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JOHN DEWEY AND THE ROLE OF SCIENTIFIC METHOD IN AESTHETIC EXPERIENCE

ABSTRACT. In this paper I examine a controversy ongoing within current Deweyan philosophy of education scholarship regarding the proper role and scope of science in Dewey's concept of inquiry. The side I take is nuanced. It is one that is sensitive to the importance that Dewey attaches to science as the best method of solving problems, while also sensitive to those statements in Dewey that counter a wholesale reductivism of inquiry to scientific method. I utilize Dewey's statements regarding the place accorded to inquiry in aesthetic experiences as characteristic of his method, as best conceived.

KEY WORDS: aesthetics, art, Dewey, experience, inquiry, method, science

THE PROBLEM OF METHODOLOGY

One way to anger a host of Dewey commentators is to identify Dewey as a positivist. Now one might think that this tendency towards a positivistic interpretation of Dewey has been successfully refuted, and thankfully, the issue of whether Dewey was/was not a positivist can be laid to rest. Many Dewey scholars (almost too numerous to mention, though further on, I will invoke a few) have concluded through painstaking exegesis that, though Dewey held to a strong role for science to play in solving "the problems of men," he was not a positivist, if by positivist one means the antimetaphysical Schlickian/Reichenbachian reduction of experience to scientific methodology, propositions to statements of logical validity, and the known to confirmed observation of a communicable sort.¹

Still, the charges are extant. H.O. Mounce is but the most recent exemplar of this tendency. Mounce's problem with Dewey is generally one of

¹ For this reading of (logical) positivism, I turn chiefly to Moritz Schlick and Hans Reichenbach. Empirical verifiability and logical necessity are Schlick's criteria for what constitutes positivism. Communicability of results through a realistic language following directly from logical propositions is Reichenbach's. It must be remembered that this was a project designed in the first instance to combat metaphysics of the transcendentalist variety. Inasmuch as Dewey, too, wants to combat this species of metaphysics, he too, I believe, is often lumped together with the positivists. Positivism means many different things to many different people; accordingly, I choose here but one meaning, the most extreme perhaps, but also the most recognized.



preoccupation with the ability of science to deliver humanity from its problems (1997, p. 138). More specifically, Mounce sees positivism in Dewey precisely because Dewey is a thoroughgoing empiricist. Empiricism for Mounce is coterminous with positivism (pp. 154, 231), and since Dewey was supposedly an ardent empiricist, Dewey must also have been a positivist. In so arguing, Mounce gives privilege to the conclusions of Schlick's and Reichenbach's criteria for positivism: the resultant abandonment of metaphysics. Mounce gives the following account of the situation.

Positivism, as we have said, constitutes a world-outlook or Weltanschauung and, as such, involves a number of interrelated elements. Thus one may note a metaphysic, which is naturalistic: the natural world is the only real one. We may note, also, an epistemology, which is Empiricist: the source of knowledge lies in the experience of the sense. But the most potent element is the moral. It is essential to this view that religion and metaphysics are the product not of error but of false consciousness. Here the moral element is supported by the empiricist. The real world is not difficult to find; it is evident to any person in the exercise of his senses. If earlier thinkers have not seen this, it is because they have not *wanted* to see it. They have *preferred* illusion to reality. They have been predisposed to treat as mere appearance what is true reality and as reality what is mere illusion. Moreover, the effect of their activities has been to protect privilege and foster ignorance. In short, they have worked against the true interests of humanity (p. 146).

No one can conclude from the above passage that Mounce is sympathetic to the project of positivism that he reads so clearly in Dewey. While perhaps shying away from the label of positivism proper, there are those who at least agree with Mounce that Dewey held a strongly empiricist view of knowledge, as well as a strong affinity to science: such a reading of Dewey can be considered "scientistic," inasmuch as it privileges the place of science in the having and comprehending of experiences and the subsequent carry-over of scientific methods to non-scientific contexts.²

² I will use the following senses of terms frequent throughout my paper. For positivism, I follow the Schlickean/Reichenbachian definition as in endnote 1, above. For scientism, I mean either the reduction of all experience to scientific methodology, or, in its slightly weaker version, a strong role for scientific methodology in any and all experiences, or contexts other than science.

