

Dewey's Logical Education

From Early Essays to *Essays in Experimental Logic*

Introduction

In this chapter, I wish to briefly talk of the context of Dewey's education in logic, the institutions and settings in which Dewey developed his earliest logical ideas, as well as Dewey's association with certain individuals germane to his early logical development. The rough chronology of Dewey that follows is in no way designed to exhaust the relationships between Dewey and his interlocutors; rather, it is aimed at presenting, in a succinct manner, a statement on Dewey's formation of his ideas on logic by noting what Dewey did and did not take from his interlocutors. It is Hegel who influences Dewey most profoundly in this regard. I do not insist that others had little or no influence on Dewey. As this chapter will make clear, Dewey borrowed heavily from a number of thinkers, including James, Peirce, Darwin, and others discussed here. However, the movement of the logic itself, and the relationships between the various logical constituents, is heavily indebted to Hegel's understanding of the development of the concepts and categories in the *Phenomenology of Spirit* and the *Science of Logic*. As I consider Hegel's influence on Dewey to be the most important, I will devote the entirety of Chapter 2 to the subject. Here, I will discuss Dewey's other early influences.

Part One: Dewey's Motives for Logical Theory

Before I begin examining the various direct influences on Dewey, I want to reflect on what motives Dewey might have had for turning to logical theory. Dewey wrote extensively of self and mind, psychology,

ethics, education, knowledge, and the history of philosophy. The various motives for these have been well-documented in the vast secondary literature. Here, I will briefly discuss the importance of his studies on experimental psychology on the one hand and idealism on the other. It is well-documented in various biographies that Dewey was equally interested in both post-Kantian idealism and the emerging field of empirical, experimental psychology. Dewey's early undergraduate education at Vermont introduced him both to idealism and T. H. Huxley's popularization of Darwin's theory of natural selection. When Dewey attended Johns Hopkins, he studied not only with G. S. Morris but also with G. Stanley Hall.¹ Dewey's relationship with Hall was ambivalent. Though Hall did get Dewey to read Wilhelm Wundt (and this was important for Dewey's early psychology), Dewey disliked Hall's arrogance, and took instead to Morris. Morris introduced Dewey to the leading British post-Kantian idealists (T. H. Green, Edward and John Caird, John Watson) and Hall introduced Dewey to empirical, experimental, and physiologic psychology—chiefly via the works of Wundt. Dewey even undertook some experimental research while under Hall's supervision.² By the time of his graduation, Dewey was not only an ardent proponent of Hegel and the post-Kantian idealist philosophy of the late nineteenth century, but an avid proponent of experimental psychology.³

Post-Kantian idealism of the late nineteenth century, or neo-idealism as I prefer to call it, ranged in philosophical allegiance between Kant and Hegel. The major thinkers of neo-idealism at the time of Dewey's education were the English philosopher T. H. Green, Scottish philosophers Edward and John Caird, and the Scottish transplant to Canada, John Watson. F. H. Bradley was also beginning to attract attention, primarily through the publication of *Ethical Studies*. Later, English philosopher Bernard Bosanquet and in the United States, Josiah Royce, would emerge as prominent figures. T. H. Green, who was Dewey's most important idealist influence in the early 1880s, leaned more closely to Kant than Hegel in regard to moral theory.⁴ Edward and John Caird and John Watson leaned more closely to Hegel than to Kant.⁵ All of them were concerned with the topics of Absolute self, will, individuality, and for Green and Caird in particular, the question of the divine manifest in the world. At the same time, Dewey was intrigued by leading accounts of sensation, attention, perception, and the biological basis of motor control. Wundt's work in particular, had a powerful impact.⁶ Dewey wrote a number of articles on topics of interest to the neo-idealists and to those in the burgeoning field of psychology.

As I will discuss later, Dewey had little contact with the leading lights of pragmatism in the first several years of his career. Dewey took a course with Peirce at Johns Hopkins in 1882 but evidently failed to understand him. Dewey had little contact with William James until after the latter's publication of the *Principles of Psychology* in 1890. Dewey had no contact with Mead until the latter began to work alongside Dewey at the University of Michigan in 1891. Dewey, of course, was very familiar with Darwin, but he had not yet begun to articulate his evolutionary account of thought and morality until late in the 1890s. It was only gradually that the respective ideas of these leading pragmatist thinkers would seep into Dewey's own accounts: his earliest motives for his scholarship did not yet encompass these thinkers.

Dewey would try to fuse his idealism with the leading accounts of psychology in the first years after graduation. This fusion culminated in his textbook of 1887, entitled *Psychology*. This was an ambitious book, not in the least because it attempted to run the idealism of Absolute self together with the novel accounts of sensation, perception, attention, and the will: it was ambitious because Dewey attempted to write not only a textbook for his classes, but a stand-alone introduction to a unified psychology of mind-world. Needless to say, his attempts (he published three editions) did not succeed—at least, in his mind. But they did have the effect of returning him to the central problem of conjoining the best of philosophy and psychology.

While his motives for both philosophy and psychology seem plain enough, the same cannot be said of Dewey's motives for embarking on an examination of logic. For, he could have (along with Wundt) restricted himself to empirical-physiologic psychology. Or he could have restricted himself to the experimental psychology of James. But he didn't. He decided to tackle logical theory, bearing his first (written) fruits in 1890. There were undoubtedly philosophical motives behind this, which I will discuss here and in Chapter 2. But there were undoubtedly biographical motives as well. Unfortunately, Dewey's correspondence gives us no hint of what these might be. And leading accounts of Dewey's logical theory are silent on this matter as well. We will therefore have to concentrate on the philosophical motives and take an educated guess at the biographical ones.

