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Beauty or Bane: Advancing an Aesthetic Appreciation of Wind Turbine Farms

Tyson-Lord J. Gray

Abstract

I begin this paper by looking at declining wind turbine sales during the years 2007 to 2010. In an attempt to locate a reason for this decline, I evaluate two claims by wind farm opponents: 1) that wind farms reduce property value, and 2) that wind farms ruin the beauty of nature. The first claim I respond to by looking at three studies conducted on residential property sales located near wind farms. For the second claim, I engage in a comparison of Immanuel Kant's and John Dewey's aesthetics. I ultimately advance an aesthetic appreciation of wind farms that seeks to view beauty as an integration of both emotional and cognitive perceptions.

Key Words

Jon Bonne, Allen Carlson, John Dewey, environmental aesthetics, Immanuel Kant, renewable energy, Yuriko Saito, David Suzuki, wind farms

1. Introduction

a. declining wind turbine sales

In 2009, the American Wind Energy Association conducted a survey of small wind turbine sales aimed at assessing the market's rate of incline or decline from the years 2007 to 2009. The final report, "AWEA Small Wind Turbine Global Market Study," published in April 2010, concluded that U.S. megawatt sales had increased fifteen percent from 2008 to 2009 and that global megawatt sales had increased ten percent.[1] A closer look at the report, however, revealed that although wind turbine megawatt sales in the United States had grown, actual wind turbine unit sales had suffered a five percent decline.

An article published by *EPC Engineer* three months later, in July 2010, reported similar findings. It stated that Gamesa Corporacion Tecnologica SA, one of the top-ten suppliers of wind turbines in the nation, had suffered a significant decline in its wind turbine sales during the first half of the year. The article, "Gamesa First Half Net Profits Drop 65 percent, Cut 2010 Turbine Sales Goal," stated that Gamesa's net profits fell to 22.5 million euro in the first six months of the year, down from 65 million euro the year prior.[2]

Then in April 2011, *Venture Beat* published "GE: wind turbine demand fell last year," reporting that General Electric, one of the top three wind turbines suppliers in the nation, saw a drop in the demand for wind power turbines to around half of its 2009 sales.[3] The article reported that although wind power deployment in the U.S. had consistently grown for the last three years, GE had only added 5,116 megawatts' worth of wind turbines in 2010, a considerable decline from the more than 10,000 megawatts in 2009.

The declining rate of wind turbine sales demonstrated by these reports is perplexing. Current research regarding climate change from global warming has indicated that fossil fuel usage must be reduced in order to minimize future tragedies,[4] and many countries have begun to invest in renewable energy. China has increased its diesel car production[5] and, in 2010, the EU (European Union) set new targets for its members to obtain ten percent of their energy for transportation from biofuels.[6] Each of these developments has given the illusion that societies are becoming more aware of the dangers of nuclear and fossil fuel energy and more intentional about promoting sustainability. This is not without sufficient cause.

In 2010, the explosion of The Deepwater Horizon Rig killed 11 workers and gushed 4.9 million barrels of oil into the Gulf of Mexico, destroying the coastal habitat of the surrounding area and killing countless mammals, birds, and sea life. There have been numerous coal mine explosions, such as at New Zealand's Pike River mine, which killed 29 men,[7] and at the Baluchistan, Pakistan coal mine, which killed 45.[8] Few will forget the Fukushima Daiichi nuclear plant explosion in Japan, which resulted in the evacuation of more than 50,000 people from the city from fear of potential radiation poisoning.[9] If these disasters have not been sufficient enough to encourage an increase in wind turbines, one has to ask, what is?

The *Venture Beat* article actually indicated that power companies are turning to natural gas as an alternative to wind power. Of course, the dangers posed to human health and the environment from natural gas drilling are also troubling. The process of hydraulic fracturing contaminates ground waters used for drinking, and leaks can result in deadly explosions or carbon monoxide poisoning. Natural gas is also composed primarily of methane, which traps heat at a rate 20 times greater than that of carbon dioxide, contributing to global warming. Consequently, natural gas is not an acceptable alternative to wind power among avid environmentalists.

