleasing to observe how rapidly the religious craze against evolutionary theories is dying out, and theologians are beginning to discover that science may not after all be their most deadly foe.<sup>13</sup>

The previous year, in the first of Mead's two classes on the evidences of religion (titled Answer to Modern Forms of Skepticism), it had been pointed out by the instructor that the "various theories of Evolution do not explain the Universe without a God. Evolution is not a substitute for Creation but only a different mode of Creation + is not necessarily Atheistic."<sup>14</sup> Thus Mead was introduced to the idea that evolution and religion need not be opposed to one another at Oberlin, although as we will see later, this did not prevent his slide into agnosticism.

Mead's zoology class definitely covered the topic of evolution, as confirmed by notes taken by Mead's friend Castle (Castle and Mead were in the same cohort, and attended the same classes).<sup>15</sup> For example, Wright presented Herbert Spencer's law of evolution as well as Ernst Haeckel's biogenetic law at the outset of his lectures: "Simple precedes [*sic*] complex[,] or homogeneous by differentiation becomes heterogeneous. . . . Progress in zoology leads us to think there is great correspondence between ontog. of animal + phyl. of race to which it belongs."<sup>16</sup> That the students were familiar with concepts like natural selection is proved by a humorous sketch of a normally legless primitive chordate in Castle's notebook (Figure 6.1). The parenthetical under the sketch reads "(N.B. These legs produced by 'natural selection')." <sup>17</sup> Hence Wright introduced Mead to evolutionary ideas in his zoology lectures.

Figure 6.1. Castle's Drawing of Amphioxus



The textbooks that Wright assigned in zoology and geology also discussed evolution. The zoology book was Henry Alleyne Nicholson's *Manual of Zoology*. In a section titled Origin of Species, Nicholson stated that naturalists were divided on the subject but then outlined Darwin's account of "the development of species by variation and natural selection."<sup>18</sup> For geology, Mead was assigned Joseph LeConte's *Elements of Geology*, which made evolution its organizing principle. LeConte defined geology itself as "the *history of the evolution of the earth and its inhabitants*," though he did not explicitly discuss the origin of species.<sup>19</sup>

Although these different discussions of evolutionary ideas were in agreement that evolution had happened, they disagreed about its causes. For example, although Nicholson described Darwin's theory of natural selection in detail, he also mentioned Lamarck's view, in which "the means of modification" are "the action of external physical agencies, the interbreeding of already existing forms, and the effects of habit." Following the Duke of Argyll among others, Mead's teacher Wright insisted that "[natural selection] is merely a preserving force and not an originating force." As LeConte—author of Mead's geology textbook—summarized the situation in 1878,

there may be, and in fact there is, much difference of opinion as to the *causes* or *factors* of evolution . . . but of the *fact* of progressive movement of the whole organic kingdom to higher and higher conditions . . . there is no longer any doubt.<sup>20</sup>

Thus Mead's various sources reflected a debate over how evolution actually worked—a debate that would become even more heated in the 1890s.<sup>21</sup>

Although we know little about Mead's personal reading at college, the interests of his close friend Henry Castle show that evolution, psychology, and materialism were attractive topics for philosophically minded students at the time. Castle boasted to his family in 1882 of reading Darwin's *On the Origin of Species*, Carpenter's *Principles of Mental Physiology*, Bain's *Mind and Body*, and Lange's *History of Materialism* as well as works by Huxley, LeConte, Ernst Haeckel, and George Henry Lewes.<sup>22</sup> Mead and Castle were sometimes taught Rhetoric by their philosophy professor John Millot Ellis, which explains why Castle's senior assignment in the latter class was, as he told his parents, "to present the argument of materialism as fairly, as fully, and as strongly as I can." In his essay, Castle—like Spencer and Huxley—argued against claims of a gap between life and non-life, or between lower and higher forms of life: "Life became

self conscious by steps as slow as those of the dawn when its light faintly illuminates the eastern skies." Nevertheless, he reassured his parents,

I shall never be a materialist. I have a comfortable door open, just like Huxley. Only my door is not that of wretched agnosticism. I can always take refuge in Idealism, and say that we know nothing of matter except through the agency of mind, so that instead of saying that there is nothing but matter, I shall say that there is nothing but mind.<sup>23</sup>

This door was not open to all: as I describe below, these choices of materialism, agnosticism, and idealism would haunt Mead for the rest of the 1880s.

Mead was thus introduced to biological and evolutionary ideas along many avenues during his college years. His natural history teacher, Albert Allen Wright, favored evolutionary explanations of organic life; his zoology textbook discussed different accounts of the origin of species; and his close friend Castle's personal reading and school projects focused on contemporary debates over physiological psychology, materialism, and the implications of evolutionary views for religion and philosophy. As he read more and more philosophy in the 1880s, Mead constantly felt the tension between empiricism and spiritual life, directly linked to discussions of evolution by Spencer and others. This tension is the topic of the next section.

### AGNOSTICISM AND EVOLUTION, 1883–87

After graduating from Oberlin, Mead spent four years teaching and tutoring, living for most of that time in Minneapolis. This period was filled with what his biographer calls "a great deal of soul searching about a possible mission in life."<sup>24</sup> In this part of the chapter, I will show that this soul searching was in part a result of Mead's loss of faith in the face of evolution and modern science. He analyzed and rejected religious counterarguments, such as the doctrine of design, and his general attitude remained one of doubt and agnosticism.

Like many college graduates, Mead did not know what to do with his life. In a letter to Castle written the year after graduation, he lamented, "I have to[o] feminine a nature to ever become a philosopher. My sentiments . . . are too large a part of my life to admit of that mental abstraction which becomes a lover of truth." He thought his sentimentality better suited him to missionary work, but this was not possible because of

his loss of faith.<sup>25</sup> In another letter he picked up the same theme: “perhaps I am utterly wrong in my doubts and they are only supertuges [*sic*] and I long to throw them all aside and leap with my eyes shut and heart open in Christian work. But I cannot do that.”<sup>26</sup> Back in Oberlin a few weeks later, he moaned, “I am wallowing in the depths of Agnosticism.” He raised his doubts with James Harris Fairchild, Oberlin’s president and ethics teacher:

I mentioned [to Fairchild] the fact that I saw no reason why the mind might not be a material evolution[,] a later quality of matter. He wanted me to start with the mind a la Spencer. He said that we knew the mind only at first and the not me we know only in its resistance to me, but what this resistance was we could not know and no one could disprove that this external not me was the will of God giving certain qualities of resistance to [illegible] in Space.<sup>27</sup>