To begin, logical theory for Dewey was, if not synonymous with, at least a crucial aspect of, method. And method was an aspect of psychology. As I have maintained, psychology dominated Dewey's early thought. This has been well-documented in the secondary literature.

And the literature has also ably demonstrated the various theories that the neo-idealists held; theories that were in common circulation at the time Dewey was a graduate student and young professor.⁷ What is not so clear is the connection between logical theory and psychology. I surmise it is the need for a method that concerns Dewey: a method of systematic collection and ordering of knowledge. Systematic knowledge, at least in Dewey's earlier thinking, was tantamount to philosophy and philosophy was the highest achievement of systematic thinking; it was, as Hegel put it, systematic science.⁸ Logical theory, therefore, was an absolutely necessary tool for rendering knowledge systematic and philosophy a science. Dewey makes this quite clear in his *Psychology*. Dewey speaks early on in the text of the need for a method of psychology. "The subject-matter of psychology is the facts of self, or the phenomena of consciousness. These facts, however, do not constitute science until they have been systematically collected and ordered with reference to principles, so that they may be comprehended in their relations to each other, that is to say, explained. The proper way of getting at, classifying, and explaining the facts introduces us to the consideration of the proper method of psychology" (EW 2, p. 11). Dewey rapidly discounts the prevailing method of psychology: introspection (EW 2, pp. 11–12). He instead offers what he terms, "experimental," "comparative," and "objective" methods—the last being, "The broadest and most fundamental method of correcting and extending the results of Introspection and of interpreting these results, so as to refer them to their laws" (EW 2, 15). This method "is the study of the objective manifestation of mind" (EW 2, p. 15).

What Dewey later calls logical theory is here discussed in terms of stages of knowledge, or thinking.⁹ Thinking incorporates relation, conception, judgment, and reasoning, including analysis, synthesis, induction, and deduction (EW 2, pp. 177–196). Thinking is systematic; not only this, it *constitutes* a system. This system, Dewey says, is philosophy. "Philosophy is the attempt to systematize or arrange in their organic unity all special branches or science . . . Science, in its completeness, including the synthetic function, is philosophy" (EW 2, p. 201). What we have here is a claim for Absolute thought as philosophy; as systematic knowledge. This is an unabashedly idealist claim, though it is an idealism that takes empirical psychology seriously. But more important, it is a claim for the centrality of thinking—of method—in and for philosophy. Method is absolutely essential for systematic knowledge. Dewey would hold to this belief throughout his philosophical career, and explicitly state its importance in the 1938 *Logic* (LW 12, p. 3).

While it certainly seems the case that logic occupied a central and necessary role in thinking, science, and philosophy in Dewey's early and manifestly Hegelian thought, it does not explain why Dewey would continue to write and think on logical theory *after* his seeming "turn" to Darwinian and naturalist accountings of self. An explanation for this must be sought. I believe that explanation is to be found in an essay on logical theory written shortly after his supposed "turn"—"Some Stages of Logical Thought" (1900). For Dewey, the final stage of logical thought—the stage of experimentation—is singularly responsible for the "newer" disciplines of the social sciences, including psychology and sociology, as well as the subfields of the sciences of biology and chemistry (MW 1, p. 169). And it is the insights of these sciences, through their use of experimentation, that have resulted in "a statement in which all the distinctions and terms of thought—judgment, concept, inference, subject, predicate and copula of judgment, etc., ad infinitum—shall be interpreted simply and entirely as distinctive functions or divisions of labor within the doubt-inquiry process" (MW 1, p. 174). Without the progress in methods, the new disciplines of psychology and sociology (to which Dewey would increasingly be indebted) would not have arisen. The tremendously valuable experiments that demonstrated to Dewey the importance of attending to sensation, perception, and attention, as well as the psychological components of the will, would not have been available for Dewey to construct an empirically idealistic theory of the self, and Dewey himself recognized this.¹⁰ This is what was at stake for Dewey in choosing to continue to reflect on logical theory, and this is what Dewey thought lay ahead for those sciences that followed the "logical" method of experimentation.

Logical theory, therefore, was crucial not only to science and the sciences, but to Dewey's systematic philosophy as well. Indeed, *no* philosophic system could avoid an account of logic. The crucial inclusion of logic in systematic philosophy could even extend to any philosophy that purports to make judgments. Dewey makes this clear in the preface to *Studies in Logical Theory*: for "judgment is the central function of knowing, and hence affords the central problem of logic . . ." (MW 2, p. 296). But Dewey had a further aim for logical theory: logical theory was not only indisputably necessary for philosophy, but for the broader theory of psychology Dewey was attempting to construct in part to contrast with the Absolutist notions of self and mind of the neo-Hegelians. Dewey continues, "that since the act of knowing is intimately and indissolubly connected with the like yet diverse functions of affection, appreciation,

and practice, it only distorts results reached to treat knowing as a self-enclosed and self-explanatory whole—hence the intimate connections of logical theory with functional psychology . . .” (MW 2, p. 296). The result of this connection was a functionalist and empirical psychology that incorporated Hegelian elements of method in quest of an organic and holistic account of self and ultimately truth, reality, nature, and experience.

