

# Introduction

Dewey began his logical odyssey in 1890, with a paper written for *Open Court* titled “Is Logic a Dualistic Science?”<sup>1</sup> Dewey’s conclusion was sadly affirmative, and he attempted over the next forty years to combat the distinction made between logical form and matter. Dewey would continue to write on logical topics through the 1890s, though he did not produce a logical treatise until 1903 with the publication of *Studies in Logical Theory*, which was a combined effort with colleagues at the University of Chicago.<sup>2</sup> This treatise caught the attention of a number of prominent intellectuals, including William James, who applauded the effort, and C. S. Peirce, who did not.<sup>3</sup> The centerpiece of *Studies*—the critique of Kantian-inspired formal logic best represented by Rudolph Hermann Lotze—would remain a fixture for Dewey in subsequent papers on logical theory, psychology, and theory of knowledge into the second and third decades of the twentieth century.

If there was a single issue that dominated Dewey’s early forays into logical theory, it was this false division set up by formal logicians—ancient and modern—between form and matter. This topic more than any other occupied Dewey’s first major publication on logical theory in 1890, and formed the centerpiece of the first chapter of *Studies*. It continued to concern Dewey’s overall pattern of thinking as articulated in *How We Think* (1910), and was a key subject in the introduction to *Essays in Experimental Logic* in 1916.<sup>4</sup> The form-matter distinction was important on a number of intersecting levels. To begin with, Dewey thought the distinction false to fact. It was not the case, Dewey claimed, that there were rival ontological domains of existence; one ideal, the other material. This was a holdover from ancient Greek metaphysics imbued in modern philosophy. On another level, this view continued to frustrate the adoption

of science as a natural attitude in contemporary scholarship. Furthermore, empiricist logics—those that eschewed ontological domains in favor of complex inductive accounts of rules and principles—very often failed to extirpate the form-matter dualism from their accounts. This in turn made it difficult for aspiring naturalistic accounts to find legitimate precedents in logical theory. Finally, and perhaps most ominously, if the public was unable to count on existing scholarship for aid in its development of science as a natural attitude—if science itself remained fractured on the question of its ontological commitment to a number of dualisms and their corollaries arising from the form-matter distinction (mind-body dualism, property dualism, phenomenism, epiphenomenalism)—what could it offer in the way of sage advice to the public, to whom the decision of how to apply the results of science was left?

For Dewey, then, there was much at stake in these early forays into logical theory. Dewey took his logical cues from a number of past thinkers and present colleagues, including Aristotle, J. S. Mill, C. S. Peirce, William James, G. H. Mead, Charles Darwin, and, later, F. H. Woodbridge, Franz Boas, and mathematicians and physicists including Isaac Newton, Albert Einstein, Arthur Eddington, Percy Bridgman, Neils Bohr, Max Planck, and Werner Heisenberg. But the earliest and most profound influence, from the standpoint of his earlier logical theory, was G. W. F. Hegel.<sup>5</sup> It was Hegel who first helped Dewey articulate the philosophical impetus behind the criticism of the form-matter distinction. And it was Hegel who gave Dewey an understanding of the interpenetration of form and matter through overcoming various obstacles to analysis and synthesis and induction and deduction in the performance of operations of inquiry. Dewey would throw off his Hegelian “garb” in the last decade of the nineteenth century, but the “Hegelian bacillus” would remain.<sup>6</sup>

That the “bacillus” proved to be resistant to the increasingly functionalist and instrumentalist direction Dewey would take in the years after his period of Hegelianism meant that overcoming the form-matter distinction would continue to partially drive his attempts at reconstructing logical theory. Dewey would make several attempts at overcoming this distinction in the years 1900–1916. To begin with, he would argue an account of logical theory that was genetic-historical, rather than formalist and *a priori*; he would approach topics and issues in logical theory from a developmental standpoint. Problems and issues, rather than formal rules and principles, would be given center stage in this argument. In such an account, operations drive inferences, and the context or problem

to which inquiry is beholden drives operations. There is a good deal of ink spent on the movements within inquiry; beginnings-to-endings and analysis-to-synthesis, which culminate in a “double movement”; a back-and-forth from whole-to-part-to-whole, as the original problem advancing inquiry and its operations is resolved.<sup>7</sup>