Thus at least one source of Mead’s agnosticism was the materialist-evolutionary account of the mind provided by philosophers like Spencer, an account that apparently left no room for spirit. Despite Fairchild’s reassurance, Mead continued to doubt: “My creed is dark and agnostic.”<sup>28</sup>

Mead’s agnosticism seemed to foreclose several life paths. One option was to “get out and work for men’s souls,” which might be possible “even if not very confident in belief.” This path would, of course, be more difficult for a person without faith. The other option was metaphysics, but Mead worried that the essential work of bringing philosophy to the public would be impossible “for an Agnostic who did not believe in the Freedom of the Will or even in a Personal God.”<sup>29</sup>

Nevertheless, Mead was at least interested “in popularizing metaphysics among the common people,” and mentions in this context Alexander Wilford Hall’s newspaper *The Microcosm*.<sup>30</sup> Mead thought Hall’s philosophy ridiculous, but this newspaper—“devoted to the discoveries, theories, and investigations of modern science, and their bearings upon the religious thought of the age”—does give a sense of what troubled Mead. Most contributors to *The Microcosm*, like its editor, saw a clear conflict between evolutionary ideas on the one hand and religion and morality on the other. For example, Fletcher Hamlin was worried that evolution led to skepticism:

Who has not observed that multitudes of the young men of America are being unsettled in their theological views by the fact that some so-called great men are skeptics? We must all admit that “No man

who thoroughly accepts a principle in the philosophy of Nature which he feels to be inconsistent with a doctrine of religion, can help having his belief in that doctrine shaken and undermined." Now that the Doctrines of Development [i.e., Evolution] and spontaneous generation have this tendency is evident not only from the rejoicing of infidelity at their first announcement, and the clearly logical argument of Haeckel based upon them in favor of Atheism, but also from the almost universal skepticism which immediately follows the espousal of any type of either theory.

Even those who grudgingly accepted some of the facts of evolution, such as Allan Conant Ferrin, worried about its implications for faith: "Darwin has been in natural science what Kant was in mental science. He destroyed dogmatism by introducing a critical study of Nature; but by confining himself too strictly to physical phenomena, and by confounding the physical with the spiritual, he ran into agnosticism." Mead had been unsettled in just this way; he had, like Darwin, run into agnosticism.<sup>31</sup>

Around this time, Mead became very interested in the argument from design, perhaps as a possible counter to evolution. He wrote to Castle,

I am going [to] thoroughly canvass the subject of the doctrine of Design and the subject of Induction in connection with it. I have glanced into the book, and though some places strike me as superficial still I think that it will be a good one upon the subject. I shall read [Darwin's] the *Descent of Man* some of Haeck[el] and [John] Fisk[e] in connection, and so get both sides.<sup>32</sup>

"The book" was Paul Janet's *Final Causes*, which Mead discussed in another long letter about the design argument.<sup>33</sup> Janet began his book by discussing what he called the principle of induction: "any constant repetition of phenomena must have a constant and determinate cause, and cannot be the effect of chance." He then claimed that in some cases—namely, those in which the combination of phenomena is "determined relatively to a future phenomenon more or less remote"—we need to invoke a final cause in addition to the efficient cause. His initial examples were those of human design—stone tools, statues—but he pointed out that exquisitely adapted organs such as eyes and wings also have this feature. We can thus draw an analogy between "the industry of man and the industry of nature," and view both as involving a final cause. He considered at length the doctrine of evolution and the work of Darwin and Spencer as possible mechanistic



alternatives but dismissed such views as imagining "successive gropings attempted by nature, until favorable circumstances brought about such a throw of the dice as is called an organization made to live." The design argument was completed in the second half of the book, in which Janet argued that the "first cause of finality" in nature is God.<sup>34</sup>

Mead announced to Castle that he was "especially disgusted" with Janet, and reiterated the weaknesses of the argument from design in a series of letters between June 1884 and April 1886.<sup>35</sup> Mead summed up the strategy of the design argument as follows:

There is no valid argument from design which is not composed of the two element[s], the one which removes the possibility or probability of the action of other causes and another which shows the likelihood of the action of the given cause. In the hackneyed example of the loaded dice we first prove that the forces of nature did not produce the succession of falls of double sixes by an argument from difference and then we prove the likelihood of the action of human intellect in the case.

Thus, the argument has to show (1) that the result is not simply due to chance and (2) that intelligent involvement is likely. Transferring this to the case of organisms and examining the first element, "the matter to be proved is that a blind force cannot produce adaptation[;] . . . but this is precisely what we do not know." We know that chance does not produce certain adaptations (e.g., "throwing up the alphabet" and having it "come down in the *Iliad*"), but this does not imply that it cannot produce any. Thus we are left "in perfect agnosticism upon the subject for who knows what blind force by itself can do." The second element of the argument is just as difficult, since, apart from their adaptedness, nature's products are actually quite different from those of our design.<sup>36</sup> As he joked to Castle, Mead rejected "such weak simple reasonings such barefaced fallacies such trifling with logics such impotent graspings at truth such biased mental cross eyed ness . . . such gross idiocy."<sup>37</sup>

Mead was aware of the conflict between evolution and design, though he did not simply endorse the former against the latter. For example, he wrote to Castle,

I do not think I should agree with . . . you in your seeming admission that the verdict of modern science is in favor of a complete evolution of the highest form of animal life upon the globe from the lowest. If I am not mistaken there are great and systematic gaps which the best sci-

entists today say we have absolutely no evidence for thinking bridged over.<sup>38</sup>

Despite these doubts, Mead thought that evolution—if true—would destroy the doctrine of design. Returning to the question of why nature cannot produce a succession of double-sixes, he asked,

but what bearing does such an example have upon what nature can accomplish under the actions of countless ages by imperceptible changes. If this analysis of the argument is correct no mere presence of adaptation indicates design. Design can only come as a [illegible] cause assigned to an effect [for] which natural forces alone have been proved insufficient. So I see no escape for the argument from design if evolution can be once established as a universal principle in nature.<sup>39</sup>

Hence although Mead's criticisms of the argument from design did not depend on an endorsement of evolution or natural selection, he saw quite clearly that the truth of evolution would further undermine the argument.