Part Two: Dewey's Logical Education 1882–1902

I have given a rough portrayal of the motive forces behind Dewey's interest in logical theory, as well as a brief outline of the history of Dewey's earliest philosophical development. I now wish to discuss Dewey's logical education more specifically. Dewey matriculated at the University of Vermont in 1879, and while there, took classes in philosophy under H. A. P. Torrey. Torrey was an enthusiastic if somewhat amateurish student of German idealism and particularly Kant, and if the biographies are correct, taught Dewey both Kant and German after Dewey returned in 1882 from a two-year stint teaching mathematics to high school students in Oil City, Pennsylvania.¹¹ Dewey's Vermont experience, if we are to believe Alan Ryan, was for the first three years a continuation of his high school studies: courses on English, mathematics, classical literature and histories, and the like. His fourth year was an improvement because he was able to study moral, social, and political theory under Torrey and Matthew Buckham—Vermont's president.¹² Robert Westbrook has even less to say about Dewey's experience at the University of Vermont than Ryan, although both comment on Dewey's later characterization of Torrey as “constitutionally timid,”—a conclusion based likely in Torrey's indecisiveness with respect to balancing his Christian faith against Kant's denial of religious or theological knowledge.¹³

As Dewey read Kant with Torrey, who was a Kantian scholar of some repute, we can surmise that Dewey was familiar with Kant's discussion of logic, both in the *Critique of Pure Reason* (transcendental logic) and *The Lectures on Logic* (Kant's treatise on general logic). It seems, however, that we cannot conclude that Dewey had much grounding in logical theory *before* he attended Johns Hopkins in 1882. Undoubtedly through his traditional education in high school and at the university he would have been familiar with at least the rudiments of syllogistic logic, though judging from the curriculum Dewey undertook at Vermont, it

is difficult to say with exactness. Dewey took courses in “Greek, Latin, ancient history, geometry, and calculus . . .” in his first two years at Vermont. His third year consisted of sciences; his final year of philosophy, political economy, and moral theory.”¹⁴ It is likely that Dewey would have encountered formal logical theory fully at Johns Hopkins. It is at Hopkins that Dewey encountered Peirce.¹⁵ Beyond Peirce’s course in mathematical logic, however, Dewey had no further formal instruction in logic. However, Dewey had much informal instruction, to judge by the authors he discusses in his logical (and epistemological, metaphysical, and psychological) papers and later, books. Dewey’s skill in deciphering and criticizing the logical theories of others was not learned in a classroom; it was self-taught.

Indeed, the logical education Dewey undertook for himself served him eminently well. He rapidly familiarized himself with leading thinkers and texts of the day. Chief among the readings of logicians Dewey undertakes are those of J. S. Mill, James Venn, Walter Jevon, Rudolph Hermann Lotze, Bernard Bossaquet, and F. H. Bradley. Each of these texts was considered classic in its own right. These texts span the distance between empiricism and empirical methods (Mill; Venn) and the so-called transcendental or idealist methods (Bossaquet, Lotze, Bradley) Dewey discusses many of them at length in his published papers and texts. He was, to judge by the caliber of the arguments made against these, very informed of them (as we shall soon see), and his insights and criticisms are instances of acute penetration to the substance of the texts.

It is difficult to surmise precisely when Dewey read each of these thinkers. He undoubtedly read Mill while an undergraduate at Vermont, though it is difficult to say if his reading extended to Mill’s logic then. He would have been familiar with Mill’s logic by 1884—his graduation from Johns Hopkins. Jevon’s *Logic* was extremely popular and Dewey would also likely have read, or at least familiarized himself with this as an undergraduate at Vermont. He read Bradley, Lotze, and Bossaquet sometime thereafter. Bradley in particular, Dewey discussed very little until he arrived in Chicago in 1894, though he was clearly informed by his *Logic*. Bossaquet and Lotze he likely discovered after beginning his career at the University of Michigan. The same goes for Venn.

When Dewey does discuss logical theory, he does so from a self-consciously Hegelian standpoint until 1900—the year he published “Some Stages of Logical Thought.” Thereafter, he follows the language of functionalism (James) and evolutionary theory, and stresses heavily the experiential and biological roots of logical forms. However, he

does not abandon the central Hegelian insights developed in his earlier works; insights regarding the form of inquiry proper, the patterns of its development, and the relationships between constituent parts (ideals; concepts; hypotheses). On the debates over Dewey's primary intellectual allegiance—idealism and Hegel vs. naturalism and James and Darwin, I lean toward Hegel. I also suggest that a sentiment common to German idealists generally, Hegel in particular, and Peirce (and later, James and Mead) is undoubtedly manifest in Dewey as well, though at different times: the sentiment that inquiry and the logical processes involved in inquiring form a continuum in which these processes are isolated and reconstructed, and that consequences of inquiring are as important as the formal operations of logic themselves. Indeed, the formal operations of logic are the products of the development of consciousness, not the *fons et origo*. As this sentiment was common to German idealism and Hegel particularly, as well as in Peirce and James, and Dewey undoubtedly considered himself first and foremost Hegelian before and during the period his earliest essays on logic were written, it is fitting to call this an Hegelian, as opposed to a Peircean, Darwinian, or Jamesian, sentiment—at least in respect to Dewey's earlier works on logic. And although the question of the origin of formal operations of logic can be counted broadly as Hegelian, what this will mean for Dewey as he sheds his Hegelian garb will concern us in the chapters that follow.

