# John Dewey's "Wholly Original Philosophy" and Its Significance for Museums

• • • •

# GEORGE E. HEIN

ABSTRACT

John Dewey's lifework was to create a philosophy that encompassed both life-experience and thought. He attempted to construct a philosophical system that incorporated life as it is lived, not in some ideal form. He rejected all dualisms, such as those between thought and action, fine and applied arts, or stimulus and response. An analysis of "experience" (defined as almost synonymous with "culture") is central to Dewey's writing and leads him to emphasize process, continuity, and development, rather than static, absolute concepts. This paper examines the significance of Dewey's educational views for museum exhibitions and education programs, and his complex definitions of relevant concepts, with special emphasis on his interpretation of "experience." Dewey's faith in democracy and his moral philosophy require that the value of any educational activity depends on its social consequences as well as its intellectual content, a proposition that is discussed and applied to museums. This argument suggests that exhibitions and programs can strengthen democracy by promoting skills that improve visitors' ability to become critical thinkers and by directly addressing controversial issues, taking the side of social justice and democracy.

### INTRODUCTION

Dewey's system [of philosophy] is wholly original. It is a system that is wholly in process, movement, and change—as nature itself is—and that grows, emerges, and evolves (Sleeper 1998, x).

John Dewey, arguably America's greatest philosopher, has influenced public education ever since his prolific writings began to appear late in the nineteenth century. His approach to pedagogy is powerful, if controversial. His carefully articulated ideas still guide progressive educators. His popularization of Pragmatism has received increasing public attention in recent years (Menand 2001). Dewey also influenced museum education and was himself an ardent museum visitor. He included museums in his educational scheme, both in theory—he regarded museums along with libraries as important components for organizing the insights gained from practical experiences—and in practice, at his model

George E. Hein (ghein@lesley.edu) is professor emeritus at Lesley University, 29 Everett St., Cambridge, MA 02138.

laboratory school at the University of Chicago, where children's activities included frequent museum visits (Hein 2004).

Several recent papers in *Curator: The Museum Journal* and other sources have stressed the importance of Dewey's writing for exhibit development and museum education.<sup>1</sup> But the museum literature to date does not include a thorough analysis of the significance of Dewey's educational views for museum exhibitions and education programs, nor have Dewey's complex definitions of relevant concepts been fully discussed. This paper covers these topics, with special emphasis on his interpretation of "experience," and connects them to Dewey's moral philosophy.

The recent stream of articles and books about Dewey—including four major biographies in the past 15 years—attests both to the continuing significance of his writings and to a renewed interest in his ideas. Dewey's philosophy was closely tied to his views on social issues that were contentious a century ago and are still relevant. Dewey recognized the need to maintain a sense of community and social responsibility in a society that appeared to be losing these values due to changing social, economic and cultural factors.<sup>2</sup> He considered the challenge of integrating large numbers of immigrants into the society and the frightening consequences of rampant capitalism. He spoke eloquently about the need for social justice and democratic values even when addressing what might appear to be technical professional issues.

# READING DEWEY

Reading John Dewey in the twenty-first century is daunting, however. He favors a discursive style, common in his time, but not typical of the tighter and more technical writing preferred today. And, even for the more leisurely pace of nineteenth and early-twentieth-century discourse, his prose is convoluted, repetitive, full of qualifications, and at times turgid. Reading Dewey requires careful attention because his effort to integrate his ideas into a comprehensive system and his concern to incorporate life experience into all topics lead to convoluted, even awkward, formulations.

Because so many of his philosophical ideas are interconnected, it is not possible to discuss any one of them—for example his use of the term "experience"—without touching on others, such as his desire to create a philosophy that takes into account ordinary life, his commitment to an overarching system, his lifelong aversion to dualisms, and his faith in democracy. Each of these concerns needs to be included in any attempt to understand Dewey's views on any particular issue. Each influenced his analysis of the others.

The role of life experiences in philosophy—Dewey is pre-eminent in American philosophy for his acceptance of life-experiences as they are actually lived, his determination to incorporate them into his philosophical system, and his intention to enlist them in prescribing courses of action. He argued that experience and thought were not and should not be separated. His lifework was to create a "philosophy for man" that would explain the human condition.<sup>3</sup> For him, philosophy is not adequate if it does not account for life as it is lived in all its complexity, uncertainty and messiness. Dewey knew the history of

philosophy well, taught it and frequently referenced ideas developed by others in his writing. But his own philosophy was influenced more by his personal experiences than by the traditions of his field. In a thoughtful, reflective essay, written when he was 70 years old, Dewey said:

Upon the whole, the forces that have influenced me have come from persons and from situations more than from books—not that I have not, I hope, learned a great deal from philosophical writings, but that what I have learned from them has been technical in comparison with what I have been forced to think upon and about because of some experience in which I have found myself entangled. . . . I like to think, though it may be a defensive reaction, that with all the inconveniences of the road I have been forced to travel, it has the compensatory advantage of not inducing an immunity of thought to experiences—which perhaps, after all, should not be treated even by a philosopher as the germ of a disease to which he needs to develop resistance (1930, 155–156).<sup>4</sup>

For Dewey, "inconveniences" included more than simply the ordinary events of a rich, active life: three major changes of academic positions (including one resignation with no other job in hand); worries about money; various academic difficulties along with his many successes; a lifetime of supporting unpopular causes; and all the complexities of juggling work and travel with the responsibilities of a large family (John and Alice Dewey had seven children, including one adopted son). He also experienced dramatic and tragic events: the early death of two beloved children and, at the time of the essay quoted above, the recent loss of his wife after several years of poor health.<sup>5</sup>

Dewey was aware that this effort to incorporate experience into a philosophical system was not easy. He even recognized that it negatively impacted his writing. In the same essay, he attributed his sometimes awkward and usually verbose prose to his attempt to include, rather than avoid, life-experience in his philosophy. His approach to philosophy leads to a "holistic messiness" (Kaplan 1961); to a philosophy that is inherently contingent, uncertain, and constantly open to reinterpretation, even by its adherents—thus providing a mirror for the uncertainties of life itself.

**Systematic philosophy**—A second major component that influences all of Dewey's work is his deeply felt effort to create an all-encompassing philosophical system. Dewey was certainly not the first philosopher to make such an attempt, but perhaps no one before did so with such a conscientious desire to include life as it is (or seems), or to accommodate all his philosophical views to the vagaries of life. Dewey's approach to systematic philosophy is unique, all encompassing, and focused on process rather than on a search for invariant "truths" or "entities."

It is a system that hangs together, Dewey tells us, because it all comes from a "perspective determined from a definite point of view." It is this perspective that brings coherence to the whole, an *elenchus* that distinguishes it most sharply from the systems of his predecessors from Plato to Peirce. For it is not a Weltanschaung of the architecture and furniture of the universe, nor a *first philosophy* that lays down the foundations of the world order (Sleeper 1998, x).