The explanation for the decision to turn to natural gas was attributed to two main factors. First, wind turbines carry enormous upfront costs, which can take up to several years for power companies to recover in profit. This makes natural gas a cheaper and more appealing option. Second, wind turbines carry a negative stigma and are seen as eyesores by some residents, who fear that a wind farm in close proximity to their homes will reduce property values. Given the profit-driven nature of most companies, the first factor is not surprising. However, the second presents a case for further questioning and investigation. Although the threat of one's property value declining is a legitimate fear, is it credible?

b. decline in property value

In examining this concern, I looked at three studies, each of which assessed the sale prices of residential properties located near wind farms. A 2003 study, conducted and funded by the Renewable Energy Policy Project, examined over 24,000 residential home sales located within five miles of 10 wind farms and compared them to nearby sales that were out of view of those farms.^[10] This study found that sales prices actually rose at higher rates closer to the wind farms; where prices in the region declined, the prices near the wind farms declined less.

A second study, published in 2009 by the Ernest Orlando Lawrence Berkley National Laboratory, looked at the sales transactions of 7,500 single-family homes situated within 10 miles of 24 wind facilities throughout nine different states.^[11] This report, funded by the U.S. Department of Energy, concluded that neither the view of wind facilities nor the distance of a home to those facilities was found to have any consistent, measurable, and statistically significant effect on a home's sale prices.

However, a third study in 2009, funded by wind-power critics, found that vacant residential lot sales near wind turbines suffered an average price decline of 30 to 40 percent. This study did not involve any actual home sales, presumably because of the rural location and undeveloped land within the survey area. Notwithstanding, Appraisal Group Ones' study still asserted:

It is logical to conclude that the factors that created the negative influence on vacant land are the same factors that will impact the improved property values. Therefore, it is not a leap of logic to conclude that the impact of wind turbines on improved property value would also be negative.^[12]

Although the final report appears to be more conjecture than pure statistical findings, the data from the first two studies at least disproves the *ad hoc* fear that wind farms always lower property value. The third study is perhaps more significant because of the comments made by Kurt Kielisch, president of Appraisal Group One. He stated that in comparison to other studies of his that examined the impact of transmission lines and gas pipelines on property value, wind turbines have the biggest impact. The main objection, he said, is aesthetic.^[13]

This suggests that if wind farms actually do lower property value, it is certainly not from concerns leveled by opponents, such as health-risks or danger to birds. If so, these concerns would extend to transmission lines and gas pipelines, as well. *Venture Beat's* assertion, then, that wind farms carry a negative stigma and are an eyesore to residents appears to strike at the foundation of declining wind turbine sales.

c. decline for aesthetic reasons

Opponents to wind farm projects often claim that wind farms are ugly and destroy the beauty of nature. These accusations are leveled without taking into consideration the benefits wind farms offer by supplying clean energy and reducing dependency on fossil fuels. Environmentalists and nature lovers often oppose their construction in spite of data showing wind farms to have one of the lowest environmental impacts out of all energy sources.

In 2008, plans to erect three wind turbines on Warwick Hall Farm in the United Kingdom would have provided 6 to 9 megawatts of additional energy to the region. Yet this project was met with resistance by local residents of the village of West Cumbrian, who complained that the wind turbines would "...detract from the lovely landscape."^[14] In 2010, residents of Kythera, Greece launched a campaign in protest against nine wind farm proposals that would have generated a total of 321 megawatts of renewable energy for the islands of Greece. Among their complaints: "Wind power stations are no parks. They are industrial and commercial installations. They do not belong in areas of natural beauty."^[15] A proposal in 2011 to build a 64-turbine wind farm at the foothills of Pumlumon, along the Cambrian Mountain Range, prompted a protest by the Cambrian Mountain Society, which complained that the wind farm would "destroy this spectacular and unique area of Wales."^[16]

These and other wind farm project protests suggest that the main issue with wind turbines is aesthetic. Philosopher Yuriko Saito addressed this reality in her defense of a proposed wind farm off the coast of Cape Cod. She wrote, "The possible negative environmental impact, such as disturbance to area fish as well as to migrating birds, and interference with seafaring route and airplanes' flight paths, seems to have been adequately answered. So what is the source of the opposition? Aesthetics."^[17] In "Machines in the Ocean," Saito offered four strategies aimed at mitigating these aesthetic concerns: imaginative comparison, historical precedents, analogy to art, and civic environmentalism. Although Saito seemed to endorse civic environmentalism, I see my endeavor here as closer to what she termed 'imaginative comparison.'