I also have specific meanings for method and inquiry, which I consider coeval for the purposes of this paper. The sense I have of method/inquiry comes from Dewey's *Logic: The Theory of Inquiry*. Here Dewey famously argues that "Inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole" (p. 108).

For method/inquiry of a general nature, I follow Dewey in *Democracy and Education*, wherein it is said that "Such matters as knowledge of the past, of current technique, of materials of the ways in which one's own best results are assured, supply the material for what may be called a general method. There exists a cumulative body of fairly stable methods for reaching results, a body authorized by past experience and by intellectual

This is of course despite the fact that Dewey himself argued that “What is needed is not the carrying over of procedures that have approved themselves in physical science” (LW 16, n.2, p. 379).

Leonard Waks is chief among those proponents of this read of Dewey in education. Unlike Mounce, Waks fully endorses the strong and central role given to methodology of a scientific sort in the having of an experience. Equally, he chastises those who refuse to acknowledge this role. He states: “As a consequence, those taking up the Deweyan heritage have in different ways tried to tease it apart from its commitment to scientific method. Some *downplay* scientific method in his philosophy, denying that he meant science in the strong sense suggested by, for example, physics or physiology. Instead they suggest, his conception of science is broad and can accommodate most reasonable ways of thinking” (1998, pp. 1–2). Christine McCarthy, another proponent of Dewey’s supposed allegiance to scientific methodology, echoes Waks’ sentiment, relying exclusively upon texts in which Dewey framed his theory of value judgments in terms of scientific method (1999).

On the opposite side of the coin we find those who are inimical to talk of positivism generally, and to the “strong” role that scientific methodology supposedly plays in framing Dewey’s talk of knowledge, experience, and value. Recognizing that starting with texts such as *How We Think* and *Logic: The Theory of Inquiry* exposes beginners to chiefly epistemologic issues and themes that Dewey in general did not accept, Raymond Boisvert advised starting with those of Dewey’s works that included the word “experience” in the title. As he states “. . . Dewey’s logical works reveal him as still overly influenced by the Cartesian fascination with “method.” They provide the source of formulations which if read uncritically, mislead commentators into claiming that the “pragmatic interpretation of knowledge as an instrument of adaptation and control implied that only scientific inquiry generated knowledge about the nature of the world” . . . In fact . . . Dewey specifically rejects such as narrow access to knowledge (1998, p. 161).

analysis, which an individual ignores at his peril” (p. 172). The method that Dewey speaks of here is an inclusive one, and I take it to “contain” the more narrow, scientific method. Interestingly enough, this renders the notion that scientific inquiry and general inquiry are coeval, as some scientific interpreters of Dewey are wont to maintain, a specious one. For scientific method, I mean just those techniques, attitudes, and materials that are found in a chiefly scientific context.

Throughout I make full use of Dewey’s statement in the *Logic* that what concerns the difference with respect to varying method is not the presence or absence of an end-in-view, rather the subject-matter undergoing the transformation (p. 496).

Boisvert is not the only thinker who questions readings of Dewey that are positivistic, proto-positivistic, or scientific. Larry Hickman somewhat facetiously comments on the overall reliance of Dewey's project on scientism. He argues: "If by "scientism" it is meant that the methods of experimentation have proved so successful in the domains in which they have been developed and applied that they ought to be utilized and further developed in areas where they have not been tried, the term is applicable to Dewey's instrumentalist program" (1990, p. 119). Hickman is suggesting that there is nothing "scientific" beyond what one might call "the experimental habit" or "temper" in Dewey's instrumentalist account of method.