DEWEY AND PEIRCE

Dewey would have encountered logical theory fully at Johns Hopkins. It is well known that Dewey, while a graduate student, took Charles S. Peirce's lectures on mathematical logic and (what is now known as) the philosophy of science while Peirce was lecturing at Johns Hopkins. It is surmised that Dewey disliked, or at least acknowledged little profit from these lectures, though to judge by many Dewey scholars, he may have learned a great deal from them. It seems Dewey was at first loathe to take Peirce's course; he wrote to H. A. P. Torrey on October 5, 1882 claiming that Peirce's course was unphilosophical, and only concerned with the generalizations of science. Dewey apparently knew of Peirce's work on Kant by this time.¹⁶ Peirce had spent the years from 1879 to 1884 at Hopkins as an untenured lecturer while developing his own unique insights into logic, as well as metaphysics, algebra, and other topics. It is also the case, however, that Dewey's view of the essentially organic nature of knowledge (as logical principles and as external facts) aligned with Peirce's earlier views of logical formulae as products of investiga-

tion and inquiry—though not, presumably, as Peirce discussed in the classes Dewey attended. Both of these views were in turn preceded by German idealist thinking, particularly Schelling's and Hegel's notions of logic as formal structures built up through encounters with the world.¹⁷ Apparently, Dewey was familiar with these earlier works of Peirce; he makes mention of them in his correspondence to H. A. P. Torrey.¹⁸ It was only well after 1878—the year Peirce wrote the *Popular Scientific Monthly* articles—that he came to see Hegel as drawing essentially the same conclusions—though from a very different set of premises.¹⁹

S. Morris Eames, who writes the introduction to Volume 3 of Dewey's *Early Works*, claims that Dewey's early logical works were written in a similar vein as of C. S. Peirce. Eames says,

These early essays set a problem for Dewey on which he worked until the end of his life, the problem of overcoming the dualism which had developed between logic and science. His proposal in these early writings is similar to that of Peirce: Logical forms must be set inside a general pattern of scientific inquiry where a working harmony and unity of all procedures can be effected, and logic must be concerned with the pursuit of truth, which is the goal of all scientific inquiry.²⁰

While we may agree with Eames that there is a general congruence between the pattern of inquiry Peirce advised and Dewey's subsequent admonitions for logical theory (and thinking), and that Dewey was by this time familiar with the early works of Peirce, he makes no mention of them in his published writings of the time. Shook claims “. . . Dewey did not take up a serious examination of Peirce's writings until 1916 or thereabouts, and never agreed with Peirce's understanding of the purpose of logic or his definition of reality.”²¹ Shook's claim regarding the low estimate of Peirce for Dewey's *earlier* logical theory is indeed correct. Furthermore, it seems Dewey either did not understand or found little interest in Peirce's lectures—at least, during his time at Hopkins. Ryan claims that “[t]he great disappointment for Dewey was Peirce. Or rather, what has disappointed everyone since Peirce's abilities were at last universally appreciated was Dewey's uncomprehending response to Peirce's courses. . . . Until Dewey worked out Peirce's ideas for himself, some twenty years later, he could not see them in Peirce's work. . . .” Ryan continues, “The difficulty was that Peirce was fascinated by mathematics and formal logic, and Dewey, like most enthusiasts for Hegel, was hostile to formalism.”²²

This seems correct, as far as it goes: it is unlikely that Peirce's lectures contained much of his earlier work (as published in the *Journal of Speculative Philosophy* (1868) or the *Popular Science Monthly* (1878)) on scientific inquiry, community, or the importance of reconstructing Kant's categories of Understanding. The overt mathematical nature of Peirce's discussion perhaps led Dewey away from Peirce for an extended period of time. Dykhuizen cites correspondence between Dewey and H. A. P. Torrey on the topic of Peirce's formal logic in this regard. Dewey writes, "By logic, Mr. Peirce means only an account of the methods of physical sciences, put in mathematical form as far as possible. It is more of a scientific than philosophical course. . . . Mr. Peirce does not think there is any Philosophy outside the generalizations of physical science."²³ This should be enough to make us suspicious of Eames's pronouncements on the influence of Peirce.

Dewey was, however, familiar enough with Peirce by 1902 to write on "Tychism" (Peirce's doctrine of Absolute Chance) for James Mark Baldwin's *Dictionary of Philosophy and Psychology* (MW 2). And, of course, Dewey famously attributed to Peirce the profoundest of the insights later championed in his various works leading to the 1938 *Logic*: the essential continuity of inquiry (LW 12, p. 3). However, this was almost 40 years after Dewey wrote his earliest logical essays. It is likely that Dewey's reviews of Peirce's collected works in 1931 and 1934 had much to do with his "recovery" of Peircean insights.²⁴ Dewey's early work on logic remains only partly articulated until 1903, with the publication of *Studies in Logical Theory*, and even there central features of inquiry are bracketed, glossed, or otherwise underdeveloped. I am thinking of full discussions of conceptions, propositions, the symbolization of logic, and the relationship of mathematics and mathematical methods to logic, which are dealt with in their fullest detail only in Dewey's 1938 *Logic*. Nevertheless, central themes manifest in *Studies* are prevalent in Dewey's earlier work. Notable is Dewey's ascription of his earlier logical conclusions to neo-Hegelianism generally and Hegel in particular. This ascription is particularly prominent in "The Present Position in Logical Theory," published in 1891. In "The Present Position in Logical Theory," it is Hegel, *not* Peirce, who Dewey cites approvingly as moving us beyond the mere formalisms of logical theory. Eames's characterization of Dewey's central themes as Peircean is symptomatic of an earlier and inadequate reading of Dewey's writings.