Approaching topics and issues from a developmental standpoint insists on a theory of experience that accompanies the account of inquiry’s pattern. Inquiries have beginnings and endings—both of which are experiential. Dewey had to account for how what is experienced in an immediate experience becomes refined (to use a term Dewey would later adopt). This requires an account of immediate experience and an account of the ways in which the products or results of immediate experience are logically ordered and settled. Dewey would only grope toward full accounts of these, as he gradually put together an account of experience that satisfied questions of immediacy and refinement. Dewey was assailed by critics of both idealist and realist camps along the way. (I discuss the realist camps in chapter 1.) By 1915—the year prior to Dewey’s next major venture in logical theory—Dewey had amassed a burgeoning though still incomplete theory of logical forms together with the context in which these forms operate. This context was increasingly spelled out in the period 1903–1915 as experience. Almost the entire introduction to his *Essays in Experimental Logic* (1916)—Dewey’s second treatise on logical theory—was devoted to the role of experience in inquiry. In the introduction to *Essays*, Dewey thought he had what would satisfy critics; an account of experience in which traits of existence of things immediately felt and had, existed (MW 10, 323). This, it was hoped, would ward off the critics’ insatiable appetite for “really real” objects existing in the universe. These traits of existence were felt; they were qualitative, not measurable by instruments. They were found in all beginnings and endings, and their presence (and absence) constituted in part the satisfaction to the felt difficulty that initiated all inquiry. This account of experience was to be conjoined with an account of operations and inferences to produce a total accounting of inquiry that was self-sufficient in that it relied on no ontological dualism between form and matter, ideals and materials, to function.

By 1910, Dewey had the basic “double movement” of inquiry articulated: “a movement from the given partial and confused data to a suggested comprehensive (or inclusive) entire situation; and back from this suggested whole . . . to the particular facts, so as to connect these

with one another and with additional facts to which the suggestion has directed attention" (MW 6, 242). This "double movement" would characterize the pattern of inquiry from 1910 on. *There was in all inquiry a double continuity operative; the second continuity operates between parts and whole—confused data and facts—that in turn emerges from a first continuity—an existential to-and-fro—in the immediacy of having and undergoing and experience.* Establishing an account of the conjoining of the first and second *continuity* is a project to which Dewey would increasingly turn as he moved toward his consummate statement on logical theory; the 1938 *Logic*.<sup>8</sup> But experience in 1916 was still underdeveloped in comparison to the robust and complex account Dewey provided in *Experience and Nature* (1925) and other, later works.<sup>9</sup> Dewey had traits of existence that were qualities of things, but no account as of yet how these qualities are continuous with inquiry, or reflection. Much work had to be done to fill in the context in which inquiry operates. Beyond this, Dewey had made little progress in his theory of logical forms, which consisted chiefly of accounts of deduction and induction against the backdrop of the operations of analysis and synthesis. This was detailed in texts such as *How We Think* (1910), but not beyond this. Until 1915, with the article "The Logic of Judgments of Practice," the *hypothetical* nature of all judgments was mostly implicit in Dewey's work.<sup>10</sup> With this article, and this particular account of judging and judgments, Dewey would dive into *Essays in Experimental Logic* with the premise of the basic hypothetical nature of all claims and assertions at the forefront of his arsenal. And with this in hand, Dewey was able to turn his account of propositions and their role in judgments in a way that avoided the ontological dualism set up between form and matter by generations of previous logicians, while maintaining a functional distinction between universals and generic propositions (kinds) that would ensure the domain of each was not reduced to the other. The problem of integrating formal logical methods, which were regnant at the time of the 1938 *Logic*, with a genetic-historical accounting of inquiry in various contexts and of various subject matters, was foremost on Dewey's mind in the period of 1916–1937. This required nothing less than a reformulation of logical theory. What his reformulation consisted of would occupy Dewey for the next twenty-two years.

After *Essays*, Dewey did not produce another logical treatise until 1938, with the publication of *Logic: The Theory of Inquiry*. Other than the now-published lectures, Types of Logical Theory of 1915–1916 and

1927–1928, there is no single text to which we can turn to examine Dewey's logical theory in this period. Indeed, specifically logical works in this period are less than plentiful in comparison to the earlier period (1890–1916), in which two treatises and several articles dealing directly with logical theory, as well as numerous associated texts on psychology, theory of knowledge, thought, and method, were produced. Instead, there are approximately a dozen scattered articles dealing exclusively with logical theory, and three of these were published in 1936. Various issues regarding Dewey's logical theory are discussed in books and articles devoted to other topics, including education, experience, psychology, philosophy, knowledge, art, and politics. Important information also emerges from Dewey's correspondence with key figures. The task of bringing together this mass of scattered material differentiates this work from the examination and analysis of his earlier period, where texts and articles are ready to hand for investigation.