In education, chief among the anti-positivistic readers of Dewey has been Jim Garrison. Garrison argues that: "Oddly enough, educational theorists and researchers usually interpret Dewey's theory of inquiry and instrumentalist logic in a manner that makes him resemble the logical positivists or other idolaters of scientific methodology. This tendency is ironic, since Dewey opposed positivism from the start. There is no quicker way to dismiss this false impression than by going straight to his aesthetics" (1997, p. 98). Garrison turns to Dewey's experiential texts and illuminates those passages wherein Dewey talks about experiences and the qualities thereof at a remove from method.

There are of course others representing both of these opposite camps. I have chosen only a few of the latest examples from each side. But I think the point I have tried to make suffices. And that is that there is much question and concern over whether Dewey was/was not given to positivism, scientism, and other like-minded synonyms that suggest that Dewey had a central role for the play of science in the spheres of knowledge, value, experience, and aesthetics. My thesis here is simple. I argue that Dewey was not a positivist, as Mounce suggests, nor was he given over to scientism in the strong sense that Waks believes. I argue with Garrison and Boisvert that Dewey often downplayed strong talk of science. But I do not think that Garrison and Boisvert go far enough in their repudiation of scientific reads of Dewey. While Boisvert is content to say that Dewey railed against the epistemologic concerns of philosophers and Garrison invokes the notion of immediate qualities and experiences as proof that experience is not primarily method-based, they are both content to drop the issue without further recourse to discussions of method itself. I intend to push further and examine more fully the nature of method; its ingredients, its context, and its role in experience. I wish to undertake this task with respect to that type of experience that Garrison suggests is furthest

removed from the methodology of science. I wish to examine Dewey's talk of aesthetic experience.

I propose a slightly different thesis as to why it is that science be accorded less of a place in the matters of aesthetic experience than does Garrison. I argue that, some of Dewey's rhetorical comments regarding the place of method in solving social conditions aside, there is not uniform and stable presence of scientific methodology throughout his varying conceptions of experience. If, as I will conclude, the ingredients, qualities, and materials that go into creating an experience differ, the kind of method, of inquiry that is present in each of these varying experiences, will also differ. While in a scientific experience (e.g. an experiment) scientific method is perhaps central and cohesive in form, in an aesthetic experience, scientific method is subordinate and unstable. Method, like everything else with Dewey, is context-dependent and its aim varies with the situation in which it is utilized. Thus it is that all method cannot be considered coeval with the scientifically methodologic version of itself.

SOME CHARACTERISTICS OF AN AESTHETIC EXPERIENCE

Central to Dewey's naturalistic metaphysics is the concept of experience. In its broadest sense, experience is defined by Dewey as the result of the interconnection of person with environment (EN, p. 16). Of course this is but the barest of all definitions of experience; for there is much more that goes into the "making" of an experience than is suggested by the above. More useful in terms of a description is of course Dewey's insistence that experience involves "immediate havings," "immediate awareness," linked with what is commonly referred to as thinking. But this thinking is defined and used more broadly by Dewey than most: he is inclined to include all of reflection, understanding, cognition, insight, in short, the entire process of inquiry and its results, which is brought in turn to bear on the immediacy of an event. The two are fused: there is separation of immediate havings from inquiry only inasmuch as it is necessary for a description of the various processes that go on to form a complete experience: in the having of an experience, this separation does not in fact exist. Objects, as Dewey maintains, do not "enter" into our consciousness as such: they are hierarchized, categorized and classified by the processes of inquiry, of thought, and only through the activity of thought is "meaning" generated (EN, p. 170).