His fundamental desire to develop a unifying theme that might be applicable to all traditional philosophical questions—logic, ethics, metaphysics, aesthetics, and so on—became evident early in Dewey's career. In the same autobiographical essay referenced earlier, he mentions that he first became aware of this inner drive in response to a required undergraduate course in physiology that used a text by Thomas H. Huxley.<sup>6</sup> (Dewey was probably 19 years old when he attended these lectures.) Physiology as such didn't particularly interest Dewey, but the concept of "a sense of interdependence and interrelated unity. . . gave form to intellectual stirrings that had been previously inchoate, and created a kind of type or model of a view of things to which material in any field ought to conform" (Dewey 1930, 148). He continued:

Subconsciously, at least, I was led to desire a world and a life that would have the same properties as has the human organism in the picture of it derived from study of Huxley's treatment. At all events, I got great stimulation from the study, more than from anything I had had contact with before; and as no desire was awakened in me to continue that particular branch of learning, I date from this time the awakening of a distinctive philosophical interest (1930, 148).

During Dewey's early years, academic philosophy in the United States was emerging as an independent discipline separate from theology. Until the 1870s, philosophy had been taught mostly by Protestant ministers. The predominant view was strongly influenced by German idealist philosophy, especially the writings of G. W. F. Hegel, whose novel methodology (his famous thesis-antithesis-synthesis formulation) and his acceptance of Christianity and current social institutions appealed both to the intellect and the generally conservative positions of American philosophers as they endeavored to delicately differentiate themselves from their theological forebears. Dewey, who had been brought up in a religious atmosphere, was a practicing Christian for some years. He described the impact Hegel had on him by revealing the possibilities of a systematic philosophy within the bounds of his own experience and beliefs.

Hegel's thought. . . supplied a demand for unification that was doubtless an intense emotional craving, and yet was a hunger that only intellectualized subject-matter could satisfy. It is difficult, it is impossible, to recover that early mood. But the sense of divisions and separations that were, I suppose, borne in upon me as a consequence of a heritage of New England culture, divisions by way of isolation of self from the world, soul from body, of nature from God, brought painful oppression—or rather, they were an inward laceration. My earlier philosophic study [before he studied Hegel] had been an intellectual gymnastic. Hegel's synthesis of subject and object, matter and spirit, the divine and the human, was, however, no mere intellectual formula; it operated as an immense release, a liberation. Hegel's treatment of human culture, of institutions and the arts, involved the same dissolution of hard-and-fast dividing walls, and had a special attraction to me (1930, 153).

**Rejection of dualism**—The quotation above illustrates another important feature of Dewey's lifework: his absolute resistance to and dislike of dualisms, "divisions" that caused him "inner laceration." His "heritage of New England culture" and its strong Protestant

influences, as well as his study of the history of philosophy, had introduced him to the common western view that there were sharp distinctions of kind (not only of degree) between categories of life, experience and thought. Dewey objected to such qualitative distinctions in almost everything he wrote. In his powerful critique of all previous Western philosophy, *The Quest for Certainty* (1929), Dewey argued that rather than attempting to base a philosophy of life on dualistic distinctions in a vain "quest for certainty," we should recognize that life is necessarily uncertain and learn to accept this as a basis for philosophy. He repeatedly challenged Western thinkers who have tried, in the vain hope of escaping from "the perils of existence," to distinguish between mind and body, ideal and actual, or knowledge and belief. In *Art as Experience*, Dewey rejected a distinction in kind between making art and appreciating art (1934). *Experience and Education* opens with "Mankind likes to think in terms of extreme opposites" (1938). Dewey then framed this succinct summary of his educational views in terms of a criticism of "Either-Ors between which [mankind] recognizes no intermediate possibilities."

There are a number of reasons why Dewey rejected dualisms—including the problems they raise for developing a unifying system of philosophy, especially one that incorporates the uncertainties of actual living. But particularly important is the frequent association of one side of a dualism with a higher moral value than the other. Typical examples of this moral consequence of dualisms include valuing faith over reason, mind over matter, thought over action, fine art over applied art, or professional work over unskilled labor. Dewey was essentially a moral philosopher who wrote frequently about the moral (or immoral) consequences of ideas. For him, moral value needed to be based on the results of particular actions, not on presumed categorical differences between invented categories.

[Dualism is] connected with the pre-experimental and pre-technological leisure class tradition, according to which the characteristic object of knowledge has a privileged position of correspondence with what is ultimately "real," in contrast to things of non-cognitive experiences, which form the great bulk of "ordinary experiences" . . . Some of the gratuitous dualisms . . . are those of the objective and the subjective, the real and the apparent, the mental and the physical, scientific physical objects and objects of perceptions, things of experience and things-in-themselves concealed behind experience, the latter being an impenetrable veil which prevents cognitive access to the things of nature.

The source of these dualisms... is isolation of cognitive experience and its subject-matter from other modes of experience and *their* subject matters, this isolation leading inevitably to disparagement of the things of ordinary qualitative experiences, those which are aesthetic, moral, practical; to "derogation of the things we experience by way of love, desire, hope, fear, purpose and the traits characterizing human individuality"—or else in an effort to justify the latter by assertion of a super-scientific, supraempirical transcendent *a priori* realm (1939/1998a).

A typical example of Dewey's critique of dualisms, relevant to his definition of experience, is found near the end of *Democracy and Education*, in the last chapter, titled "Theories of Morals":

Since morality is concerned with conduct, any dualisms which are set up between mind and activity must reflect themselves in the theory of morals. . . .

The first obstruction which meets us is the currency of moral ideas which split the course of activity into two opposed factors, often named respectively the inner and outer, or the spiritual and the physical. This division is a culmination of the dualism of mind and the world, soul and body, end and means, which we have so frequently noted. In morals it takes the form of a sharp demarcation of the motive of action from its consequences, and of character from conduct (1916, 346–347).

Instead of the sharp demarcation, "there is one continuous behavior, proceeding from a more uncertain, divided hesitating state to a more overt, determinate, or complete state" (1916, 347). He goes on to critique theories of morality that consider intention more important than the consequences of actions; theories that "seek refuge and consolation within their own states of mind, their own imaginings and wishes, which they compliment by calling both more real and more ideal than the despised outer world" (1916, 358–359).

**Participatory democracy**—A final aspect of Dewey's thought that has significant impact on all his views is his faith in democracy. Westbrook (1991) makes this the theme of his recent biography and incorporates it into his title.

Dewey was the most important advocate of participatory democracy, that is, of the belief that democracy as an ethical ideal calls upon men and women to build communities in which the necessary opportunities and resources are available for every individual to realize fully his or her particular capacities and powers through participation in political, social and cultural life. This ideal rested on a "faith in the capacity of human beings for intelligent judgment and action if proper conditions are furnished," a faith, Dewey argued, "so deeply embedded in the methods which are intrinsic to democracy that when a professed democrat denies the faith he convicts himself of treachery to his profession" (Westbrook 1991, xv).

For Dewey, participatory democracy was not something he attempted to justify or derive from rational arguments about the condition of man; it was truly an article of faith, a fundamental component of his worldview. In part, this may have been one of the more positive consequences of his "heritage of New England culture." In the same article quoted by Westbrook above, Dewey continued:

I did not invent this faith. I acquired it from my surroundings as far as those surroundings were animated by the democratic spirit (Dewey 1939/1998b).