Mead's reading of philosophy, like his musings on design, seemed only to increase his agnostic depression. For instance, writing of Kant, he complained, "now Henry I have got to analyze a good more acutely if I am to see any escape from agnosticism in this. I must sit on the dunce's stool with poor striped [Francis] Bowen because to me Kant's system induces the blackest kind of skepticism."<sup>40</sup> Mead's letters are indeed black in this period: "I am disgusted with life," he wrote; "I cannot literally find a motive sufficient to inspire activity."<sup>41</sup> In the late spring of 1887, however, he seems to have turned a corner: "I cannot extinguish the hope and expectation that under the appropriate circumstances I could blossom out."<sup>42</sup> As I recount in the next section, the appropriate circumstances would turn out to be a year at Harvard's philosophy department with "poor striped Bowen" and company.

As demonstrated by his conversation with Fairchild, quoted above, Mead's agnosticism in this period stemmed in part from mechanistic or evolutionary accounts of the human mind. Modern scientific ideas seemed to threaten certain spiritual beliefs—in a personal God or in freedom of the will, to take Mead's own examples. He was explicitly critical of the argument from design, directed against evolution by Paul Janet and others. As we will see, it would take exposure to new forms of philosophy to show Mead that evolutionary ideas need not undermine more traditional models of human life.

## EVOLUTION AND PHILOSOPHY, 1887–91

Even before he arrived at Harvard in the fall of 1887, Mead was aware of two separate lines of recent philosophical thought—idealism and the new psychology:

There is a larger outlook to healthful philosophical life now that the philosophical work is dominated by these two balancing influences[;] the idealism that has come from Kant to us and the scientific spirit of modern psychology. The one enables a man to cut loose from the world and the things of the world[;] the other [illegible] the class of philosophers as a whole necessarily including many practical matter of fact minds from wasting themselves upon to them meaningless formulae.

According to Mead, this new psychology had clearly superseded the mental philosophy derived from Scottish realism still taught in many of the nation's colleges: "All the practical elements which this philosophy relies upon have gone now to Scientific Psychology."<sup>43</sup> I argue in this section that these "two balancing influences" of idealism and psychology, which formed Mead's academic interests at Harvard and in Germany, allowed him to reconcile evolution and the human spirit.

Despite Mead's apparent excitement about psychology, Mead did not take any courses with William James—the psychology specialist in Harvard's philosophy department.<sup>44</sup> Listed as a Harvard senior despite his Oberlin BA, he took Philosophy 4: Ethics with George Herbert Palmer; Philosophy 13: Monism and the Theory of Evolution in their Relation to the Philosophy of Nature with Josiah Royce; Greek 8: Plato (Republic)—Aristotle (Ethics, Books I–IV and X.) with William Watson Goodwin; Greek 11: Introduction to the Critical Study of Homer, with Interpretation of a portion of the Iliad with Frederic de Forest Allen; and perhaps also Philosophy 6: Earlier French Philosophy, from Descartes to Leibnitz, and German Philosophy from Kant to Hegel with Francis Bowen.<sup>45</sup>

During his 1887–88 year at Harvard, Mead was most influenced by the teaching of Royce.<sup>46</sup> Like Mead, Royce had been exposed to evolutionary ideas in college, having taken classes with Joseph LeConte—author of Mead's college geology textbook—at the University of California. LeConte, according to a later essay of Royce, succeeded in showing that the doctrine of evolution "was not only reconcilable with, but an aid in, the interpretation of the world of man's spiritual nature."<sup>47</sup> Likewise, Royce's class on the philosophy of nature dealt with precisely that conflict between science

and the human spirit that had concerned Mead over the past several years: as Royce put it, "the main problem of this course is in fact the relation between the postulates of the scientific explanation of nature, and . . . [the] ethical interpretation of the external world."<sup>48</sup> Students were assigned Baruch Spinoza's *Ethics* and Spencer's *First Principles*. The reason for this strange pairing is that the class was built around a comparison of seventeenth- and nineteenth-century philosophies of nature. The seventeenth century was characterized by a commitment to "the substantial, objective, mathematically perfect unity of nature," a view Royce attributed to both Spinoza's philosophy and the "new mechanical science" that culminated in the deterministic "world-formula" of Pierre-Simon Laplace. The nineteenth century, in contrast, was obsessed with history and the notion of evolution, most recently represented by the work of Darwin and Spencer.<sup>49</sup>

In his lecture notes for the previous year's version of the class, Royce argued that the "modern period" was characterized by a tension between these two philosophies of nature: on the one hand, "the clear formulation of universal mechanical postulates in the great doctrine of the Conservation of Energy"; on the other, "the accompanying growth of the historical sense & the tendency to explain by the origins," grandly summarized in the "Doctrine of Evolution." He described the tension between the two views as follows:

Is nature a mechanical sum total of energy, whose forms vary with conditions? If so, evolution is an inessential fact, & the mechanical view returns upon our hands, apparently in 17th century form. If however, evolution is not only here & there a fact, but a deep & essential fact, we seem to have found out what saves the spiritual element in things up to a certain point, although it does not solve all our problems, and does not satisfy all our interests. Yet how reconcile the *significance* of evolution with the mechanical order of the world?

Discovering a deeper synthesis of the historical and mechanical, said Royce, was the problem of the course.<sup>50</sup>

Royce's notes do not specify his solution, but in an 1889 essay on the same topic, he claimed that the belief that there is "any genuine historical element" in the universe implies the existence of spontaneity and ideals that really act in the world. Hence,

those who have believed that the spirit of the doctrine of Evolution removed teleology from the world have failed to see that the presup-

position of our historical age, ever since Rousseau and the Romantic period, has been that teleological explanations *have* their place, that history is worth studying for its own sake, and that the story of the significant ideals must form a part of every philosophical view of the world.

Having made this point, Royce was able to argue that modern psychology presupposed a paradoxical double self: "The psychical facts must be caused; the psychical facts must be significant. As significant, they are teleological; as caused, they have no significance." Royce concluded by turning to Kant and Hegel's idealism, suggesting that mechanism and teleology—real causes and ideal significance—could be reconciled if seen as existing "in and for a Universal Conscious Life, which is the world, and owns the world, and makes and solves its own infinite paradoxes."<sup>51</sup>

These views about the idea of evolution presumably appealed to Mead because they spoke directly to his concerns about the agnostic outlook of modern science. Mead had learned from periodicals such as *The Microcosm* that evolutionism was opposed to spirit and spontaneity; Royce's argument turned the tables, claiming instead that history and evolution opened a space for teleology in an apparently mechanistic world. The argument also had the added benefit of showing that Spencer's account of the mind, supposedly both mechanistic and evolutionary, was incoherent. Mead's admiration of Royce is reflected in the idealist bent of his honors exam topic: his thesis asked, "How large a share has the subject in the object world?" and was based on T. H. Green's *Prolegomena to Ethics* (Green was a well-known critic of Spencer's evolutionary empiricism).<sup>52</sup> Royce had by this time left Harvard due to a nervous breakdown in February 1888.<sup>53</sup> After his exams, Mead was pessimistic about the future of a Harvard without Royce: "If Royce should not come back, it would be a sorry place to study Philosophy in. Then would there be absolutely nobody but James left of any consequence."<sup>54</sup>