Nevertheless, immediacy is important in the having of an experience, and it is worth our while to take a look at this aspect of experience, for, as Garrison rightly concludes, this is the very aspect of experience that is not under the aegis of methodology: rather, it precedes any cognitive activity

(1997, pp. 86–87). Objects carry traits on the face of them. These traits can be of an aesthetic, moral, or intellectual variety (EN, pp. 26–27). The traits that an object has are revealed in the having of an experience. But it does not require cognition, reflection, intellect, or inquiry to reveal the quality of the trait. As Dewey says: “Empirically, the existence of objects of direct grasp, possession, use and enjoyment cannot be denied. Empirically, things are poignant, tragic, beautiful, humorous, settled, disturbed, comfortable, annoying, barren, harsh, consoling, splendid, fearful; are such immediately and in their own right and behalf” (EN, p. 82). Dewey goes as far as to argue that experiences themselves are of the aesthetic, moral, or intellectual variety, suggesting that experiences do not have to contain intellectual “content” or submit themselves to the scrutiny of inquiry to be experiences as such (EN, p. 27). Such experiences are for Dewey “immediate” in that they do not contain about them elements or traits of reflection. In fact, Dewey at one point argues those elements that are immediate and qualitatively integral are necessary for further, intellectual elements (EN, p. 116). In “Qualitative Thought,” Dewey extends this line of thinking to experiences of an intellectual bent. Problems that arouse chiefly intellectual responses are first had as immediate qualities prior to any cognitive activity occurring (QT, p. 249). This immediate quality forms a complex whole that Dewey terms a “situation” (QT, p. 246). It is this situation, dominated throughout by a single quality that is ultimately judged. Such a situation is, Dewey argues, an experience (QT, p. 249).

To bring these statements of Dewey’s to bear on the arguments that Dewey is all about methodology is one of Garrison’s chief aims against the scientific reading of Dewey. And Garrison is quite right. Dewey does not require all experiences to have about them elements of cognition, reflection, inquiry, let alone have a strongly scientific manner of inquiry be the fundamental aspect of an experience. But I do not want to pursue this line of thinking further than this. This is for two reasons. First of all, I think Garrison and those interpreters that he relies on have already ably argued the point. Secondly, I want to look at experiences where inquiry is involved, and see whether, in these instances, inquiry is necessarily scientific, or whether inquiry, too, is beholden to the context in which it finds itself in, and the aim to which it sets itself.

It is through inquiry that experiences can be distinguished from one another with respect to their traits, their qualities, their ingredients, and their ultimate use. Since I am concerned in the main with aesthetic experiences, I am pressed to ask: what are the distinguishing features of an aesthetic experience, in contrast to others? For Dewey, the answer is that: “Yet all the elements of our being that are displayed in special emphases

and partial realizations in other experiences are merged in esthetic experience. And they are so completely merged in the immediate wholeness of the experience that each is submerged – it does not present itself in consciousness as a distinct element” (AE, p. 278). In an aesthetic experience, several realizations, or perhaps activities, are said to come together in an organic, unifying, whole. This whole is one in immediacy: that is, rather than isolated or distinct events presenting themselves as such to ourselves, we grasp the whole, with assistance from inquiry, in its immediacy. This rather Hegelian-sounding description of the place of an organic unity of the whole in an aesthetic experience stresses the unifying properties of the aesthetic experience; what makes it unique, distinct from other more common or specialized experiences is the tendency towards totality, holism, and completion.

An aesthetic experience is a final experience. It is, as Dewey maintains, consummatory (AE, pp. 22–23). That is, it completes itself. The aesthetic experience is the epitome of a complete and ideal experience; an experience at its best and fullest (PA, p. 368). An art object, inasmuch as it has a history, an “author” and a context, allows, through reflection, through inquiry that is able to penetrate the historicity of the object, a consummatory, aesthetic experience on the part of an inquirer, to develop. The art object “fuses” environment and person together, and through this fusion, or integration, allows for an aesthetic experience to unfold. “The real work of art is the building up of an integral experience out of the interaction of organic and environmental conditions and energies” (AE, p. 70).