This faith was undoubtedly influenced and strengthened by his wife's progressive views and by his friendship with social reformers, including Jane Addams. In any case, he frequently resorted to this faith in arguing a particular position. Progressive education is appropriate, for example, because it takes into account what we know about human development, but, more important, because it is *necessary*, if the purpose of the educational system is to educate children to take their place in a progressive society, one that strives towards increased participatory democracy.<sup>10</sup>

A further example of how his faith in democratic processes influenced his definition of experience and his educational views is found in *Experience and Education*. After discussing the difference between the autocratic and punitive character of traditional education and the more humane treatment of children in progressive schools, Dewey said:

The question I would raise is why we prefer democratic and humane arrangements to those which are autocratic and harsh. And by "why" I mean the *reason* for preferring them . . . the reason why we *should* prefer it [emphasis in original].

... Can we find any reason that does not ultimately come down to the belief that democratic social arrangements promote a better quality of human experience, one that is more widely accessible and enjoyed than do non-democratic and anti-democratic forms of social life? Does not the principle of regard for individual freedom and for decency and kindliness of human relations come back in the end to the conviction that these things are tributary to a higher quality of experience on the part of a greater number than are methods of repression and coercion or force (Dewey 1938, 34)?

In summary, Dewey's determination was to construct a holistic view of life and its meaning in a way that would incorporate the events of experience without imposing artificial distinctions. His ideas were consistent with actions that supported participatory democracy. His theory of experience incorporates all these elements into a unified worldview.

# DEWEY'S DISCUSSION OF EXPERIENCE

Experience forms the centerpiece of several of Dewey's major works and is never far from his discussion of any topic. He remains consistent, over the more than 60-year span of his writing, in his championing of experience, despite the difficulty of a precise definition of that word. Experience becomes essentially a synonym for culture, as well as a description of actions in the context of their antecedents and consequences. Placing experience central in his philosophy leads Dewey to emphasize process, continuity, and development, rather than static, absolute concepts.

The school of philosophy of which Dewey is the most prominent figure (although not the founder) is called Pragmatism, a term first used by Charles S. Peirce and generalized by William James. <sup>12</sup> "Instrumentalism" was an alternative term favored by Dewey. It is not a simple "ism" to define, arising from diverse roots and interpreted, even by its founders, in various ways. <sup>13</sup> It is a school of philosophy in which human actions, and the consequences of thoughts and actions, are fundamental. Critics, including Bertrand Russell, decried it as a "commercial" philosophy, subject to market forces with neither a substantial moral nor logical basis. They argued that without references to first principles, pragmatism allowed the whims of individuals—their prejudices or monetary interests, for example—to determine right and wrong (see Schlipp 1939). Dewey responded forcefully to such critiques (see Dewey 1939/1998a). For him, valuing experience did not void the need for moral values. Most of his writing includes sections that indicate why, on the basis of a complete philosophy of life, it is possible to distinguish between actions that are moral and those that are not.

[Pragmatism views] philosophy always in the perspective of the whole cultural context in which it serves *as* philosophy. Pragmatism, this is to say, insists on regarding philosophy primarily as a human endeavor—serving human purposes in various ways and more or less effectively, subject to the same limitations as every other human endeavor and sharing also in the unlimited reach of the human spirit (Kaplan 1961, 14).

Continuity of experience—A common feature of Dewey's treatment of ideas, consistent with and derived from his development of a pragmatic (instrumental) philosophy, is his insistence that both the antecedents and the consequences of a particular situation need to be included in its definition. He called this the "continuity" of experience. Thus, "experience" contains within itself both a past and a future. It is more than a sensation of the moment, something more than the empiricists' (and strict behaviorists') concepts of sensory stimulations. Boisvert (1998), in a particularly clear discussion of Dewey's interpretation of experience, argues that Dewey's view of experience has much in common with Proust's novelistic description: any experience includes all the memories and previous associations with a life-event. But for Dewey, unlike the introspective protagonist of Proust's fiction, experience also incorporates external consequences of a sensation. In pragmatic terms, in order to *understand* an experience we must consider what happened before, and to *evaluate* it we need to consider future actions for which it serves as precursor.

Another way Dewey describes concepts that included antecedents and consequences is to say that they have both breadth and depth. Experience of nature includes not only the sensations derived from natural phenomena but also what the individual brings to the experience and how he or she interprets and applies it to future thoughts and actions:

It is not experience which is experienced, but nature—stones, plants, animals, diseases, health, temperature, electricity, and so on. Things interacting in certain ways *are* experience; they are what is experienced. Linked in certain ways with another natural object—the human organism—they are *how* things are experienced as well. Experience thus reaches down into nature; it has depth. It also has breadth and to an indefinitely, elastic extent, it stretches. That stretch constitutes inference (Dewey 1929/1958).

Dewey applied this extensive and complex definition of experience quite early in his writings to develop a critique of simplistic psychological behaviorism. In a well-known article, <sup>14</sup> Dewey (1896) argued that stimulus and response are not separate events, but part of a cycle of action that exists as a unified whole in experience. Using the familiar example (used earlier by William James) of the child who is attracted to a lighted candle and then finds that it burns his finger, Dewey pointed out that the stimulus includes more than a simple sensation. Prior experiences led the child to reach for the light, to respond to that particular sensation rather than to others that simultaneously impinge on the organism. The consequent response of pulling away the hand must also be recognized as part of a larger, complete cycle.

What we have is a circuit, not an arc or a broken segment of a circle. This circuit is more truly organic than reflex, because the motor response determines the stimulus, just as truly as sensory stimulus determines movement (Dewey 1896/1998, 6).

Although it is possible in theory to analyze a sensation and describe its individual components, such as stimulus and response, these have no independent existence in life;

each influences the other. The stimulus is only recognized and responded to when it is selected by the individual, based on previous experience (knowledge), and the response itself will alter the individual's future understanding of stimuli. To separate these two events into cause and effect with no other relationship is to revert to a classical dualism and to ignore their association in more coherent and larger life events that include motivation and purpose.

To sum up: the distinction of sensation and movement as stimulus and response respectively is not a distinction which can be regarded as descriptive of anything which holds of psychical events or existences as such. The only events to which the terms stimulus and response can be descriptively applied are minor acts serving by their respective positions to the maintenance of some organized coordination. The conscious stimulus or sensation and the conscious response or motion, have a special genesis or motivation and a special end or function. The reflex arc theory, by neglecting, by abstracting from, this genesis and this function gives us one disjointed part of a process as if it were the whole. It gives us literally an arc, instead of the circuit; and not giving us the circuit of which it is an arc, does not enable us to place, to center, the arc. This arc, again, falls apart into two separate existences having to be either mechanically or externally adjusted to each other (Dewey 1896/1998, 9).

Here Dewey combined several of his recurring themes. A theory that abstracts from life as it is, that leads to a dualism that simplifies at the expense of completely describing experience, that doesn't include the "breadth and depth" of experience and doesn't incorporate intentionality, is inadequate. It "does not enable us to center the experience in a larger context."