There is no doubt that a sentiment common to German idealists generally, Schelling and Hegel in particular, and Peirce (and later,

James) is manifest in Dewey as well. The sentiment is that inquiry, and the logical processes involved in inquiring, form a continuum in which these processes are isolated and reconstructed, and that consequences of inquiring are as important as the formal operations of logic themselves. Indeed, the formal operations of logic are the products of the development of consciousness, not the *fons et origo*. Moreover, as this sentiment was common to German idealism and Hegel particularly, and Dewey undoubtedly considered himself first and foremost Hegelian before and during the period his earliest essays on logic were written, it is fitting to call this a Hegelian, as opposed to Peircean, sentiment—at least in respect to Dewey's earlier works on logic.

In many ways, Peirce and Dewey (and Hegel, at least in his *Science of Logic*) were fellow travelers. Both of them derided the essentially faulty reliance on syllogistic logic as the *fons et origo* of understanding. And the embedding of logical forms in the larger context of inquiry is a Peircean as well as Hegelian move. However, Dewey steadfastly rejected Peirce's other innovations, and particularly from the point of view of logic, his algebra. Dewey had little use for mathematical mechanisms—then or in 1938. While the general tenor of Peirce's account of scientific inquiry is important for Dewey, the details of logical theory as Peirce thought of them—were not. Dewey often glossed these in his later accounts of Peirce, choosing to focus on Peirce's general statements of inquiry.

DEWEY AND JAMES

At the heart of what it meant for Dewey to move from idealism to instrumentalism (or in any event, some as-yet-to-be determined pragmatism) lies the relationship between Dewey and William James. James is mentioned favorably in a number of early articles.²⁵ Indeed, Dewey thought highly of James, even in the period prior to James's *Principles of Psychology* (1890), though at that time the two had modest contact. And of course, Dewey makes James almost single-handedly responsible for his intellectual "conversion" in his brief biographical sketch, "From Absolutism to Experimentalism" (1930). James provided the "one specifiable philosophic factor which entered into my thinking so as to give it a new direction and quality," and Dewey proceeded to name James's *Principles of Psychology* as that factor (LW 5, p. 157).²⁶

Such admiration has led Dewey scholars and biographers to give James pride of place in Dewey's transition from Absolute idealism to instrumentalism and pragmatism. For example, Robert Westbrook concludes

that, though "James's influence on Dewey has recently been called into question . . . if one carefully specifies its character, this influence was as undeniable and important as Dewey claimed it to be . . . Dewey had been very sympathetic in the 1880s to the functionalism James was then developing . . . As he grew dissatisfied with this [T. H. Green's] metaphysics, he retreated from these conclusions . . . and . . . in reconsidering the philosophical implications of functional psychology, Dewey found in the *Principles* less an intellectual revelation than 'a stimulus to mental freedom' and a 'purveyor of methods and materials.'"²⁷

However, Westbrook undercuts his contention by effectively demonstrating that Dewey's functionalism was largely intact *before* he read *Principles of Psychology*; furthermore, while James was a fellow traveler whom Dewey admired greatly, the logic of Dewey's own enterprise was independent of James's philosophy. This is the conclusion of Michael Buxton and (later) John Shook, both of whom examined carefully Dewey's earlier writings for James's influence.²⁸ Both thinkers are keen to overthrow the assumption that James was the major factor in Dewey's turn. For Buxton, Morton White's *The Origins of John Dewey's Instrumentalism* is a chief target. For Shook, the aim is to reconceive Dewey's entire project of reconfiguring the theory of knowledge. Shook credits Wundt (and G. S. Morris) with recognition of the need for integration of idealism with functionalism in the 1880s, and says of James,

On the nature of sensations, the biological nature of mind, and the nature of conceptual reasoning, Dewey's debt to James is the most extensive. However, on these subjects James did not overthrow Dewey's cherished idealist views but instead assisted his reconstruction of idealism, which was already well under way before 1890. . . . He was already by 1890 suspicious of any psychology reliant on atomistic sensations, enthusiastic toward the idea that mind can only be understood in its relations to nature, and insistent on the functional nature of reason . . . Dewey would not have found James's view persuasive unless they were consistent with his basic metaphysical and psychological standpoints and if they were guides towards solutions of problems that he had already formulated.²⁹

It remains to discuss James's particular contribution to Dewey's logic, if any. I submit that nothing specific from James contributed to Dewey's development of logical theory from 1890 on. This is true despite Dewey's high praise of James in *Studies in Logical Theory* and correspon-

dence.³⁰ When Dewey does praise James in that text, nothing specific to James is pointed at. And while Dewey discusses James in the context of philosophic method in “The Logic of Judgments of Practice” (1915), he does so only to emphasize that James called for the need to subject philosophical results to the same sorts of tests as scientific ones (MW 8, p. 22). Dewey is referring to James’s admonition to follow the inductive sciences in matters of philosophy, similar to their role in the natural and physical sciences.³¹ Dewey, however, would have expressed this sentiment much earlier, for example, in 1891. More pressing is the attribution of Dewey’s reconstruction of empiricism to James: in one critic’s estimation, James provided Dewey with the biological arguments needed to not only fend off physicalist explanations of (empirical) naturalism, but shift the basic model of epistemology to biology and biological processes that factor in experiences.³² This however, is false: Dewey’s biologism was developed prior to his reading of James’s *Principles of Psychology*, through his (earlier) reading of Wundt.³³ While it is true that Dewey’s mid-1890s articles (“The Reflex-Arc Concept in Psychology” in particular) are suggestive of a strong Jamesean influence, nothing appreciable is present in them that is not already in his earlier articles.³⁴

The point here is not that James did not influence Dewey, for it is certain he did. The point is rather that Dewey had the ingredients already at his disposal for the functionalist turn he would make in the mid-1890s. The influence of James, while substantial, is largely rhetorical, to judge by Dewey’s actual use of the former’s arguments. James’s “radical empiricism” had the effect on Dewey of confirming sentiments that were already established, though not pushed ahead of others; these sentiments were functionalist and biological, as opposed to absolutist. And while it can be said that Dewey’s Absolute idealism dealt with many of the same concerns as his functionalism would shortly do, his functionalism did the job (at least in Dewey’s estimation) better. James did not help Dewey to abandon Absolute idealism, if abandonment meant giving up the Hegelian *Gestalt* of his thinking, as we shall see in the chapters that follow. It did, however, result in the displacement of the rhetoric of Absolute idealism in favor of a new rhetoric of evolutionary biology, naturalism, and functionalism.