Imaginative comparison first requires moving the aesthetic evaluation of an item beyond simply its "thin" qualities, such as color, shape, and texture, to an inclusion of its "thick" life values, such as its environmental impact. Second, it asks the individual to imaginatively compare a proposed wind farm project with that of a nuclear power plant in the same location. Although each reaction may be negative, the case could be made that a wind farm is not as bad as a nuclear power plant because of its positive environmental benefits. Saito conceded that such a strategy would amount to choosing the lesser of two evils and ultimately would not transform the negative aesthetic value of wind farms into a positive one. At its best then, imaginative comparison will promote a tolerance for wind farms but will fail to cultivate an aesthetic appreciation for these structures. The primary goal of this essay, however, is just that: to move beyond tolerance towards an aesthetic appreciation for wind farms.

Many wind farm opponents currently regard wind farms as ugly based purely on their emotional response. Such responses only judge the thin qualities of wind turbines and fail to take into consideration their thick

environmental benefits. We find justification for these types of aesthetic judgments in Kant's *Critique of Judgment*, which defends purely emotional aesthetic evaluations. I contend that such judgments must be challenged. What is needed is an understanding of beauty that incorporates both emotional and cognitive components. We find this in John Dewey's *Art as Experience*, which presents aesthetic judgments not as lying within the domain of emotions alone but as being a holistic encounter with an object. I conclude that Dewey's aesthetic provides a better method of judging objects of beauty and is more beneficial in advancing an aesthetic appreciation of wind turbine farms. I begin first, therefore, by looking at the problems posed by a feeling-based aesthetic.

2. Immanuel Kant's *Critique of Judgment*

Immanuel Kant began his "Analytic of the Beautiful" in the *Critique of Judgment* by stating:

If we wish to decide whether something is beautiful or not, we do not use understanding to refer the presentation to the object so as to give rise to cognition; rather, we use imagination (perhaps in connection with understanding) to refer the presentation to the subject and his feeling of pleasure or displeasure.[18]

Kant drew the boundaries of all aesthetic judgments around feelings of pleasure or displeasure. Consequently, if we wanted to know if an object was beautiful or not, we were not to look to the object for understanding but to the viewing subject for feelings of pleasure or displeasure. In this regard, Kant understood all aesthetic judgments to be wholly subjective, meaning they were determined and validated by the subject. This was unlike cognitive judgments, which refer back to the object. Although these judgments were each derived from the same representation, one was aesthetic and the other logical; one was based on feelings and the other on understanding. This separation maintained a clear distinction between judgments that are aesthetic and those that are cognitive. Yet, this also left aesthetic judgments to the individual mercies of subjective feelings, with no grounds for external agreement or dissent. Therefore, Kant determined four characteristics necessary for pure aesthetic judgments: 1) disinterestedness, 2) universality, 3) finality, and 4) necessity.

a. *beauty and disinterestedness*

First, Kant argued that judgments of beauty must be disinterested. This meant that in judging whether an object was beautiful or not, I could have no personal interest or desire for that object. A pure judgment of taste is completely free of desire. This did not mean that I could not desire a beautiful object, yet it did mean that I could not judge an object as beautiful because I desired it. At a certain point the argument begins to resemble the question of which came first, the chicken or the egg. Kant contended that a "judgment on the beautiful which is tinged with the slightest interest, is very partial and not a pure judgment of taste." [19] This is because Kant believed that to desire an object implied knowledge of the object as either good or agreeable. In either case, a concept of the object was required for such knowledge, and this could only be derived from understanding in cognition. Thus, Kant's characteristic of disinterestedness ensures a distinction between the object's real existence and the subject's aesthetic judgment.

Marc Lucht suggests that this idea may actually hold environmental benefits. He argues that the concept of disinterestedness can be utilized in motivating a non-instrumental and responsive attitude towards nature. "Aesthetic contemplation is indifferent to the manner in which the judged object's existence might contribute to one's well-being; we find ourselves enraptured by something independent of its capacity to contribute to the satisfaction of our selfish interests." [20] According to Lucht, this would open up space for nature to be judged as an end in itself as opposed to something merely for human utility.