James, who did not have Mead in any classes but was impressed with his performance during the honors exam, asked the young scholar to teach his son Harry during the summer of 1888. Writing to his wife Alice, James declared, "have just engaged a tutor—not a naturalist, unfortunately, but a very promising young metaphysician, just the style of thing for Margaret [Alice's sister] to fall in love with. His name is Mead."<sup>55</sup> James was prescient: Mead and Margaret Gibbens did become romantically involved, and things seem not to have ended well. Despite this embarrassment, James developed a respect for Mead that summer, and encouraged him to

study abroad in Europe.<sup>56</sup> Thus Mead went to Germany to study philosophy and psychology—first to Leipzig and then to Berlin.

In Germany, Mead continued to focus on the relationship between evolution and modern science on the one hand, and philosophy, religion, and ethics on the other; he also began to learn more about experimental psychology. Mead enrolled at the University of Leipzig for the 1888–89 semester. Though he did not study psychology with Wilhelm Wundt, he did attend his Fundamentals of Metaphysics class.<sup>57</sup> Wundt's metaphysics, which sought to unify the results of the empirical sciences, was outlined in his *System of Philosophy*, published while Mead was in Leipzig. This book contained an extensive discussion of "Biological Problems," including that of evolution, as Wundt believed that metaphysics could not ignore developments in the life sciences.<sup>58</sup> Mead also took The Relationship of German Philosophy to Christianity since Kant with Rudolf Seydel. Like Royce, Seydel was interested in the relation between idealism and evolution. His collection *Religion and Science*, for example, contained essays such as "Against Materialism" and "Toward Reconciliation with Darwinism." In the latter piece, Seydel discussed the relationship between Darwinism and "religious and spiritual beliefs of an idealistic persuasion," arguing that theology and philosophy could work together with Darwinism and natural science.<sup>59</sup> Thus the topics treated in Mead's classes at Leipzig were not so different from those he encountered at Harvard.

At Berlin, Mead persisted with philosophy, but he also started work in experimental psychology. According to Castle, Mead had decided to pursue physiological psychology

because in America, where poor, bated, unhappy Christianity, trembling for its life, claps the gag into the mouth of Free Thought, and says "Hush, hush, not a word, or nobody will believe me any more," he thinks it would be hard for him to get a chance to utter any ultimate philosophical opinions savoring of independence. In Physiological Psychology, on the other hand, he has a harmless territory in which he can work quietly without drawing down upon himself the anathema and excommunication of all-potent Evangelicalism.<sup>60</sup>

Berlin was a crash-course in the life sciences for Mead: anatomy with Wilhelm Waldeyer, physiology with Hermann Munk, and psychology with Hermann Ebbinghaus. Each of these scientists studied some aspect of human biology: Waldeyer specialized in the comparative anatomy of pri-

mates; Munk focused on the physiology of the brain and nervous system; and Ebbinghaus was a psychologist, author of *On Memory: Investigations in Experimental Psychology*.<sup>61</sup> Although the exact content of Mead's science classes is unknown, he was obviously getting a thorough education in physiological psychology, possibly even supplementing his courses by reading from the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, founded by Ebbinghaus in 1890.<sup>62</sup>

Mead's most important philosophy teachers in Berlin were Friedrich Paulsen and Wilhelm Dilthey, both of whom discussed the relation between evolution and philosophy. Paulsen taught several classes, including *History of More Recent Modern Philosophy, with Consideration of Culture in its Entirety*, which probably dealt at least in part with the theory of evolution.<sup>63</sup> In his *Introduction to Philosophy*, published a few years later, Paulsen devoted several sections to organic and mental evolution, following Wundt in arguing that evolution could not be completely mechanistic, as it presupposed the will to survive as well as coordinated variation in definite directions.<sup>64</sup> Dilthey, under whom Mead planned to write his dissertation, gave his first ever Ethics class with Mead in attendance. These lectures were built around the idea of evolution and culminated in a discussion of *The Evolution of Morals and the Principles of Social Ethics*. Early in the class, Dilthey sketched "the situation of the present time" as follows:

The advancement of the natural-scientific mind has led to the conception of man as an animal being, who through the engines that lie in him and his environment [*Milieu*], has attained the highest level of adaptation by means of his intelligence and his moral habits. The evolution via natural selection, heredity, [and] adaptation of the psychophysical unity of life have become the core principles of a modern biology, to which the historical realm subordinates itself.

He even spoke of "the adaptation between the individual and his environment" as directly relevant to ethics. Thus in Dilthey's lectures, Mead encountered the idea of organism-environment interaction—an idea he would rediscover at Michigan in Dewey's ethical philosophy.<sup>65</sup>

But the most congenial view of the relationship between modern science and the human spirit that Mead found in Berlin was that of Hermann Lotze, who had died there in 1881 shortly after taking up a position at the university. Lotze's book *Microcosmus: An Essay Concerning Man and his Relation to the World* prompted praise from the young American: "You

have the Microcosmus, haven't you—It is easy reading and very attractive and uplifting." Lotze's book, according to Mead, was "evidently the outspoken of a very religious nature that is yet profoundly philosophy."<sup>66</sup> Although Lotze had a medical degree and had written books on psychology, his philosophy also emphasized the importance of human needs and values. The introduction to the *Microcosmus* was thus constructed around the conflict "between spiritual needs [*Bedürfnissen des Gemüthes*] and the results of human science," or in other words between "the Philosophy of the Feelings [*Weltansicht des Gemüthes*]" and "the mechanical view of Nature."<sup>67</sup> The introduction ends with the following famous declaration, referred to by Dewey as the "oft-quoted words of Lotze":

It is in such mediation [between extreme views] alone that the true source of the life of science is to be found; not indeed in admitting now a fragment of the one view and now a fragment of the other, but in showing how *absolutely universal is the extent* and at the same time how *completely subordinate the significance, of the mission which mechanism has to fulfill in the structure of the world.*<sup>68</sup>

Thus Lotze, like Royce, emphasized the importance of significance and values in the world—significance that could not be brought under the rubric of mechanistic science. Mead picked up on the mediation in Lotze's approach: "[Lotze's] power of combining the speculative and the scientific are all qualities which make him more valuable for practical thinking along speculative lines than any other man I know of."<sup>69</sup>

Mead's only complaint about Lotze was that he "underestimates Evolution very decidedly—development—both in point of fact, and in point of metaphysical importance."<sup>70</sup> Thus, by his final year in Berlin, Mead had not only moved away from his agnostic despair with the help of teachers like Royce, Dilthey, and Lotze but had also become convinced of the metaphysical importance of evolution. Modern science and the theory of evolution, rather than simply leading to skepticism and materialism, could be absorbed into a broader philosophy of the human spirit that emphasized the value and significance of our existence.