Complicating the issue of the paucity of specifically logical works by Dewey in this period is the lack of scholarship on Dewey's progress toward the 1938 *Logic*. Indeed, what material there is concentrates either on Dewey's metaphysics or theory of knowledge (exemplified in *Experience and Nature* and *The Quest for Certainty*), or the very late *Journal of Philosophy* articles (1936) that formed the nucleus of Dewey's account of universal, existential, and generic propositions. This lack of scholarship suggests that Dewey spent little time or energy on logical topics—a suggestion falsified by the existence of correspondence and class lectures; correspondence and lectures that show Dewey was hard at work on a logical treatise from approximately 1925 to 1938. Unfortunately, other than pointing to the existence of these materials, together with what does exist in Dewey's publication record during the years 1916–1937, little attempt has been made to sort through this mass and develop from it a cogent and coherent account of Dewey's logical development in this period. This I do in what follows.

The publication of Dewey's correspondence and class lectures have made the articulation of Dewey's logical development in these years a much easier task than otherwise. Dewey wrote no treatise on logic between 1917 and 1938. He wrote fewer articles on logic in this period than he did in the period of 1890–1916. And there are fewer articles detailing logical theory in philosophic, epistemological, and psychological topics compared to his earlier period. Nevertheless, there are important articles and texts that bear on Dewey's logical theory; and this is particularly the

case with respect to the contexts in which logical theory operates. These include experience, education, habit, language, culture, art, applied science, and politics. Indeed, these contexts are far more richly developed than in the previous period. In the case of experience, two of Dewey's texts—*Experience and Nature* (1925/1929) and *Art as Experience* (1934)—hold the solution to the question of continuity's role in inquiry; a question that Dewey made front and center to his 1938 *Logic*.<sup>11</sup>

Continuity turns out to be the key to logical theory by 1938, and experience, the key to continuity. Dewey makes this claim in earnest in 1916 and gives us a fuller articulation in 1925 and 1934. The relationship between continuity as a logical trait of inquiry and continuity as a generic trait of existence—what I am calling *double continuity*—forms much of the backdrop to Dewey's logical development in this period. To see that this is the case, however, we must venture beyond the few articles Dewey wrote on logic in these twenty-two years and look at many of his other publications, his class lectures, and his correspondence. And we must broaden the search beyond his specifically logical works to examine his works on experience, habit, education, language, culture, art, applied science, and politics. In *John Dewey's Earlier Logical Theory*, I used a set of themes to articulate what remained for Dewey to accomplish in the years between the 1916 publication of *Essays* and the 1938 *Logic*.<sup>12</sup> These themes are “Traits, Meanings, and the Indeterminacy of Situations,” “the Existential Matrices of Inquiry (biological and social),” “Scientific and Social Inquiry,” and “Propositions and Inferences in Inquiry.” I follow these themes in chapters 2, 3, and 4. I break the content covered into three roughly equivalent periods for ease of presentation: 1916–1924, 1925–1932, and 1933–1937.

Chapter 1 begins our discussion with the logical education Dewey received from predecessors and colleagues during the period 1916–1937 by way of specific reference to logical theory. It opens with a brief history of Dewey's gains in logical theory up to and including 1915: the year immediately prior to the publication of *Essays*. It follows with a detailed exposition of various thinkers important to Dewey in framing his logical theory in this period, as well as colleagues who had important roles to play in this regard. Also discussed are various topics and issues Dewey grappled with in moving toward the 1938 *Logic*. Chapters 2, 3, and 4 discuss these thinkers, colleagues, topics, and issues in more detail. This constitutes the content of the periods I assign for the purpose of presentation; 1916–1924, 1925–1932, and 1933–1937, together with the

themes mentioned above. Despite the strongly descriptive and historical gloss much of this material receives (a gloss, I might add, that has not been prevalent, at least not in philosophical scholarship), I do have a primary thesis, which I defend: *that continuity as both a logical trait and a generic trait of existence is the key to understanding Dewey's logical theory and that continuity—which Dewey made central to the articulation of the 1938 Logic—is a metaphysical as well as logical concern.* The existential trait of continuity is bound up with the logical trait of continuity in an inquiry. This is the account of *double continuity* Dewey attempts to articulate in his experiential works and the 1938 *Logic*.

A secondary thesis—one that I am prepared to defend but admit requires stronger textual evidence than I provide—is the importance for Dewey's logical theory of Peirce's methods of pragmatism/pragmaticism generally, and his accounts of causality and causal relations specifically. *If Hegel emerges as the key figure in moving Dewey to account for the failure of the form/matter distinction, and is the key figure in moving him toward a reconstructive accounting of his own in the years 1890–1915, then in the years 1916–1938, Peirce emerges as the key figure in gradually moving Dewey from an account in which the enmeshment of experience and inquiry remains undertheorized to one in which each is understood as fully enmeshed with the other.* Dewey's account of how these come to be is developed in the period between 1916–1937 is put to work in the 1938 *Logic*. What this account looks like and how it works is a central aim of this book.