An ordinary experience, by contrast, may not have the unifying quality that a consummatory experience is said to possess. Perhaps the ingredients, necessary to form the matrix of a consummatory experience, are not all present. All of emotion, awareness, inquiry, and interest are necessary ingredients for a consummatory experience. The ordinary experience, by contrast, may be missing one or more of these essentials. Also, the degree or level of inquiry, of awareness, of emotion, may be inadequate to sustain such an experience. One must have all of these functioning at full capacity to achieve a consummatory experience. The dispassionate scientist, unmoved by the results of his experimentations, oblivious to the necessary emotional qualities that any such experimentation must exact, the half-awake or ill college student attending a seminar, as well as the reactive reader, not bothering or willing to submit her text to careful inquiry and scrutiny, are examples of individuals who, through the under- or mis-utilization of all capacities at hand in the undertaking of their respective activities, miss the opportunity to forge from them a consummatory experience. Again, what is necessary for a consummatory, aesthetic

experience is that all of the ingredients in that experience come together to attain the status of an organic and complete whole.

THE ROLE OF INQUIRY IN AN AESTHETIC EXPERIENCE

I want to now focus more exclusively on the role and scope of inquiry in an aesthetic experience. There is no doubt as to its central importance. A consummatory, aesthetic experience cannot arise without the activity of inquiry, broadly conceived, functioning as both a guide and interpreter. But what, then, is exactly the place of inquiry in an experience? In an aesthetic experience? And what, baldly put, is the constitution, the make-up, the ingredients, if you will, of this inquiry? Dewey has demonstrated that inquiry belongs to that part of an experience that is more familiarly known as thought. Inquiry embraces all of the common ingredients that thought entails. These include reflection, understanding, judgment, logic, insight, etc. Indeed, Dewey often finds these other terms somewhat of a hindrance unless used to specifically denote a special *function* of inquiry. He is generally careful and cautious regarding the descriptors utilized in the service of elucidating inquiry.

What Dewey attempts to delineate in his examination of inquiry is the variety of functions that inquiry undertakes. These functions, common to all inquiry and all experiences, include the above-mentioned examples of thought, reflection, etc. But they vary as to degree of usage in various types of experience. In scientific experiences where experimentation under rigorously controlled conditions is attempted, attention to inference, causality, judgment, hypothesis formation, in short, the *logic* of the experience, is tantamount. However, this attention to inference is not found in other experiences. This point will be dealt with further in the next section. The important point for the discussion here is that inquiry does not by necessity have to be of the same complexity or rigor across differing experiences. Equally, the various ingredients that make up an experience are not found to be of the same degree, nor in the same relation to each other, across varying individual experiences.

Nevertheless, in a consummatory aesthetic experience, there is a marked emphasis placed upon the importance of inquiry. Discussing the oft-missing ingredient that “completes” an aesthetic experience, Dewey argues: “The thing that is needful, discriminating judgment by methods whose consequences improve the art, easily slips through such coarse meshes, and by far the greater part of life goes on in a darkness unilluminated by thoughtful inquiry” (EN, p. 287). An integral factor or ingredient of a truly complete aesthetic experience is precisely the discriminating judg-

ment of inquiry that the expressive art object compels. But what is even more intriguing is the obverse; the importance of aesthetic experience for inquiry. There is for Dewey a strong sense of the importance of an aesthetic quality to thinking, a quality that is only found within an aesthetic experience and that propels thinking to a higher capacity than it might assume in other modes of experience. "What is even more important is that not only is this quality a significant motive in undertaking intellectual inquiry and in keeping it honest, but that no intellectual activity is an integral event (is *an* experience), unless it is rounded out with this quality. Without it, thinking is inconclusive. In short, esthetic cannot be sharply marked off from intellectual experience since the latter must bear an esthetic stamp to be complete" (AE, p. 45). Here is an argument for the importance of aesthetic qualities in thought. As Dewey suggests, every thinking must have, if it is to be complete and integral, an element of the aesthetic within it. This allows Dewey to make the rather bold claim that "thinking is preeminently an art; knowledge and propositions which are the products of thinking, are works of art, as much so as statuary and symphonies" (EN, p. 283).