## CONCLUSION

Throughout the 1880s—at Oberlin, in letters to Castle, at Harvard, and in Germany—Mead was involved with debates prompted by the rise of evolutionary thinking. In Royce and Lotze, Mead found models for the recon-



ciliation of evolutionary science and traditional notions of what it meant to be human. These models, I have suggested, helped him see evolution as important to philosophy and not just as a gateway to agnosticism.

When Mead arrived at Michigan in 1891—where Dewey was the newly installed chair of Philosophy—he put his biological knowledge to good use, teaching courses not only in physiological psychology but also in the Philosophy of Evolution.<sup>71</sup> The only lecture notes that we have from Mead's courses at Michigan—for Philosophy 9: Special Topics in Psychology in the autumn of 1893—reveal that by that time he had already embraced, at least in psychology, what I have elsewhere called organism-environment thinking.<sup>72</sup> Echoing Spencer, Mead claimed that “the animal looked at from the standpoint of evolution is an increase or decrease of environment.” Mead also defined psychological concepts in relation to the notion of an environment: “In general as far as the environment acts on the organism directly it is *attention*. The reaction of the organism upon the environment is memory.” Thus in the early 1890s, as Dewey was beginning to apply the organism-environment framework in ethics, Mead was applying it in psychology.<sup>73</sup> Mead was surely influenced by Dewey, his friend and department chair at Michigan and Chicago. But as we have seen, Mead's biological education was independent of Dewey's, and was much more thorough as well. Having studied anatomy, physiology, and psychology in Berlin, Mead was likely teaching biology to Dewey in the early 1890s rather than the other way around.<sup>74</sup>

Dewey and Mead continued to influence one another as their careers moved forward. Both presented naturalistic accounts of ethics in the early 1900s, emphasizing the relation between organism and environment. They adopted a functionalist perspective: moral rules and ethical systems start out as attempts to deal with concrete problems, and should continue to prove their worth in this way.<sup>75</sup> In 1923, Mead developed an account of religion along similar naturalistic lines, which may have influenced Dewey's better-known *A Common Faith* (quoted in the introduction). Mead drew a distinction between “cult values,” preserved by long tradition, and “functional values,” preserved because of their usefulness in addressing present problems:

An institution should arise and be kept alive by its own function, but in so far as it does not function, the ideal of it can be kept alive only by some cult, whose aim is not the functioning of the institution, but the continued presence of the idea of it in the minds of those that cherish it. The church is the outstanding illustration of such an institution.

Mead claimed that intelligent social policy was constantly frustrated by cult values, which were often connected to religious traditions. He gave the example of criminal justice: if we could focus on the functional value of crime prevention, social science could help; instead, we are obsessed with the cult value of "public reprobation of crime" or "public vengeance upon the criminal." Mead's analysis could have led him to abandon religion and tradition. But like Dewey a decade later, he insisted that the rejection of certain aspects of religion did not mean we had to give up any sense of unified purpose and value in life. Even though Mead argued that in cases where cult values related to concrete problems, they should be superseded by functional values, he still saw the former as "the most precious part of social heritage."<sup>76</sup>

Mead's mature view of religion was thus naturalistic but it followed Royce and Lotze in claiming that science and significance are compatible: an evolutionary worldview need not lead to despair. As described in the introduction, Philip Kitcher has recently argued that "Darwinian atheism" often neglects the more practical aspects of religion, namely, "complexes of psychological attitudes (aspirations, intentions, and emotions) among their adherents, forms of social organization, rituals, and forms of joint behavior."<sup>77</sup> Although Kitcher cites Dewey as offering a richer view, he could just as well have pointed to Mead's open-ended vision of human existence:

It is a great secular adventure, that has reached some measure of success, but is still far from accomplished. The important character of this adventure is that society gets ahead, not by fastening its vision upon a clearly outlined distant goal, but by bringing about the immediate adjustment of itself to its surroundings, which the immediate problem demands. It is the only way in which it can proceed, for with every adjustment the environment has changed, and the society and its individuals have changed in like degree. By its own struggles with its insistent difficulties, the human mind is constantly emerging from one chrysalis after another into constantly new worlds which it could not possibly prewise.<sup>78</sup>

For Mead, the scientific attitude did not mean a life without ideals. It was a "secular adventure"—a life with purpose, even if that purpose was forever changing.