DEWEY AND MEAD

Whereas Mead is discussed very little by Dewey in “From Absolutism to Experimentalism,” he receives his due in Jane Dewey’s biographical sketch of her father in *The Library of Living Philosophers* (1939). There,

Mead is credited with developing the senses of the social self, and Dewey “took them over from Mead and made them a part of his subsequent philosophy, so that, from the nineties on, the influence of Mead ranked with that of James.”³⁵ Dewey himself remarks, “I dislike to think what my own thinking might have been were it not for the seminal ideas which I derived from him. For his ideas were always genuinely original; they started one thinking in directions where it had never occurred to one that it was worthwhile to even look” (LW 5, p. 24). Dewey continues, “I attribute to him the chief force in this country in turning psychology away from mere introspection and aligning it with biological and social facts and conceptions” (LW 5, p. 24).

Mead is often credited with pushing Dewey to recognize the inestimable importance of the social realm in the latter's discussions of self, experience, and human conduct. Neil Coughlin for example, asserts, “This set [Mead's] of teachings resonated deeply within pragmatism. Dewey, for instance, turned to this social matrix as the context for man he had been searching for after he discarded Hegel's Universal Mind.”³⁶ There is no doubt that Dewey did take much inspiration from Mead, particularly in the years leading up to the publication of *Studies in Logical Theory* (1903), while the two were at the University of Chicago. Yet it would be presumptuous to conclude that the core of Dewey's logical theory owed significantly to Mead; Dewey's logical theory would have benefited from Mead on matters concerning the psychology of conduct only.

As we shall see, Dewey's logical theory was in its nascent development in 1890–1891. Dewey had only become acquainted with Mead in 1891, when the latter took a position as an instructor at the University of Michigan. By 1891, Dewey had published “The Logic of Verification,” and “Is Logic a Dualistic Science?” “The Present Position in Logical Theory,” Dewey's fullest statement to that date on logic, was already in manuscript form, awaiting publication. By the time Dewey encountered Mead (and incidentally, read James's *Principles of Psychology*), Dewey had *already* critically evaluated the considerable literature on logical theory extant (Jevons, Bonsaquet, Mill, Venn, and Lotze), and brought this to bear on the dualism he saw everywhere in logical theory. Dewey's attempt to overcome the dualism between logical form and matter (content) was already a fixture in his philosophical works and was taking shape in his psychological works at the very time Mead joined the faculty. I am referring to Dewey's attempt to derive a unified account of human experience (psychology) with the reflex arc as a basis, in his “Introduction to Philosophy: Syllabus of Course 5” (EW 3, pp. 211–239). Dewey's

functionalism was only beginning to be apparent in his written works and syllabi by this time, no doubt owing to Dewey's very recent reading of *Principles of Psychology*. But even in this new move to functionalism and organicism, the Hegelian elements of constant change, reconciliation, and unity are everywhere present.

Mead, therefore, did influence Dewey, but not during the early years when Dewey formed his critical opinions of the extant logical theories, nor (perhaps more importantly) in matters central to logical theory *simpliciter*. These matters—logical form, the relationship between concepts, the place of hypotheses, matters of analysis and synthesis—which form the “core” of logical works generally, were worked out by Dewey in phases, the first beginning with his critical readings of Mill, Venn, Lotze, and others, and subsequently in encounters with the new realists, Russell (as we shall see when we come to discuss Dewey's encounter with Russell later in this chapter as well as in the chapter on *Essays in Experimental Logic*), and the newer techniques in formal analysis. While the functionalisms of James and Mead certainly made their way into Dewey's philosophy generally (and *a fortiori* into his logical theory), they did so with respect to psychological and normative issues, such as the uses of logical theory and the respective role and scope of both scientific inquiry and common sense.

DEWEY AND DARWIN

Darwin is sometimes credited (along with James) with bringing Dewey out of the Hegelian jungle of Absolutism. It is a fact that Dewey was heavily influenced by evolutionary theory generally and evolutionary biology specifically. His interest in evolution was cultivated early on. In his third year at Vermont, Dewey was assigned T. H. Huxley's *Physiology*, and his classes in natural science (geology and zoology), taught by G. H. Perkins, followed the evolutionary method.³⁷ He was clearly impressed with the forceful line of thinking present in Huxley's validations for Darwinian method, yet demonstrated concerns regarding Darwin's hypotheses of the evolution of human consciousness. Much of the problem was due to the prevalence of theories of recapitulation or social variations thereof, such as the cultural epoch theory, popular with Herbartian educators and G. Stanley Hall—a theory Dewey held briefly in the 1890s but abandoned. Dewey felt that consciousness could not be understood with recourse to a recapitulation method, and set out to describe it in a developmental accounting. Scholars eager to link Dewey directly

to Darwin often overlook his criticisms of the latter.³⁸ As Westbrook notes,

Dewey had rejected evolutionary naturalism in 1887 because he believed it banished human purposes from the universe. By the turn of the century, armed with a fresh understanding of how man had evolved naturally into a thoughtful, purposeful creature, he left absolute idealism behind for an evolutionary naturalism substantially different from that he had earlier criticized . . . Dewey . . . discovered that purposeful human action could be explained naturalistically without having to offer naturalistic argument for a purposeful universe. Nature, apart from man, was not ethical, but, in man, nature had in the course of the evolutionary process produced an ethical being.³⁹