Lucht's point is well taken but only accurate in so far as two criteria apply: 1) all judgments must refer to nature and non-rational beings, and 2) all judgments must be positive. The negation of either of these criteria exposes the inherent challenges of appropriating this concept as environmentally beneficial. It is worth pointing out that, in spite of stating "aesthetic consciousness involves a love of (at least beautiful) objects for their own sake," Lucht never actually discussed objects, only nature and non-rational beings. However, some people love houses. They ride through suburban neighborhoods and appreciate two and three-story homes with paved driveways and three-car garages. They look in admiration at in-ground swimming pools and well-manicured yards and, without desiring to live in these homes, they appreciate their beauty.

Ironically, though, the massive amounts of energy necessary to power these neighborhoods is often the very reason, as wind power opponents argue, wind farms are insufficient as sole sources of energy. Jon Boone, in his opposition to the wind farm project off the coast of Cape Cod wrote, "These wind plants will contribute only a small and diminishing percentage of the region's total electricity needs because they will produce only 'a piddling amount of electricity' relative to our demand." One should ask if this is an indictment against the wind farm or against the out-of-control energy demands of society. In either case, this instance demonstrates how the disinterested appreciation of houses motivates the unreflective disregard for nature.

The second criterion exposes the implications of negative aesthetic judgments resulting from feelings of displeasure. Although Lucht does not address this possibility in his essay, it is easy to imagine the problem of an aesthetic wholly validated by feelings when those feelings are negative. Namely, if disinterested feelings of pleasure lead to a non-instrumental sensitivity to natural beauty, then, by contrast, disinterested feelings of displeasure would lead to a non-instrumental insensitivity towards aberrations. This would explain why many wind farm projects are met with such hostility and disdain: individuals are blinded by their emotional reactions and disinterested in the potential environmental benefits.

b. the universality/necessity of beauty

Kant's second and fourth categories are similar enough that I treat them here together. Kant argued that judgments of beauty carry the claim of universality. He believed that since the statement "this is beautiful" carries with it no interest or cognitive understanding of the object, the claim must view beauty as being an intrinsic quality of the representation of the object. For Kant, then, beauty was not in the eye of the beholder but in the representation of the beautiful thing.

Consequently, Kant also held that judgments of beauty carry with them a claim of necessity. He wrote, "In all judgments by which we describe anything as beautiful, we tolerate no one else being of a different opinion."^[21] Although the claim to necessity did not imply that everyone will agree with our judgments of beauty, it did affirm that everyone ought to. Thus, disagreements were thought to derive from a subjective error in judgment as opposed to differing opinions. The implication is that anyone with common sense would experience the same feelings of pleasure or displeasure as oneself.

Before considering such an idea absurd, consider the actions of wind farm opponents who argue that wind farms are ugly without ever actually qualifying that claim. It's as if they, too, believe that everyone ought to feel the same. Some make reference to wind turbines' height or their obtrusiveness on natural landscapes as justification, yet many buildings are tall, and roads are visible from almost every place on earth. Few areas remain purely natural; certainly not the backyards of communities that oppose wind farm projects. One has to wonder where these defenders of the natural environment were when trees were being cut down to build the communities in which they now reside.

In Jon Boone's article in this journal, "The Aesthetic Dissonance of Industrial Wind Machines," he undertook this task by comparing wind farms to structures like the Great Wall of China and the Eiffel Tower. He concluded that "only the US highway system has the scope and scale to match the aesthetic pretensions for industrial wind power."^[22] In spite of the fact that those roads' functional success has allowed them to become an accepted part of the natural environment, Boone stated that environmentalists should also have problems with the way in which they scar the earth, diminish ecosystems, and corrupt economies. I was, however, unable to find any articles Boone had written on the aesthetic dissonance of roads. Nevertheless, the type of aesthetic justification he attempted to provide against wind farms is precisely what should be required of other opponents of wind farms projects. Unfortunately, many opponents are content with making the universal claim that wind farms are ugly because they are ugly.

c. beauty and finality

Kant's third characteristic requires that an object of beauty exhibit finality without an end. Although the finality in an object implies an end, Kant contended that an aesthetic judgment could not take into consideration the object's end since, again, this would include cognitive understanding. Knowing the object's purpose would incline the viewer to base his or her aesthetic judgment on either the object's utility or its conformity to an ideal. One should ask, then, how a viewer can find pleasure in an object exhibiting finality and at the same time disassociate it from its end? Kant would say that the pleasure derived from viewing a river is a result of the harmony and free play of intuition in the subject and the inherent purposiveness of the river's form. However, understanding the literal purposiveness of the river would taint its aesthetic judgment, since "every purpose, if it be regarded as a ground of satisfaction, always carries with it an interest about the object of pleasure."^[23]