## NOTES

1. John Dewey, *A Common Faith* (New Haven: Yale University Press, 1934), 1, 27, 29.
2. Jerry A. Coyne, "Science and Religion Aren't Friends," *USA Today*, October 10, 2010, [http://usatoday30.usatoday.com/news/opinion/forum/2010-10-11-column11\\_ST\\_N.htm](http://usatoday30.usatoday.com/news/opinion/forum/2010-10-11-column11_ST_N.htm).
3. Pew Research Center, "Public's Views on Human Evolution," December 30, 2013, <http://www.pewforum.org/2013/12/30/publics-views-on-human-evolution/>; Dan Kahan, "What Does 'Disbelief' in Evolution Mean? What Does 'Belief' in It Measure? Evolution & Science Literacy," *The Cultural Cognition Project*, <http://www.culturalcognition.net/blog/2013/6/19/what-does-disbelief-in-evolution-mean-what-does-belief-in-it.html>.
4. Philip Kitcher, "Challenges for Secularism," in *The Joy of Secularism: 11 Essays for How We Live Now*, ed. George Levine (Princeton: Princeton University Press, 2011), 42.
5. Dewey, *A Common Faith*, 31.
6. For various criticisms of the so-called "conflict thesis," see James R. Moore, *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870-1900* (Cambridge: Cambridge University Press, 1979); David C. Lindberg and Ronald L. Numbers, eds., *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley: University of California Press, 1986).
7. Philip Kitcher, "Militant Modern Atheism," *Journal of Applied Philosophy* 28 (2011): 6.
8. *Catalogue of the Officers and Students of Oberlin College for the College Year 1869-70* (Cleveland: Fairbanks, Benedict, 1869), 4; *General Catalogue of Oberlin College, 1833-1908* (Cleveland: O.S. Hubbell, 1909), 656.
9. *Catalogue of the Officers and Students of Oberlin College, for the College Year, 1880-81* (Cleveland: Leader, 1880), 50.
10. Asa Gray, *First Lessons in Botany and Vegetable Physiology* (New York: Ivison & Phinney, 1857), 173; Asa Gray, *Gray's Lessons in Botany and Vegetable Physiology* (New York: Ivison, Blakeman, Taylor, 1875), 173; Asa Gray, *Manual of the Botany of the Northern United States* (New York: Ivison, Blakeman, Taylor, 1875). For Gray's reception of Darwin's ideas, see A. Hunter Dupree, *Asa Gray, 1810-1888* (Cambridge, MA: Harvard University Press, 1959).
11. *Oberlin Alumni Magazine* 1 (May): 206.
12. Wright, "Darwin," pp. 25, 39-41, Writings (MSS), Box 10, Albert A. Wright Papers, Oberlin College Archives.
13. *Oberlin Review* 10 (18 November 1882): 55. Castle was editor-in-chief of the *Review* for 1882-83, and was "assisted in the Editorial department by Mr. G. H. Mead." Mead was also society editor for Phi Kappa Pi, a student literary society. See *Oberlin Review* 10 (23 September 1882): 6; Henry Castle to Mary Castle, 28 October 1882, in George Herbert Mead and Helen Castle Mead, eds., *The Collected Letters of Henry Northrup Castle* (Athens, OH: Ohio University Press, 2012), 203. I have compared the *Collected Letters* versions of all the letters I cite against the originals held with the

Henry Northrup Castle Papers, Special Collections Research Center, the University of Chicago.

14. Castle, "Evidences of Christianity," p. 3, Folder 8, Box 8, Castle Papers; *Catalogue of Oberlin College, 1880–81*, 50. Castle and Mead attended the same classes.

15. Mead was not exactly a star pupil in the sciences, but he did place 8th out of 23 students on his Zoology exam. He placed in the middle of a pack led by Castle on his Geology exam, and received even lower grades for his zoology/geology coursework (interpreting 'Av' as course average). He seems to have been stronger in other subjects: Wright also graded several of Mead's orations in Rhetoric, for which he earned perfect marks. Topics of Mead's orations included Beauty, Sir Thomas More, and the Tiānwáng (heavenly kings) of Buddhism. See Teaching Material: Geology, Zoology, Box 9, Wright Papers.

16. Castle, "Notes on Zoology," p. 2, Folder 8, Box 8, Castle Papers. See Herbert Spencer, *First Principles of a New System of Philosophy*, 4th ed. (New York: D. Appleton, 1880), 396; Ernst Haeckel, *The History of Creation: Or the Development of the Earth and its Inhabitants by the Action of Natural Causes*, trans. E. Ray Lankester, 2 vols. (New York: D. Appleton, 1876), 1:212.

17. Castle, "Notes on Zoology," p. 45. *Amphioxus* is one of the primitive members of our own phylum, as noted by a song written in the early twentieth century (sung to *Tipperary*): "It's a long way from Amphioxus / It's a long way to us. / It's a long way from Amphioxus / to the meanest human cuss. / It's goodbye fins and gill slits, / Welcome skin and hair / It's a long way from Amphioxus / But we came from there." See Jane Maienschein, *100 Years Exploring Life, 1888–1988: The Marine Biological Laboratory at Woods Hole* (Boston: Jones & Bartlett, 1989), 165.

18. *Catalogue of the Officers and Students of Oberlin College, for the College Year, 1881–82* (Chicago: Blakely, Marsh, 1881), 59; Henry Alleyne Nicholson, *A Manual of Zoology*, 2nd ed. (New York: D. Appleton, 1877), 39–40. Later British editions also included a discussion of sexual selection, but Appleton continued to reprint the second edition. I assume that Wright assigned the American edition.

19. *Catalogue of the Officers and Students of Oberlin College, for the College Year, 1882–83* (Chicago: Blakely, Marsh, 1882), 66; Joseph LeConte, *Elements of Geology* (New York: D. Appleton, 1878), iv, 1.

20. Nicholson, *A Manual of Zoology*, 39; George Campbell, Duke of Argyll, *The Reign of Law* (London: Alexander Strahan, 1867), 230; Joseph LeConte, "Man's Place in Nature," *Princeton Review* 55 (1878): 786–87. Wright, "Darwin," pp. 41–42. See also Edward J. Pfeifer, "The Genesis of American Neo-Lamarckism," *Isis* 56 (1965).

21. On the 1890s debates, see Trevor Pearce, "The Origins and Development of the Idea of Organism-Environment Interaction," in *Entangled Life: Organism and Environment in the Biological and Social Sciences*, ed. Gillian Barker, Eric Desjardins, and Trevor Pearce (Dordrecht: Springer, 2014), 18–23.

22. Castle to Caroline Castle, 15 March 1882; Castle to Family, 24 May 1882; Castle to Samuel and Mary Castle, 13 October 1882; Castle to Samuel and Mary Castle, 4 November 1882, in Mead and Mead, *Collected Letters of Henry Northrup Castle*, 158, 168, 199, 212.

23. Castle to Samuel and Mary Castle, 13 October 1882, in Mead and Mead, *Col-*

lected *Letters of Henry Northrup Castle*, 198–200. Castle, “The Materialistic Argument,” Folder 4, Box 4, Henry Northrup Castle Papers.

24. Gary A. Cook, *George Herbert Mead: The Making of a Social Pragmatist* (Urbana: University of Illinois Press, 1993), 6.

25. Mead to Castle, n.d., in Folder 16, Box 1, George Herbert Mead Papers, Special Collections Research Center, University of Chicago. This letter was sent from Berlin Heights, and thus dates from between September 1883 and March 1884. See Cook, *George Herbert Mead*, 6–8.

26. Mead to Castle, 23 February 1884, in Folder 16, Box 1, Mead Papers.

27. Mead to Castle, 7 March 1884, in Folder 16, Box 1, Mead Papers.

28. Mead to Castle, 16 March 1884, in Folder 16, Box 1, Mead Papers.

29. Mead to Castle, 16 March 1884, in Folder 16, Box 1, Mead Papers.

30. Mead to Castle, 16 March 1884, in Folder 16, Box 1, Mead Papers. One of Hall’s books was reviewed in the student newspaper while Castle and Mead were editors: *The Problem of Human Life* (New York: Schell, 1877). See *Oberlin Review* 10 (2 December 1882): 64–65.