Now one can admit that all thinking, all inquiry, can have something of the aesthetic about it. But this does not indicate how, precisely, thinking functions in an aesthetic experience. One could conclude that, given Dewey's insistence on the truly integral nature of an inquiry that is aesthetic, thinking in an aesthetic experience must be of the highest quality precisely because of its capacity for unification, for wholeness. And this would be correct. For Dewey, the ingredients that come together as thinking in an aesthetic experience merge fluidly with each other. There is not a specialized separation into inference, causation, judgment, hypothesis formation, etc. that is found in more logical pursuits. There is an organic wholeness of thought that lends itself to the situation being judged. The experiential data, as Dewey might put it, is not "formed" into a statement; rather, it is beheld, experienced. "Those who are called artists have for their subject matter the qualities of things of direct experience; "intellectual" inquirers deal with these qualities at one remove, through the medium of symbols that stand for qualities but are not significant in their immediate presence. The ultimate difference is enormous as far as the technique of thought and emotion are concerned. But there is no difference as far as dependence on emotionalized ideas and subconscious maturing are concerned. Thinking directly in terms of colors, tones, images, is a different operation technically from thinking in words" (AE, p. 80). What Dewey is saying is that inquiry in an aesthetic experience has for its

medium different ingredients and qualities than does inquiry in a scientific one.

The thinker in an aesthetic experience reflects in the immediacy of the experience undergone, rather than in the realm of language, of statement. The chief result of this immediate reflection is the product of imagination, which is utilized in turn, to stimulate further thought. This is a principal and fundamental distinction between the experience of art and of logic. There is a sense, as Dewey argues above, that the logician, in his experience of an event, is “removed” because he is unable to formulate the experience in terms of immediacy and imagination, but rather must utilize language and rule as an intermediary with which to formulate his thought. “In reflection it is often necessary to make a distinction between matters of sense and matters of thought. But the distinction does not exist in all modes of experience. When there is genuine artistry . . . a thinker proceeds neither by rule nor yet blindly, but by means of meanings that exist immediately as feelings having qualitative color” (AE, p. 20). Inquiry is present in the having of an aesthetic experience; but it is inquiry directed not to signs, symbols, propositions and the like, rather to immediate qualities themselves. The pace can be every bit as slow, complex, and deliberate as the scientist examining phenomena, but the qualities had, the ingredients inquired into, are different.

What then, is the composition, the make-up, if you will, of inquiry in an aesthetic experience? The answer, following Philip Jackson, is that this particular mode of inquiry is all-inclusive. Inquiry includes all of thinking, reflecting, judging, insight, feeling and imagination (1998, p. 29). All of these powers and capacities are utilized in an aesthetic experience; however, these are not all used to the same degree or for the same purpose as they are selectively used in various other types of experience. In an aesthetic experience, it is an inquiry that proceeds in immediacy and allows the unification of an experience to occur (AE, p. 51). It provides for an organic and holistic experience, and is itself organic and holistic. Rather than insisting heavily on fragmentation and discrimination (analysis) as experiences that emphasize logic often do, it emphasizes the obverse (synthesis). In both its form and its function though, it differentiates itself from other inquiries common to other experiences. It is tied to and participates directly in the immediacy of the having an experience, as opposed to the removed realm of contemplation. It has, simply put, a different *purpose* for itself.

AESTHETIC INQUIRY AND SCIENTIFIC INQUIRY

Now I wish to narrow the focus further. I want to examine specifically the contrast Dewey makes between aesthetic inquiry on the one hand, and the more specialized form of inquiry known as scientific method. I want to demonstrate that, according to Dewey, aesthetic inquiry is broader, richer, and more all-consuming than scientific inquiry, and that scientific methodology, although it can and does play a role in an aesthetic experience, is neither coeval with the inquiry in said experience, nor the irreducible absolute ingredient in one.