The moral component of experience—In his early, technical critique of a narrow definition of experience, Dewey didn't address the moral aspect of "experience"—whether the concept leads to supporting a "progressive" society, to enhancing democratic practice. In Experience and Education—besides making the argument that experience, like all concepts, has a past and a future, a continuum of experience—Dewey also distinguished between educative and noneducative experiences on moral grounds. It is possible to have a continuity of experience that is not productive. For example, "a man may grow in proficiency as a burglar, as a gangster, or as a corrupt politician." "But," said Dewey, "from the standpoint of growth in education and education as growth the question is whether growth in this direction promotes or retards growth in general" (1938, 36). To answer this further question we need to invoke the concept of the quality of experience. It's possible for a series of experiences to be miseducative if they don't lead to the widening of "external conditions of subsequent learning" (Dewey 1938, 37). To be educative, experience needs to help a child learn to learn, to appreciate the social and moral consequences of what has been learned. This kind of growth cannot be simply technical, such as increased skill in some craft or field of knowledge (which might include burglary, and so on); it must also include moral growth. This places a particular burden on the educator:

A primary responsibility of educators is that they not only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences that

lead to growth. Above all, they should know how to utilize the surroundings, physical and social, that exist so as to extract from them all that they have to contribute to building up experiences that are worthwhile (Dewey 1938, 40).

There can be no doubt, for any reader of Dewey, that "worthwhile" educational experiences, those that lead to further growth, are ones that teach people the intellectual and social skills needed to live together in a participatory democracy. This is spelled out in *Democracy and Education*, his most detailed treatment of education, and a work he considered especially important. Dewey even complained that his philosophical critics failed to read this significant component of his life work.

Although a book called *Democracy and Education* was for many years that in which my philosophy, such as it is, was most fully expounded, I do not know that philosophical critics, as distinct from teachers, have ever had recourse to it. I have wondered whether such facts signified that philosophers in general, although they are themselves usually teachers, have not taken education with sufficient seriousness for it to occur to them that any rational person could actually think it possible that philosophizing should focus about education as the supreme human interest in which, moreover, other problems, cosmological, moral, logical come to a head. At all events, this handle is offered to any subsequent critic who may wish to lay hold of it (Dewey 1930, 156).

Dewey not only emphasized the moral component of educational experiences, he also described specific pedagogic experiences that were worthwhile. The particular activities that promoted "learning to learn" were actual hands-on (and minds-on!) experiences grounded in everyday life activities. In a previous paper (Hein 2004), I pointed out that at the Dewey school, children's experiences were based on activities of the kitchen, shop and garden, refined into laboratories and studios and further supplemented by libraries and museums, as students progressed from practical activities to more intellectual ones. Experiences that educate are those that involve problem solving, critical reflection and experimentation, all components we characterize as part of "inquiry." In addition, another aspect of worthwhile educational experiences consists of activities that promote social interaction and allow each student to achieve his or her full potential within a cooperative community (see Tanner 1997).

To summarize, Dewey's conception of experience includes its antecedents and consequences, as well as its intentions and goals. To be educative, such experience needs to foster habits of mind, such as inquiry, problem solving, working together with others, and skills for living harmoniously in a social world. But these pedagogic qualities are only means, not ends for education. The most significant quality of progressive educational experiences that makes them worthwhile is that they contribute to building a stronger democratic society.

# DEWEY'S CONCEPT OF EXPERIENCE APPLIED TO MUSEUMS

Dewey provided numerous examples of his educational theory applied to classroom settings. He discussed curriculum, pedagogy and school organization. We also have the rich

record of the laboratory school in Chicago to illustrate what he meant. Applying his ideas to museums requires extrapolation and interpretation to cover the different circumstances of museum visits:

Continuity—Thoughtful articles by Ansbacher (1998; 1999; 2002) and Hennes (2002) have addressed some of the issues raised by Dewey's conception of experience and its implications for the design of exhibitions. As both writers have pointed out, experience is at the center of any visitor learning. It is the museum staff's responsibility to maximize the potential of experiences as visitors interact—visually and perhaps orally and/or manually—with exhibitions. Any interaction is an "experience," but, applying Dewey's terminology, interactions differ dramatically in their quality and continuity. Both authors have emphasized the need to examine exhibition design for the factors that will encourage intense and deep interaction, that will increase the depth and breadth of the experience.

Ansbacher (2002) has provocatively suggested avoiding the term "learning" because it is vague and applies mainly to the outcomes of experiences, and he has developed a model that considers outcomes separate from the experience itself.<sup>15</sup> But if we invoke Dewey's ideas as a guide, Ansbacher's suggestion that designers focus on the experience itself and not on the unpredictable outcomes—although useful advice—contradicts Dewey's approach. For Dewey, the consequences of an experience—what it leads to and what it motivates the visitor to do—are essentially and intractably connected elements of "experience." Reflection and thought, essential components of inquiry, are part of an experience; they distinguish an educative experience from routine activity.

Experience is not a rigid or closed thing; it is vital and hence growing . . . experience also includes the reflection that sets us free from the limiting influence of sense, appetite and tradition (Dewey 1933).

Levels of experience—The constant interplay between experiences themselves and the additional components that are part of experience—reflective thought (or inquiry), antecedents and consequences, and outside influences—suggests three cycles of increasing complexity that describe the rich idea of "education as experience" applied to museums.

*First cycle*—At the most immediate level, there is a cycle of thought and action that goes on within the confines of any exhibit component itself. Such an experience is represented by the limited cycle represented in figure 1.

This cycle includes reflection and, in exhibits with interactive components, some physical action. The kinds of questions the visitor may ask are, "What is this about?" "What happens if I do this?" and so on. Ansbacher's comments concerning the immediate experience apply particularly at this level. Without immediate attention and engagement, an exhibit is unlikely to be deemed successful by any criterion.

Experiences at this level are possible at all exhibits, and need to be made as effective as possible by exhibit developers. A crucial question for exhibit development is what a visitor can do (mentally and/or physically) that results in reflection and continued engagement with the exhibit, that stimulates the dynamic suggested by the back-and-forth arrows. One

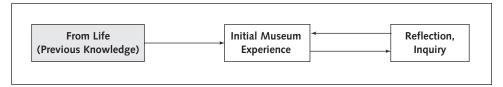


Figure 1. A limited experience cycle.

example (among many) of a science museum exhibition that accomplished this goal is *Investigations*, at the Museum of Science, Boston, which intended to engage visitors in serious inquiries with a range of interactive exhibits that encouraged experimentation (Bailey, Bronnenkant, Kelley, and Hein 1998). The exhibition not only posed experimental questions and challenges for visitors, but also provided the tools for them to engage with the materials. The Exploratorium project, *Active Prolonged Engagement* (Humphrey and Gutwill 2005), is another example of an effort intended to extend and deepen the immediate experience cycle.

Our goal during the project was to build exhibits where visitors could approach an exhibit, immediately begin using it, and quickly experience something intriguing, beautiful or enjoyable. We called this initial engagement, and we knew that without it, visitors were unlikely to stay with an exhibit long enough to discover other experiences it might have to offer. After captivating visitors, we wanted there to be enough depth or breadth to the exhibit that visitors could continue to explore the exhibit's phenomenon in a deeper way. This combination of strong initial and prolonged engagement would provide the foundation for an APE experience (Humphrey and Gutwill 2005).