31. Fletcher Hamlin, “Science and the Clergy,” *The Microcosm* 3 (1883): 100–101; internal quotation from Argyll, *Reign of Law*, 57; Allan Conant Ferrin, “The Limits of Development—A Plea for Theistic Evolution,” *The Microcosm* 3 (1884): 168. ‘Development’ and ‘evolution’ were used interchangeably in the nineteenth century: see Robert J. Richards, *The Meaning of Evolution: The Morphological Construction and Ideological Reconstruction of Darwin’s Theory* (Chicago: University of Chicago Press, 1992), 168.

32. Mead to Castle, 12 March 1884, in Folder 16, Box 1, Mead Papers. On Fiske, an American popularizer of evolutionary ideas, see Trevor Pearce, “‘Science Organized’: Positivism and the Metaphysical Club, 1865–1875,” *Journal of the History of Ideas* 76, no. 3 (2015): 441–65.

33. Mead to Castle, 10 June 1884, in Folder 16, Box 1, Mead Papers.

34. Paul Janet, *Final Causes*, trans. William Affleck, 2nd ed. (New York: Charles Scribner’s Sons, 1883), 25–26, 32, 115, 282, 287ff.

35. Mead to Castle, 10 June 1884; Mead to Castle, 16 August 1884, in Folder 16, Box 1, Mead Papers. Mead to Castle, 8 February 1885; Mead to Castle, 28 February 1886; Mead to Castle, 11 April 1886, in Folder 17, Box 1, Mead Papers. This obsession with the design argument has not been discussed by commentators on Mead’s development: Hans Joas, *G. H. Mead: A Contemporary Re-examination of His Thought* (Cambridge, MA: MIT Press, 1985), 16; Cook, *George Herbert Mead*, 8–11.

36. Mead to Castle, 16 August 1884, in Folder 16, Box 1, Mead Papers.

37. Mead to Castle, 10 June 1884, in Folder 16, Box 1, Mead Papers. For a modern treatment of the argument from design, see Elliott Sober, *Evidence and Evolution: The Logic Behind the Science* (Cambridge: Cambridge University Press, 2008), 109–88.

38. Mead to Castle, 8 February 1885, in Folder 17, Box 1, Mead Papers.

39. Mead to Castle, 11 April 1886, in Folder 17, Box 1, Mead Papers.

40. Mead to Castle, 16 May 1886, in Folder 17, Box 1, Mead Papers. On Bowen, see Bruce Kuklick, *The Rise of American Philosophy: Cambridge, Massachusetts, 1860–1930* (New Haven: Yale University Press, 1977), 28–45.

41. Mead to Castle, 6 June 1886; Mead to Castle, 14 April 1887, in Folder 17, Box 1, Mead Papers.
42. Mead to Castle, 29 April 1887, in Folder 17, Box 1, Mead Papers.
43. Mead to Castle, 6 May 1887, in Folder 17, Box 1, Mead Papers.
44. In 1887–88, James taught English Philosophy and Questions in Psychology (with laboratory work), as well as an introductory course in Logic and Psychology. See *Harvard University Catalogue, 1887–88* (Cambridge, MA: Harvard University, 1887), 106–107.
45. Castle to Helen Castle, 9 October 1887, in Mead and Mead, *Collected Letters of Henry Northrup Castle*, 496. Mead to Castle, 19 June 1888, in Folder 17, Box 1, Mead Papers. *Harvard University Catalogue, 1887–88*, 50, 96, 106–107. Although Henry Castle mentions that Mead is taking a course with Bowen in the letter to Helen in October, Mead does not speak of this course in the June letter to Henry. The standard senior course-load at Harvard was four elective courses, although extra courses were permitted (the latter did not count toward the degree): see *Harvard University Catalogue, 1887–88*, 89–90.
46. This is consistent with Mead's own later recollections. See George Herbert Mead, "Josiah Royce—A Personal Impression," *International Journal of Ethics* 27 (1917).
47. Josiah Royce, "Joseph Le Conte," *The International Monthly* 4 (1901): 333.
48. Josiah Royce, "Courses in Ethics at Harvard College," *Ethical Record* 2 (1889): 141.
49. *Harvard University Catalogue, 1887–88*, 107; Josiah Royce, "Is There a Philosophy of Evolution?," *Unitarian Review* 32 (1889): 3–21. Royce described this essay as containing "the substance of . . . a considerable portion" of his philosophy of nature course in Royce, "Courses in Ethics at Harvard College," 141.
50. Royce, "Philosophy of Nature," Lectures 4–5 (8 & 11 October 1886), Folder 4, Box 127, Papers of Josiah Royce. Original emphasis.
51. Royce, "Is There a Philosophy of Evolution?," 21, 98, 109.
52. Mead to Castle, 19 June 1888, in Folder 17, Box 1, Mead Papers; Thomas Hill Green, "Mr. Herbert Spencer and Mr. G. H. Lewes: Their Application of the Doctrine of Evolution to Thought. Part I. Mr. Spencer on the Relation of Subject and Object," *Contemporary Review* 31 (1877).
53. Royce's class was apparently taken over by Francis Ellingwood Abbot, who was also interested in the question of whether the universe was fundamentally "machine or organism." Mead, however, later tells Castle that he "was to carry on" the class himself, and does not mention Abbot. John Clendenning, *The Life and Thought of Josiah Royce*, 2nd ed. (Nashville: Vanderbilt University Press, 1999), 152–154; Francis Ellingwood Abbot, *Scientific Theism* (Boston: Little, Brown, 1885), 157–201. Mead to Castle, 19 June 1888, in Folder 17, Box 1, Mead Papers.
54. Mead to Castle, 19 June 1888, in Folder 17, Box 1, Mead Papers.
55. Mead to Castle, 19 June 1888, in Folder 17, Box 1, Mead Papers; James to Alice Howe Gibbens James, 13 June 1888, and James to Royce, 24 August 1888, in Ignas K. Skrupskelis and Elizabeth M. Berkeley, eds., *The Correspondence of William James*, 12 vols. (Charlottesville, VA: University Press of Virginia, 1992–2004), 6:419, 433.
56. Cook, *George Herbert Mead*, 15–18. For James's appraisal of Mead, see James to

Royce, 24 August 1888 and James to Alice Howe Gibbens James, 23 September 1888, in Skrupskelis and Berkeley, *Correspondence of William James*, 6:433, 443.