In terms of the place of scientific methodology in aesthetic experience, Dewey comments thus: "Scientific method or the art of constructing true perceptions is ascertained in the course of experience to occupy a privileged position in undertaking other arts. But this unique position only places it the more securely as an art; it does not set its product, knowledge, apart from other works of art" (EN, p. 284). Here we have Dewey reiterating what was said earlier regarding thinking. Inasmuch as scientific inquiry is a form of inquiry, it plays a role in the undertaking of art. However, and this is the point Dewey wants to stress, scientific method functions itself as a form of art. It becomes akin to an aesthetic object. The scientific event, properly constructed through inquiry, can develop into an aesthetic experience, if only the act of discovery, of creation, is privileged. One must remember that, for Dewey, art and science are both forms of *techne*; practical artistry (Garrison, 1997, p. 88). Inasmuch as inquiry exists as an instrumental tool for the furtherance of experience, and inquiry, properly stated, cannot be but for description separated from the event in which and to which it operates, it functions as an art.

Scientific inquiry, inasmuch as it too, is a form of *techne*, is also an instrument; it is a highly prized and valued tool of thought. Scientific inquiry or methodology receives its privileged position from both its rigor and the important social and technological position it occupies. Nevertheless, to conflate scientific inquiry with the larger, more cohesive and organic artistic inquiry would be a mistake. Inasmuch as scientific inquiry is but one mode of inquiry, and a very specific, hierarchized and regimental one at that, it can play a role, but not a consummatory role, in the development of any aesthetic experience. As I noted before, scientific inquiry is the inquiry of statement; that is, for Dewey, logic. It is once removed from the immediacy of awareness necessary as a quality for any consummatory experience. While scientific method, with its emphasis on logic, contributes to any and all experience, including an aesthetic one, it is well to remember that "... there is an unbridgeable gap between science in the laboratory and the work of art" (AE, p. 126). The scientist

conducting his experiment, inasmuch as he too contributes to art, does so in an auxiliary fashion. The productive process of scientific inquiry renders an art that is necessary to “the generation and utilization of other arts” (AE, p. 33). Dewey of course is here speaking in terms of instrumentalities. But it is important to remember that for Dewey, the art object itself is not considered separate from the realm of the instrumental. It too, inasmuch as it leads to the formation of reflective links that enhance culture, also serves as an instrument.

Another way of characterizing the distinction between science and art is to follow Dewey in adopting the following. “The problem in hand may be approached by drawing a distinction between expression and statement. “Science states meanings; art expresses them” (AE, p. 90). Inquiry in a scientific endeavor has a different *task* than does inquiry in an aesthetic experience. The task of scientific inquiry is to state meanings. These meanings often manifest as statements concerning hypothesis formation, inference, and causation. They often take the form of symbolic, mathematical propositions. The goal of scientific inquiry is to ascertain relations between various naturally occurring events. Inasmuch as nature is the field for the operation of scientific inquiry, there is affinity with art. But scientific inquiry is content to dwell in the realm of description and explanation. Art and aesthetic inquiry, however, dwell elsewhere.

Art develops the meanings first begun in ordinary and scientific experiences and augments them. It pushes them into the realm of expression, leading to fuller and richer meanings (AE, p. 80). Expression implies that a communicative quality that previously was unavailable or underdeveloped is now present. True enough, expression involves and invokes communication, and certainly science and scientific inquiry also are able to accomplish this. But the breadth and depth of an expression aesthetically communicated surpasses that of a bare communicated scientific statement. One might say that the expression is now more fully formed. It contains within it the fullest range of feeling, imagination and interest. An aesthetic object is generally able to evoke a far wider-ranging set of responses in a far wider-ranging set or group of people than a bald scientific statement. For in addition to thought, all of emotion, perception, attention, and interest are aroused to their peaks. Inquiry in an aesthetic experience functions as a more complete inquiry. It helps to fuse all of the ingredients necessary for a consummatory experience into one cohesive, immediate whole, whereas inquiry in a scientific experiment or logical undertaking often contents itself to dwell in the explanatory realm alone. Inquiry in an aesthetic experience lends, in the final analysis, to deeper, richer and more fulfilling meanings than does inquiry in a scientific experience.