Second cycle—A second—broader but still proximate—experience cycle incorporates a richer conception of experience. It acknowledges that visitors bring to any museum experience both interests and prior knowledge, and may wish to extend the experience beyond the immediate confines of the exhibit or intentions of exhibit developers. To support this broader opportunity for experience, museum exhibitions may include additional resources to aid visitors to have a richer experience, to make connections between the exhibition and the world—what Dewey calls "objective conditions." This broader inquiry cycle is illustrated in figure 2.

Inquiries at this level ask questions such as, "How does this match what I read on the label at another exhibit?" "Why would the museum have this exhibit?" "Is this true for all objects of this kind that I can look at on the CD-ROM?" or, "Does this match what I remember from school?" Here, visitors develop inquiries that go beyond what is immediately perceived and/or that make use of the knowledge and culture they bring with them to the museum. Again, museum exhibit designers have devised a variety of ingenious methods to connect what is shown in the museum with broader themes, with life experiences, and with the canonical content of the subject matter on display.

An Exploratorium research project designed to encourage visitors to find significance for themselves in selected exhibits attempted to engage visitors to make broad (and deep) connections by providing narratives that described the exhibit's development—stories that

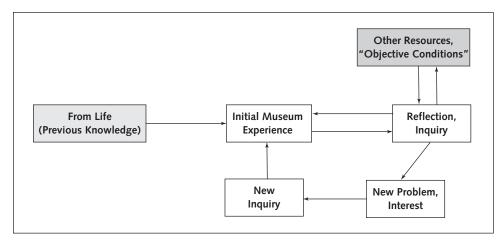


Figure 2. A broader experience cycle.

connected the exhibit to real world situations and other prompts (Allen 2004). Allen described the research in Dewey-like terms:

In this project, we viewed learning as a cycle in which learners: 1) have experiences with exhibits, 2) find something in them that is relevant or significant (the "hooks"); and 3) integrate those experiences into their previous knowledge (which may include attitudes, beliefs, memories, etc.). Ideally, knowledge integration will lead to further thinking and questioning, 4) making the learner curious to have further experiences. This creates a cycle in which experiences alternate with processes of reflection (Allen 2004, 6–7).

The experience/inquiry cycle expands in two directions. First, for many exhibits it may be possible to engage in further inquiry, to manipulate components in hands-on situations, or initiate thought experiments that go beyond the scope of the intended inquiries on the topic of the exhibit. Visitors frequently interact with exhibits in thought or deed following their own agendas, whether the museum planned for this or not.<sup>16</sup>

Second, another major component of reflection and inquiry is to think about how personal views match or contradict the views of others, how they fit in with widely held views, or, most generally, how they compare with the combined wisdom and experience of the culture (of science, art, society.) Museum exhibits not only engage visitors and help them to construct meanings, they usually also reference the larger world of cultural subject knowledge. This represents the part of the component that Dewey called "interactivity," which, like continuity, has breadth and depth and needs to be considered in discussing experience. Dewey placed the responsibility of providing links to the world outside the learner on the teacher. S/he needs to assist the learner to understand how his or her experience and meaning making fits in with other people's experiences and with canonical views.

One of the challenges faced by exhibit developers and designers is that people, in particular teachers, can most readily help learners to go beyond their immediate

experiences. In museum exhibits, this responsibility is left primarily to inanimate, mostly static, devices. In order to have an inquiry cycle, to solve problems and increase visitors' understanding of how the world is conceived by others, learners need to be able to go beyond their own thoughts and reflections and test their ideas against a larger canvas of human experience. With recent technological advances, as well as advances in exhibit design, exhibit designers need no longer limit their efforts to extend the immediate experience to long (and frequently ignored) written text. Some museums include direct links to libraries; others incorporate comments from experts and utilize a variety of media resources. The resource rooms found in such diverse settings as, for example, the British Galleries at the Victoria and Albert museum and the Africa exhibition at the Field Museum, as well as computer links to additional resources available in other galleries, help to add this key aspect of Dewey's experience cycle to museum exhibitions.

The connection between personal visitor meaning-making (Silverman 1995) and the world's knowledge addresses an important issue for museums (as well as schools), since they typically have a mandate to teach canonical views of subjects. Dewey clearly and explicitly recognizes that there is a place for accepted disciplinary knowledge in education. In *Experience and Education*, he discusses at length the need to consider "objective conditions" from the outside world that make up an individual's complete experience. One of the dualisms he criticizes is the tendency of educators to claim that experience either comes completely from sensations of the external world or that it is entirely internal, independent of outside influences.

This type of dualism, contrasting knowledge and experience, is frequently reflected in museum exhibitions. Some exhibit designers focus only on the immediate museum experience; others overemphasize the interpretation of that experience as it relates to canonical knowledge. Others set up a dualistic antagonism between virtual and physical, or content-centered and visitor-centered. All such analytic divisions diminish the probability of creating an educative experience.<sup>18</sup>

Third cycle—Finally, the only way to know whether even a deep and prolonged engagement with an exhibition is educative, is to go beyond what occurred during the interaction and to examine its "length as well as its breadth," to ascertain what impact it has on the future behavior and knowledge of the visitor. The significance of studying the long-term impact of museum experiences is clear. Researchers (Falk and Dierking 2000, 53–54; Mc-Manus 1993; Stevenson 1991) have collected considerable empirical evidence that at least some museum experiences don't manifest themselves in visitors' lives until months or even years after the actual event.

Figure 3 incorporates all these levels of experience and represents the complete Dewey cycle. The museum encounter not only leads to reflection and inquiry within the museum setting, but is also influenced by what precedes the museum encounter and promotes extending the museum experience to the world beyond the museum. The educative purpose of museum experiences is not complete unless they lead to some action beyond the immediate satisfaction of understanding the exhibition.

One widespread example of museum exhibitions that incorporate the intention of subsequent changed behavior is the effort by most zoos, aquariums and natural history

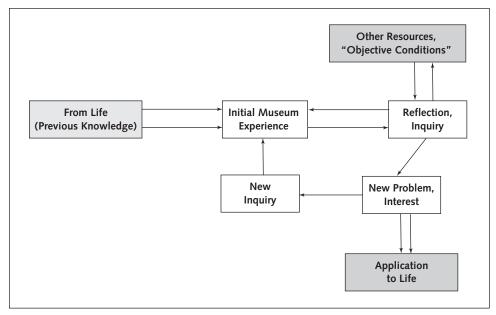


Figure 3. An extensive, inclusive museum experience cycle, based on Dewey.

museums to promote conservation. Whatever the immediate experiences in the institution, there is frequently an added intention of encouraging visitors to carry their new knowledge into action in support of sustainable practices and conservation.<sup>19</sup>

The complete experience cycle—In summary, all three levels of interaction—the museum experience, and what precedes and follows it—are components of Dewey's conception of "experience" as he applied it to education. The component of previous knowledge includes not only what the visitor brings to the experience, but also how the new experience relates to generally accepted content knowledge.