57. For Mead's classes at Leipzig, see Joas, *G. H. Mead*, 18.

58. Wilhelm Wundt, *System der Philosophie* (Leipzig: Wilhelm Engelmann, 1889), vi, 499–550.

59. Rudolf Seydel, "Zur Aussöhnung mit dem Darwinismus," in *Religion und Wissenschaft: Gesammelte Reden und Abhandlungen* (Breslau: S. Schottlaender, 1887), 236.

60. Castle to Samuel and Mary Castle, 3 February 1889, in Mead and Mead, *Collected Letters of Henry Northrup Castle*, 579. In the same letter, Castle reported that Mead had recently—by coincidence—met G. Stanley Hall, who gave him advice about where to study psychology.

61. Wilhelm Waldeyer, *Das Gorilla-Rückenmark* (Berlin: Königliche Akademie der Wissenschaften, 1889); Wilhelm Waldeyer, "Das Gibbon-Hirn," in *Internationale Beiträge zur wissenschaftlichen Medicin* (Berlin: A. Hirschwald, 1891); Hermann Munk, *Ueber die Functionen der Grosshirnrinde: Gesammelte Mittheilungen aus den Jahren 1877–80* (Berlin: Hirschwald, 1881); Hermann Ebbinghaus, *Über das Gedächtnis: Untersuchungen zur experimentellen Psychologie* (Leipzig: Duncker & Humblot, 1885).

62. For more on Mead's time in Berlin and on his scientific education generally, see Daniel R. Huebner, *Becoming Mead: The Social Process of Academic Knowledge* (Chicago: University of Chicago Press, 2014).

63. A full list of Mead's courses at Berlin is given in Joas, *G. H. Mead*, 218n15. Mead also took two courses on "Psychology and Anthropology" with Paulsen.

64. Friedrich Paulsen, *Einleitung in die Philosophie*, 2nd ed. (Berlin: Wilhelm Hertz, 1893), 186–198; Friedrich Paulsen, *Introduction to Philosophy*, trans. Frank Thilly, 3rd ed. (New York: Henry Holt, 1895), 180–192. For more on evolutionary debates over variation in this period, see Pearce, "The Origins and Development of the Idea of Organism-Environment Interaction," 18–23.

65. Wilhelm Dilthey, *Gesammelte Schriften*, 26 vols. (Stuttgart: Teubner, 1957–), 10:14, 50, 86ff. Volume 10 of Dilthey's collected works, *System der Ethik*, corresponds to lectures given in Summer 1890 that Mead attended. See Dilthey, *Gesammelte Schriften*, 10:9; Sigrid Schulenburg, ed., *Briefwechsel zwischen Wilhelm Dilthey und dem Grafen Paul Yorck v. Wartenburg, 1877–1897* (Halle: Max Niemeyer, 1923), 90; Joas, *G. H. Mead*, 218n15. On Dewey and organism-environment interaction, see Pearce, "The Origins and Development of the Idea of Organism-Environment Interaction," 23–27; Trevor Pearce, "The Dialectical Biologist, circa 1890: John Dewey and the Oxford Hegelians," *Journal of the History of Philosophy* 52 (2014): 747–77.

66. Mead to Castle, 29 September 1890, and Mead to Castle, 31 October 1890, in Folder 18, Box 1, Mead Papers.

67. Hermann Lotze, *Microcosmos: An Essay Concerning Man and his Relation to the World*, trans. Elizabeth Hamilton and E. E. Constance Jones, 2 vols. (Edinburgh: T. & T. Clark, 1885), 1:vii, xv; Hermann Lotze, *Mikrokosmos: Ideen zur Naturgeschichte und Geschichte der Menschheit*, 3 vols. (Leipzig: S. Hirzel, 1856–1864), 1:v, xiv–xv. Mead appears to have read the English translation, since he uses the title "Microcosmos" in his letters. See also Hermann Lotze, *Medicinische Psychologie oder Physiologie der Seele* (Leipzig: Weidmann, 1852).

68. Lotze, *Microcosmos*, 1:xvi; John Dewey, *Leibniz's New Essays Concerning Human Understanding* (Chicago: S. C. Griggs, 1888), 260.
69. Mead to Castle, n.d., 1890, in Folder 18, Box 1, Mead Papers. The day and month are not given, but this letter was likely written in autumn since there are two other similar letters about his reading of Lotze that date from this period.
70. Mead to Castle, 24 October 1890, in Folder 18, Box 1, Mead Papers.
71. The latter course used Spencer's *First Principles* as a textbook, following the lead of Royce at Harvard. See *Calendar of the University of Michigan for 1891-92* (Ann Arbor: University of Michigan, 1892), 59-61.
72. Pearce, "The Dialectical Biologist, circa 1890: John Dewey and the Oxford Hegelians."
73. Mead, "Phil. Course 9," pp. 42, 89, Philosophy (Mead) 1893, Box 2, Campbell Family Papers, Bentley Historical Library, University of Michigan. Notes taken by Robert C. Campbell. I have filled in words for Campbell's shorthand. See George Herbert Mead, "Herr Lasswitz on Energy and Epistemology," *Psychological Review* 1 (1894): 174. For Spencer on organism-environment interaction, see Trevor Pearce, "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 (2010). For Dewey's deployment of similar Spencerian ideas in his 1887 speculative philosophy course, see Pearce, "The Origins and Development of the Idea of Organism-Environment Interaction," 24-26. For Dewey's early ethics, see John Dewey, *Outlines of a Critical Theory of Ethics* (Ann Arbor, MI: Inland Press, 1891).
74. Dewey studied some physiology and psychology with Henry Newell Martin and G. Stanley Hall at Johns Hopkins, but his *Psychology* (published in 1887) did not use the organism-environment framework that he adopted later.
75. John Dewey, "The Evolutionary Method as Applied to Morality," *Philosophical Review* 11 (1902); George Herbert Mead, "The Philosophical Basis of Ethics," *International Journal of Ethics* 18 (1908).
76. George Herbert Mead, "Scientific Method and the Moral Sciences," *International Journal of Ethics* 33, no. 3 (1923): 240-243. See also George Herbert Mead, "Religion and Social Values," in *The Philosophy of the Act*, ed. Charles W. Morris (Chicago: University of Chicago Press, 1938).
77. Kitcher, "Challenges for Secularism," 32.
78. Mead, "Scientific Method and the Moral Sciences," 246-47.

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