Furthermore, he imbibed Wundt's and James's biological attributions to notions such as consciousness and mind; notions which were broadly Darwinian in their own rights. Yet, Dewey's naturalism was not a product (or at least, not a concluding one) of Darwin's "revolution" in evolution. As Good, Shook, and Dalton have argued, Dewey's influences ranged well beyond Darwin. In matters central to Dewey's understanding of evolution (adjustment, adaptation, biological growth), Darwin's thinking played a vital role. However, the Darwinian revolution in Dewey's thinking begs the question of Dewey's refusal to countenance the biological claims evolutionary theorists using Darwin at the time (for Darwin made no such claims) were making regarding the fitness of individuals in the species. At best, Dewey took Darwin and evolutionary theory and worked it through social-psychological and communal concerns and problems. He did not try to demonstrate that certain genotypes resulted in specific phenotypic presentations. (This was Mendelian rather than Darwinian theory, in any case). Therefore, his Darwinism consisted in the application of certain terminologies to active processes or features of the human condition (such as growth of the organism), rather than supplying a full explanation of human behavior.

It is sometimes difficult to see clearly what features of Dewey's thought are Darwinian. Many have said the criticism of the reflex-arc in Dewey's seminal paper, "The Reflex-arc Concept in Psychology," is Darwinian. It certainly highlights Dewey's naturalism, but there is little in it specifically Darwinian to count as a watershed.⁴⁰ Likewise with the claim that "continuity" is the central Darwinian feature,⁴¹ both Hegel and

Peirce maintained this feature in their logical thought as well. Certainly, the praise Dewey lavishes on Darwin in “The Evolutionary Method as Applied to Morality” (1903), “The Influence of Darwin upon Philosophy” (1909), and other papers provides for rhetorical advantage. But neither of these papers deviates in a significant way from Dewey’s earlier (1890s) thinking on logical theory and the development of concepts, ideals, hypotheses, etc., though they do work them through distinct contexts. In the case of “The Evolutionary Method as Applied to Morality,” Dewey uses the new-found understanding to re-conceive historical claims for morals in terms of a genetic accounting of the development of moral thinking. In the case of “The Influence of Darwin upon Philosophy,” Dewey’s claim is precisely that evolutionary thinking has given scientific thought a rhetorical advantage; models and understandings that were inchoate are now able to articulate themselves more profoundly as a result of this new nomenclature (MW 4, p. 6). Terms such as “adjustment,” “plasticity,” and “adaptation,” that Dewey makes much of in his educational and social writings seem to be the best candidates for the moniker, “Darwinian.” Yet no one to my satisfaction has shown how these terms are used in a specifically Darwinian (as opposed to Deweyan) manner in matters of importance to Dewey: that is to say, matters of human conduct, inquiry, and morals.

Despite the rhetorical advantage Darwin gives Dewey’s thinking on matters of experience, human conduct, and growth, scholars have overestimated the influence of Darwin on Dewey.⁴² While Dewey’s broad evolutionary accounts are Darwinian in spirit, they are not Darwinian in letter—at least, not where it counts. In none of the essays or books I have read, is there a specifically Darwinian (natural selection) accounting of the development of morals or philosophical thought. Indeed, it would be absurd to claim that natural selection can somehow explain the complex social phenomena Dewey discusses. It must be remembered that the genotype was not yet a working concept in Darwinian evolutionary theory until much later. Mendel arrived at his conclusions regarding genotypes as early as 1863, but his theory was not taken seriously until at least 1900; ten years after the publication of James’s *Principles of Psychology*. It was not until after the First World War that widespread acceptance of Mendelian genetics took place. And only after this was it fused with Darwinian evolutionary theory. What lay in place of genotypes in earlier Darwinian thought was the notion of the flexibility or “the adaptive power of species”; this was inherited in the senses of inheritance common to us today, but the specific mechanism by which this took place

was unavailable to these earlier thinkers. Thus, while individual variation in response to *environmental needs* and *factors* does play a role (and a profoundly important one) in Dewey's biological and social accountings of growth and education, these are not Darwinian *per se*. Dewey largely leaves the issues of species-specific changes of what would later become the subject-matter of genetics aside. Dewey takes it for granted that the species-specific changes Darwin outlined in *The Theory of Natural Selection* are basically correct, and left it at that. When Dewey discussed moral issues and elements such as the self and (moral) consciousness, he utilized Darwinian terms, yet did so with respect to individual and community variations, not species-wide ones. And he seldom brought the argument down to the level of genetics (though he did talk of biological traits). Experience, not the genetic material with which we are endowed, was Dewey's arable land.

All of this is to say that Dewey's use of Darwin is not basic to his logical theory. In terms of Dewey's logic, Hegel rather than Darwin emerges as the more important precursor. Notwithstanding the importance of the nomenclature of adaptation, adjustment, evolution, and other terminologies Dewey uses throughout his logical theory to indicate the ways and means of transformation, the movement itself is manifestly Hegelian. Dewey's logical theory is an amalgam of various influences, to be sure. But at its heart beats the Hegelian logic of the movement of the experience of consciousness as it unfolds towards ever-closer self-realization, and this is nowhere more evident than in Dewey's genetic-historical accounting of the development of thinking into logic and ultimately, scientific inquiry, as we shall soon see.