Dewey's critique of traditional education repeatedly emphasized that the problem with most classrooms is not so much that a particular inappropriate or "miseducative" practice or custom is followed, but that there is insufficient concern for the implications of specific practices on the overall educational enterprise. Each component of what we do regularly, whether in educational activities or exhibit development, must be considered in the context of a larger cycle of human experience. A Dewey-inspired experience cycle for museum experiences, proposed in figure 3, includes what the visitor brings to the exhibit—in terms of background, culture, and so on—as well as the consequences of the visit, as components of the museum experience. Limiting attention to a single component ignores the importance of the entire cycle. A particular focus on one component may be useful in addressing specific technical problems. But without considering the implications for the whole experience, such narrow attention risks losing sight of more significant educational goals. For example, exhibit developers long ago realized that they could prolong visitor interaction with exhibits by providing "interactive" elements. Thus, exhibits

included buttons to push, flaps to lift, and so on. But an exclusive focus on increasing visitor time without assessing the total experience can lead to "hands-on" activity without "minds-on" engagement. The latter has proven to be a more complex challenge, but it remains a necessary component of exhibit design if we wish to fully implement Dewey's educational conceptions.

# THE MORAL COMPONENT OF EDUCATION

As indicated earlier, Dewey's educational theory, the center of his entire philosophy, also includes a moral component. For a democratic society, education must consist not only of acquisition of skills and knowledge, but must also include growth in value. For Dewey, as for all progressive educators, growth includes more than understanding and internalizing the customs of the present society; it also encompasses development of the ability to support a society that promotes participatory democracy and improves on current practice. Judging the value of educational activity by its social consequences as well as its intellectual content is an integral component of progressive education. If exhibitions and programs don't lead to growth in understanding of (and support for) democratic, inclusive principles and practices, then they are miseducative—they don't succeed as educational activities.

As in the case of "experience," analysis of the moral/social aspect of educational experiences can take many forms and manifest itself at different levels. It deserves a much more detailed discussion than presented here. Here are three ways museum experiences might be fully educative by Dewey's standards, illustrated by a few examples.

Inquiry—The vast literature on inquiry as a method of instruction, both for schools and for museums,<sup>20</sup> focuses primarily on the recognition that people learn by struggling to make sense out of experiences (Bransford, Brown, and Cocking 1999). Appropriate learning situations are those that provide opportunities to mentally (and physically, where appropriate) manipulate situations that pose problems of interest to the learner. But this method of instruction that "center[s] on the production of good habits of thinking" (Dewey 1916, 163) is also educative because it helps students to "learn to learn," to develop tools to challenge accepted ideas, to think for themselves and participate intellectually in social debate. The strong empirical evidence that inquiry is essential for learning, based on 100 years of developmental research, is not the only reason for advocating educational methods that promote its use. Inquiry-based education also has powerful social and moral consequences. Democracies (at least in principle) have long advocated public education that promotes critical thinking for all citizens. Opponents of democracy have also recognized the significance of inquiry in education; the long history of efforts to suppress independent thought and inquiry-based education by totalitarian regimes is well documented.

In the museum sphere, the importance of providing visitors with tools to exert more control over their interaction with exhibits, to engage in richer inquiries, and to learn investigative habits of mind, is also usually justified by reference to evidence from learning

theory. It can—and should be—justified, because critical thinking is an important skill for citizens to develop in a democratic society. A rare example acknowledging this "moral" attribute of enhancing inquiry is expressed in the Exploratorium APE project referenced above (Humphrey and Gutwill 2005). The authors discuss the value of their work in "empowering" visitors.

The second tension comes from another important goal of the project: empowering visitors to pose and pursue their own questions at the exhibits . . . APE exhibits were created to encourage visitors to explore phenomena in their own ways, answering their own questions, rather than turning to the authority in the label (Humphrey and Gutwill 2005).

Overt social agendas—Museum exhibitions—or entire museums—that affirm their intentions to support the growth of democracy and social justice are obvious examples of Dewey's "growth in value" in action. John Cotton Dana is the museum director most often associated with advocating such a role for museums. A contemporary of Dewey who lived and worked in the same metropolitan area, Dana consistently advocated a role for museums that matches the progressive education view. His intensively educational exhibitions were designed to be relevant to the entire population. He acknowledged and promoted the various cultures of the immigrant populations of Newark, and championed inexpensive, accessible design available for all (Peniston 1999).

A current example of a forceful emphasis on social issues is the collaborative, world-wide network of historic site museums, Sites of Conscience, which assumes responsibility both for preserving important historic sites and promoting social change.

The Coalition [Sites of Conscience] is a network of historic site museums in many different parts of the world, at many stages of development, presenting and interpreting a wide variety of historic issues, events and people. We hold in common the belief that it is the obligation of historic sites to assist the public in drawing connections between the history of our site and its contemporary implications. We view stimulating dialogue on pressing social issues and promoting humanitarian and democratic values as a primary function (Sites of Conscience).

The use of museums to promote social agendas is open to debate, and some, especially from the art museum world, dispute the value of such emphasis (see Cuno 2004). It can also be argued that any museum activity is political, since to espouse the status quo or to claim a "neutral" position on any topic is also a political stance. Political agendas may also be miseducative, in the sense that Dewey considered increased skill in burglary as not leading to "growth in general," that is, not supporting growth towards democracy. Robert Sullivan has described the museum's role of social responsibility in terms that echo Dewey's vision.

Museums are moral educators and must speak with confidence and competence on such ethical issues as gender and race equity. As educational institutions, we are necessarily agents of change, not only changing the knowledge, beliefs, attitudes, and feelings of our individual visitors, but also affecting the moral ecology of the communities that we serve (Sullivan 1994, 100).

The museum community, in the United States and worldwide, has moved in the direction of including social agendas within its formal policies. Following decades of increased emphasis on education as a core mission of museums, the latest AAM initiative, *Museums and Communities* (American Association of Museums 2002) addresses the topic of museums and communities and urges more service focus for museums. Some of the language echoes progressive social ideas: museums are urged to work collaboratively with communities, to give up their remote authoritarian voice, and promote greater accessibility and social action.

The ability of museums to expand community service depends upon the creation of new and really collaborative relationships, where we do not presume to know what audiences need. In these new relationships we will regard ourselves as reservoirs of information and expertise and will relinquish our traditional authoritarian roles in favor of new responsibilities as both resources and facilitators of dialogue about those things that matter most to people (Archibald 2002, 2–3).

Change the museum—The AAM Initiative is as much about changing museums as it is about engaging communities. This approach to examining the structure and practices of educational institutions also parallels Dewey's inclusive discussion of the moral component of education. Education for a democratic society needs to be carried out in institutions that themselves reflect democratic values and democratic practices. Dewey's emphasis is not just on method and content but also on institutions that have educational missions. The laboratory school was exemplary not only for the nature of the children's activities, but also for the way it was organized and structured (Tanner 1997, chapter 6; Mayhew and Edwards 1936.)

Dewey's ideas on school organization and approaches to teaching are part of a whole conception. The meaning for school improvement is clear: [Dewey's ideas] on selection of content and instruction cannot be applied with any reasonable expectation of success without matching organizational milieu . . . Large differences between administration and the way teachers work with children are apt to lead nowhere (except, maybe, to an increased level of frustration) (Tanner 1997, 95–96).