Scientific inquiry is a very valuable instrument in any experience. Nevertheless, it is not the irreducible instrument for the development of a consummatory, aesthetic experience. One does not have to engage in formal scientific terminology or with the formal scientific stages of hypothesis testing within an experienced event to develop an appropriate aesthetic experience. One must, to be sure, utilize a fully functioning and responsive inquiry to achieve this. But this inquiry is not coeval with scientific methodology. Art is not nature (AE, p. 86). Aesthetic inquiry is at once much broader, less specified, but more comprehensive, organic and holistic than is scientific inquiry. All persons are capable of the inquiry necessary for an aesthetic experience, as compared to the much narrower access afforded the scientist with respect her particular method. Scientific inquiry involves justification and evaluation. Aesthetic inquiry involves discovery and creation. Indeed, for all the complexity and penetration of scientific method, it is, as Dewey points out, but an instrument for the possible creation of a further, more developed, and more meaningful experience within which it is subsumed and participates. "When this perception dawns, it will be a commonplace that art—the mode of activity that is charged with meanings capable of immediately enjoyed possession—is the complete culmination of nature, and that "science" is properly a handmaiden that conducts natural events to this happy issue" (EN, p. 269).

A final point. One may inquire: what is the locus of a properly scientific method in an aesthetic experience? The emphasis that Dewey places on the role and scope of technique proves instructive here. Dewey readily admits that the artist, in choosing for example, her medium, the pigments and brush strokes she wishes to utilize, the colors to accentuate depth and contrast, etc., utilizes a scientific methodology in assisting her to completion of the anticipated art object. But Dewey takes pains to subsume this technique within the larger context of experience, of which it is a part. Speaking of techniques, he says "They do not take us anywhere in the institution of unified developing experience; they do not act as inherent forces to carry the object of which they are a professed part to consummation Significant advances in technique occur, therefore, in connection with efforts to solve problems that are not technical but that grow out of the need for new modes of experience" (AE, pp. 145–146). Dewey suggests here, that once again, any technique or scientific methodology in inquiry is a means to a further, higher end: that of a consummatory experience. Technique works to improve upon the whole. But it is itself an ingredient of a more complex and holistic inquiry only, and functions to augment an overall experience.

CONCLUSION

My task here has been to aid in the refutation of positivistic and scientific reads of Dewey by noting the role and scope of inquiry in an aesthetic experience with a view to remarking upon the differences between inquiry in an aesthetic experience, and inquiry in a scientific one. My thesis was that aesthetic inquiry differs from scientific inquiry inasmuch as it has a different purpose or task. It works upon different ingredients, chief among them being situations and qualities in their immediacy, which, when inquiry grasps these, contributes to the experience being one that is final and whole. This differs from the phenomena that are studied in scientific contexts, mainly because the context which scientific inquiry finds itself in is different, leading to different ingredients “had,” and because inquiry of a scientific nature has a different aim for itself.

I argue that aesthetic experiences do “contain” scientific methodology. But this methodology is neither necessary nor sufficient for an experience to be considered consummatory. Rather, a more general, broad and holistic inquiry, one that gathers emotion, interest, perception and thought together into one cohesive, immediate, expressive whole, is the requirement for a consummatory experience. Scientific methodology is recognized as a valuable and vital auxiliary in the development of an aesthetic experience, but not a requirement. Inasmuch as scientific methodology is but a mode of inquiry that functions superlatively in a particular mode of experience, a scientific experience, it is of immense value to any experience. But it appears to function subordinately, when it functions at all, in the separate context of the aesthetic mode. In the final analysis, inquiry, regardless of whether it is aesthetic, scientific, immediate, or otherwise, seems to depend for its make-up on the context in which it is situated and in the aims to which it sets itself.

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