Part Three: Dewey's Logical Education 1903–1915

The years between 1903 and 1915 saw Dewey increasingly attend to topics of psychology and education, as well as more traditional philosophical topics such as truth, knowledge and reality. By this time, Dewey had cast off his Hegelian “garb,” though the “permanent deposit” of Hegel remained (LW 5, 154). Dewey wrote his first logical treatise in 1903—*Studies in Logical Theory*. In Chapter 3 I will discuss this in detail. Here, I wish to say a few words about the context of that work. Much of Dewey's text is given over to a critique of Rudolph Hermann Lotze—an idealist logician of the top order. In the 1880s, Dewey would probably have thought more highly of his work; in 1903, he criticized it extensively.

Dewey's main concern with Lotze had to do with the dualisms Dewey saw everywhere in his account of logical theory. Absolute and formal treatments of logic, as Dewey maintained, could not escape the dualisms common to rationalism and empiricism; in particular, the dualism of mind-as-logical rules over and against world, objects, or experiences. Lotze also attempted to banish dualisms from his account; but Dewey felt he set up a distinction between the categories, principles, and rules of logic (mind) and the material or matter they then acted upon. Lotze's logical theory had a huge impact on logical theory at the time and it would have seemed quite presumptuous for a young American philosopher who had once championed neo-idealism to strike out at such a figure. But, in fact, Lotze was not the worst offender; indeed, he was the best of a bad bunch, or so Dewey thought. By making an example of the best of a bad bunch, Dewey signaled to his philosophical colleagues in America and abroad that neo-idealism had not escaped the dualisms it so ardently protested in its own accountings.

Two important encounters worthy of note took place between the publication of *Studies in Logical Theory* (1903) and the publication of *Essays in Experimental Logic* (1916). The first was the attack from the so-called critical realists—Evander McGilvary, William P. Montague, Ralph Barton Perry, and E. G. Spaulding. In his engagement with these critics, Dewey fine-tuned his theory of knowledge and the role it played in inquiry. Second, Dewey's encounter with Bertrand Russell led him to cast Russell and his analytic realism (and later, atomic realism and logical atomism) as the preeminent foil to an instrumentalist (later, experimentalist) conception of inquiry. In so doing, Dewey was forced to come to terms with Russell's withering critique. Dewey's response to Russell took place over many years; it was not complete until Dewey wrote *Logic: The Theory of Inquiry* (1938) and his rejoinder to Russell, which was published in the *Library of Living Philosophers* volume the following year.

THE ATTACK OF THE CRITICAL REALISTS

By the turn of the (twentieth) century, Dewey had come under attack from Absolute idealists, realists, and empiricists. However, the criticisms, like the critics themselves, were often scattered. By 1905, however, the tide began to change and so-called realist critiques of Dewey's instrumentalism began to surface in greater and greater numbers. Some of these critiques were from well-known philosophers; Arthur O. Lovejoy was perhaps the most respected of these.⁴³ Others included E. B. McGilvary

and the so-called “six realists.”⁴⁴ These latter were critical realists—realists that had self-consciously banded together to declaim what they saw as the increasingly baleful influence of pragmatism, idealism, subjectivism, and other non-foundationalist enterprises on Anglo-American philosophy. Dewey contended with all of these through the early decades of the twentieth century. His encounters with these various thinkers influenced his logical theory; we see this in the papers composing *Essays in Experimental Logic*. Here, I will discuss the main features of these debates.

Dewey's debate with McGilvary began after the publication of *Studies in Logical Theory*. In an influential article in the *Philosophical Review* (1907), McGilvary charged Dewey with succumbing to idealism. Because Dewey regarded “all reality as embraced within experiences or Experience,” McGilvary claimed Dewey left himself wide open to charges of metaphysics.⁴⁵ Dewey's response came in an article entitled, “Objects, Data, and Existences: A Reply to Professor McGilvary” (MW 4). As Shook notes of Dewey's rebuttal, “Experience is real but does not ontologically exhaust reality. Philosophy must abandon any effort to describe reality as it is ‘in itself,’ and must instead be empirical. The methodological commitment to the empirical study of things, at the philosophical level, entails the repudiation of transcendentalism.”⁴⁶ In *Essays in Experimental Logic*, Dewey will insist that the only reality we can know exists in (and from) experience, effectively foreclosing the possibility of any transcendentalist claims on knowledge or reality. Inquiry and logic, as with knowledge generally, are in no way exempt from this.

Dewey's response to McGilvary satisfied neither McGilvary nor other broadly realist critics. For them, Dewey's insistence that only within an experience could knowledge claims arise, seemed suspiciously like claiming there were no foundations outside of our cognitions. While Dewey took pains to dissociate himself from the view that only through cognitions could the world exist for us, he was largely unsuccessful in convincing his critics. Indeed, a growing number of realists saw the threat of Dewey's instrumentalism, together with idealism generally, as a call to arms. (This fire was stoked by James's declaration of Dewey as a pragmatist. James had famously identified Dewey and Mead as pragmatists in his lectures, along with Peirce and F. C. S. Schiller.)⁴⁷ By 1912, W. P. Montague and his associated realist allies had published “The Program and Platform of Six Realists,” and a volume of essays, entitled, *The New Realism*.⁴⁸

As Westbrook rightly notes, the central dispute was over what R. B. Perry termed, “the Ego-Centric Predicament.”⁴⁹ Idealism as Perry (and the others) conceived it consisted in a view that consciousness and con-