Similarly, if museums strive to educate for a democratic society, they must consider how they, as institutions, practice fundamental democratic principles.

Addressing social issues and examining internal practices are frequently combined. For example, Fred Wilson's exhibitions, such as *Mining the Museum* (Berger 2001), display disparate and shocking objects (by traditional museum standards) in association with each other, or apply anthropological labels to art objects, and vice versa. His approach both addresses racism in U.S. society and challenges traditional, anti-democratic curatorial and collection practices.

A common experience for museums, as for other organizations, is to begin to address social issues external to the museum and to discover that the process leads to questioning internal practices. One example of such evolutionary development is the recent emphasis on museum accessibility. In the past decade, museums dramatically progressed in making exhibitions and visitor services accessible to a larger fraction of the total population.<sup>21</sup> Frequently,

such efforts, as they take hold, also begin to change practices of museum staff. Staff members with disabilities may be recognized as experts, more staff with disabilities may be hired, and attitudes among staff toward both visitors and staff with disabilities may change.

Including democratic values and practices is crucial for implementing a Deweybased approach to education. Providing visitors with the knowledge and tools so that they, too, can increasingly support such an agenda is not a voluntary option, but an essential component of the educational role of museums.

### **CONCLUSION**

The powerful impact of Dewey's ideas comes both from their coherence and connectedness and his insistence that they be tested against a standard of supporting democracy. Dewey reminds us repeatedly that the reasons for adopting a particular concept or point of view are not limited to logical consistency or philosophical coherence. The primary reason is because the position is necessary in order to enhance the democratic principles that are part of his fundamental faith.

The underlying components of Dewey's world view require that, in any educational discussion, some questions must always be asked, including: "Does this practice match the variety of experiences we are likely to encounter in our daily lives as teachers and students?" and, most important, "Does the practice or conception support or hinder the achievement of democratic goals? Is it morally defensible if we strive to achieve a more inclusive society that considers the well being of all its members?"<sup>22</sup>

Strengthening democracy through educational activities can be achieved in one of two ways, not mutually exclusive. First, museum education activities and exhibitions may focus on the skills that assist visitors in learning to learn, improving their ability to become critical thinkers. That is the rationale for promoting inquiry in its deepest sense in any educational effort. The second way to address the moral dimension of education is for museums, like other educational entities, to directly address controversial issues, taking the side of social justice and democracy, as indicated in the examples provided above.

What we need to remember in all museum work is that the moral impact of an educational experience—any interaction with an exhibit component or participation in a program—is influenced not only by its manifest content, but also by its context, the general ambience of the exhibits, and even by the way the museum welcomes visitors; in short, by all the factors, physical, contextual and cultural, that contribute to that experience. Dewey emphasized that a progressive school is defined not just by its curriculum, but by its entire organization: how it is run, how it relates to the community, and how its members relate to each other. The same criteria apply to museums.

# **ACKNOWLEDGMENTS**

I am grateful to Ted Ansbacher, Mary Alexander, Leslie Bedford, Brenda Engel, Joshua Gutwill, and Emily Romney for critical comments on earlier drafts of this paper.

### **NOTES**

- 1. See Hein (2004) for specific references.
- 2. Much of his writing is directly relevant to the AAM initiative to promote civic engagement (American Association of Museums 2002).
- 3. It is impossible to quote Dewey without including sexist language by modern standards. Dewey's writing goes back to the 1880s and his style reflects his times. But, in many respects Dewey can and has been considered a feminist by modern standards (see Savage 1950; Walker 1997).
- 4. This essay, one of Dewey's rare personal reflections, first appeared in a volume entitled *Contemporary American Philosophy: Personal Statements* (Adams and Montague 1930).
- 5. In the next decade, Dewey also experienced the death of two grandchildren.
- 6. Huxley was a great supporter and popularizer of Darwin's work. The same course may have introduced Dewey to evolutionary concepts—ideas that also had a profound and lasting influence on his thinking. The entire content of the 1881 "new" edition of Huxley's *Lessons in Elementary Physiology* can be found at http://aleph0.clarku.edu/huxley/Book/PhysioL.html. First published in 1866, the popular text went through many editions.
- 7. When Dewey actually lost his faith is the subject of speculation among scholars. He was the active faculty advisor to a Christian student fellowship at Michigan, but not after he moved to Chicago in 1894. He may have stopped believing during his high school teaching days in 1879–81 or, perhaps, even earlier (see Sleeper 1986, 41–43).
- 8. Another common consequence of resorting to dualistic views that makes them incompatible with Dewey's philosophical system is the frequent reification of the dualistic positions: attributing some form of reality, of independent existence, to verbal distinctions.
- 9. Dewey is quoting from his *The Quest for Certainty* (1929, 219).
- 10. Dewey chose the titles of his works with great care. *Democracy and Education*, in which, according to Dewey (1930), "for many years . . . my philosophy, such as it is, was most fully expounded," is no exception. The central argument is a moral one, that progressive education is the appropriate pedagogical theory for a progressive society, a society that wants to progress towards more equality and more democracy for all its members.
- 11. Dewey considered replacing "experience" with "culture" in a planned revision of *Experience and Nature* late in his life (see Westbrook 1991, 345–346).
- 12. Charles Sanders Peirce (1839–1914), a brilliant but difficult man, was one of Dewey's teachers at Johns Hopkins.
- 13. See Menand 2001, chapter 13. James subtitled his lecture in which he introduced the term, "A new name for old ways of thinking."
- 14. Half a century after its publication, the article, "The Reflex Arc Concept in Psychology," was voted the most important contribution to *The Psychological Review* in its first 49 years of publication, by a committee of 70 eminent psychologists (Hickman and Alexander 1998, ix).

- 15. Ansbacher's aim in his formulation is to focus attention on the immediate experience visitors have at an exhibit—the component of a total experience most under the control of an exhibit designer. He points out that frequently, the outcomes of an immediate experience are evaluated without clear descriptions of what visitors actually do while engaged at an exhibit component (Ansbacher, private communication).
- 16. At the opening of *Investigate!* at the Museum of Science, Boston, one youngster invented his own inquiry—to the delight of some observers—by using an experiment that was intended to demonstrate Galileo's laws of falling bodies to test his own reaction time (see Bailey, Bronnenkant, Kelley and Hein 1998).
- 17. This component was not included in my previous formulation of this cycle (Hein 2004).
- 18. I am indebted to Tom Hennes for pointing out to me the dualisms often found in museum exhibits.
- 19. Unfortunately, to date, although changes in visitors' attitudes and beliefs have been noted, there is little evidence that the general effort has had significant impact on visitors' subsequent behavior.
- 20. For a concise summary with reference to museums, see National Science Foundation (2000).
- 21. A Google search for "museum accessibility" produces thousands of citations. For references, see http://www.astc.org/resource/access/index.htm.
- 22. In formal education, an example of applying this principle can be found in Dewey's critical analyses of the use of tests as a primary means for assessing student learning. Dewey's critique—besides pointing out the inadequacies of such tests, the possibilities of error and other potential technical problems—consistently includes the argument that reliance on external rewards subverts the fundamental goals of education and results in promoting a divided population, marking some as "failures" and hindering their opportunities to become productive members of society. Thus, basing too many decisions about children solely on test results is morally wrong (see Hein 2005).

# REFERENCES

- Adams, G. P. and W. P. Montague, eds. 1930. *Contemporary American Philosophy: Personal Statements*. New York: Macmillan.
- Allen, S. 2004. Finding Significance. San Francisco, CA: The Exploratorium.
- American Association of Museums. 2002. *Mastering Civic Engagement: A Challenge to Museums*. Washington, DC: American Association of Museums.
- Ansbacher, T. 1998. John Dewey's *Experience and Education:* Lessons for museums. *Curator: The Museum Journal* 41 (1): 36–49.
- ———. 1999. Experience, inquiry and meaning making. *Exhibitionist* 18 (2): 22–26.
- ———. 2002. What are we learning? Outcomes of the museum experience. *The Informal Learning Review*, 53 (March-April): 1, 4–7.

- Archibald, R. W. 2002. Introduction. In *Mastering Civic Engagement: A Challenge to Museums*. Washington, DC: American Association of Museums.
- Bailey, E., K. Bronnenkant, J. Kelley, and G. E. Hein. 1998. Visitor behavior at a constructivist exhibition: Evaluating *Investigate!* at Boston's Museum of Science. In *Évaluation et éducation muséal: nouvelles tendances*, C. Dufresne-Tassé, ed., 149–168. Montreal: ICOM/CECA. Also available at: http://www.mos.org/exhibitdevelopment/skills/investigate.html#evaluation.
- Berger, M. 2001. *Fred Wilson: Objects and Installations 1979–2000*. Baltimore, MD: Center for Art and Visual Culture, University of Maryland, Baltimore County. New York: Distributed Art Publishers.
- Boisvert, R. D. 1998. *John Dewey: Rethinking Our Time*. Albany, NY: State University of New York Press.
- Bransford, J. D., A. L. Brown, and R. R. Cocking. 1999. *How People Learn: Brain, Mind, Experience, and School.* Washington, DC: National Academy Press.
- Cuno, J. 2004. *Whose Muse? Art Museums and the Public Trust.* Princeton, NJ: Princeton University Press.
- Dewey, J. 1896/1998. The reflex arc concept in psychology. *Psychological Review*, III: 357–70. Reprinted in *The Essential Dewey, Volume 2: Ethics, Logic, Psychology,* 1998, L. A. Hickman and T. M. Alexander, eds. Bloomington, IN: Indiana University Press, 3–10.
- ———. 1916. Democracy and Education. New York: Macmillan.
- ——. 1929. The Quest for Certainty. New York: Minton, Balch and Co.
- . 1929/1958. Experience and Nature, Second Edition. New York: Dover.
- ——. 1930/1998. From absolutism to experimentalism. In *John Dewey: The Later Works*, 1925–1953, Vol. 5, J. A. Boydston, ed., 147–160. Carbondale, IL: Southern Illinois University.
- ———. 1933. How We Think, Second Edition. New York: D. C. Heath and Co.
- ———. 1934. Art as Experience. New York: Capricorn Books.
- ———. 1938. Experience and Education. New York: Simon and Schuster.
- . 1939/1998a. Experience, knowledge and value: A rejoinder. In *John Dewey: The Later Works, 1925–1953, Vol. 14*, J. A. Boydston, ed., 9–10. Carbondale, IL: Southern Illinois University.
- . 1939/1998b. Creative democracy: The task before us. In *John Dewey: The Later Works*, 1925–1953, Vol. 14, J. A. Boydston, ed., 227. Carbondale, IL: Southern Illinois University.
- Falk, J. H. and L. D. Dierking. 1992. *The Museum Experience*. Washington, DC: Whalesback Books.
- ———. 2000. Learning from Museums. Walnut Creek, CA: AltaMira Press.
- Hein, G. E. 2004. John Dewey and museum education. *Curator: The Museum Journal* 47 (4): 413–427.
- ———. 2005. A progressive education perspective on evaluation. In *Holding Values: What We Mean by Progressive Education*, B. Engel, ed., with A. C. Martin. Portsmouth, NH: Heinemann.

- Hennes, T. 2002. Rethinking the visitor experience: Transforming obstacle into purpose. *Curator: The Museum Journal* 45 (2): 109–121.
- Hickman, L. A. and T. M. Alexander, eds. 1998. *The Essential Dewey, Volume 2, Ethics, Logic, Psychology.* Bloomington, IN: Indiana University Press.
- Humphrey, T. and J. P. Gutwill. 2005. Fostering Active Prolonged Engagement: The Art of Creating APE Exhibits. San Francisco, CA: The Exploratorium.
- Kaplan, A. 1961. The New World of Philosophy. New York: Random House.
- McManus, P. 1993. Memories as indicators of the impact of museum experiences. *Museum Management and Curatorship* 12: 367–80.
- Martin, J. 2002. The Education of John Dewey. New York: Columbia University Press.
- Mayhew, K. C. and A. C. Edwards. 1936/1965. *The Dewey School*. New York: Atherton Press.
- Menand, L. 2001. The Metaphysical Club. New York: Farrar, Straus and Giroux.
- National Science Foundation. 2000. *Inquiry: Thoughts, Views, and Strategies for the K–5 Classroom*. Washington, DC: National Science Foundation. Available at http://www.nsf.gov/pubs/2000/nsf99148/start.htm
- Peniston, W., ed. 1999. *The New Museum: Selected Writings by John Cotton Dana*. Washington, DC: American Association of Museums.
- Savage, W. 1950. The evolution of John Dewey's philosophy of experimentalism as developed at the University of Michigan. Unpublished Ph.D. dissertation. Ann Arbor, MI: University of Michigan.
- Schlipp, P. A. 1939. *The Philosophy of John Dewey*. Chicago, IL: Northwestern University. Silverman, L. 1995. Visitor meaning making in museums for a new age. *Curator: The Museum Journal* 38 (3): 161–170.
- Sites of Conscience. http://www.sitesofconscience.org/eng/about.htm#whatisicohsmoc.
- Sleeper, R. W. 1986. *The Necessity of Pragmatism: John Dewey's Conception of Philosophy*. New Haven, CT: Yale University Press.
- . 1998. Introduction. In *John Dewey: The Later Works, 1925–1953, Vol. 14*, J. A. Boydston, ed. Carbondale, IL: Southern Illinois University.
- Stevenson, J. 1991. The long term impact of interactive exhibits. *International Journal of Science Education* 13 (5): 521–31.
- Sullivan, R. 1994. Evaluating the ethics and consciences of museums. In *Gender Perspectives: Women in Museums*, J. R. Glaser and A. A. Zenetou, eds. Washington, DC: Smithsonian Institution Press.
- Tanner, L. 1997. Dewey's Laboratory School: Lessons for Today. New York: Teachers College Press.
- Walker, L. R. 1997. John Dewey at Michigan: The first Ann Arbor period. *Michigan Today* (Summer). http://www.umich.edu/~newsinfo/MT/97/Sum97/mta1j97.html. Accessed Sept. 13, 2004.
- Westbrook, R. B. 1991. *John Dewey and American Democracy*. Ithaca, NY: Cornell University Press.