The difficulty of performing such a separation is obvious. To a swimmer, a river would be a welcome sight, and perhaps even beautiful, because it represents recreation and delight. To a man who once nearly drowning, however, it would evoke a feeling of anxiety and fear. Thus, what is beautiful to the swimmer would be abhorrent to the man. Although Kant would argue that a true aesthetic judgment of the river would require both subjects to free their minds from these cognitions, it is difficult, if not impossible, to imagine anyone who, upon approaching a river, would be able to successfully remove all prior knowledge of a river from his or her mind in order to make a purely emotional judgment.

The disservice of attempting to perform such a separation is evident in wind farm opponents' refusal to consider the environmental benefits of wind farms as justification for their beauty. In the United Kingdom, figures show that almost half of the wind farms planned for the countryside are rejected before they can get off the drawing board. As attorney Jacqueline Harris noted, issues such as the visual impact of wind turbines are being given special precedence, and there is little willingness to consider the benefits of renewable energy.^[24] In spite of research showing that wind farms occupy less land area per kilowatt hour of electricity generated than any other renewable energy conversion system, apart from rooftop solar energy,^[25] that they generate the energy used in construction in just months of their operation; and that they have zero emission or pollution in operation, they are still regarded by "NIMBYs" (not in my backyarders) as just another industrial park.

Opponents to the wind turbine project on Kythera Island stated, "Even the approval of one wind-park on Kythera will make it easier for the rest of Kythera to be re-zoned for industrial use. You might then see wind-towers and factories and dumps spoiling the view from your spitaki."^[26] The concept of finality without an end implies that all objects that evoke the same feelings are the same. This promotes a disregard for the differences between wind farms and factories and justifies generalizations that are harmful to the development of an aesthetic appreciation for wind farms.

3. John Dewey's *Art as Experience*

Dewey began his philosophy of art in a vastly different way from Kant. He argued that the current isolation of

works of art from the everyday experiences that brought them into existence has led to a false separation. A wall has been built around art that renders its general significance almost opaque and isolates it from human conditions and actual life experiences. Such a perspective, he believed, was problematic. Dewey wrote, "Mountain peaks do not float unsupported; they do not even just rest upon the earth. They are the earth in one of its manifest operations."^[27] He then argued that it is the role of geographers and geologists to make this fact evident so that individuals can experience the mountain peak as a part of Earth's geological process, along with earthquakes, erosion, and tectonic plate shifting. Likewise, the real and actual experiences that bring a work of art into existence are also an intrinsic part of the object and cannot be disavowed from it; the theorist who deals philosophically with fine art must expose this reality. Dewey's aesthetic is an attempt to relocate aesthetic experience within the context of human activity.

By integrating perception and contemplation in aesthetic judgments, Dewey presented a holistic theory of beauty. It expanded the realm of aesthetics beyond merely feelings and opened up space for individuals to reflect on the purpose of an object's development. Dewey understood the aesthetic experience as touching every aspect of human life and, thus, art was not relegated to a field of classification. Art, he wrote,

is a quality that permeates an experience; it is not, save by a figure of speech, the experience itself. Esthetic experience is always more than esthetics. In it a body of matters and meanings, not in themselves esthetic, become esthetic as they enter into an ordered rhythmic moment towards consummation. The material itself is widely human.^[28]

In this regard anything could be considered art, artistic, or aesthetic. Science, politics, and even thoughts could comprise and exhibit an aesthetic quality. In many ways, then, where we see beauty says more about us than it does about the object.

By contrasting Dewey's aesthetic with Kant's, we are able to identify critical points of divergence. Whereas Kant's aesthetic helps to explain the current aesthetic perspective held by wind farm opponents, Dewey's aesthetic pushes the conversation forward by challenging those judgments. In an age when the exploitation of non-renewable resources is rampant, where oil fuels not only cars but wars, and where the negative effects of disproportionate climate change are more pronounced than ever, the lack of an aesthetic appreciation of wind farms can only be seen as negligent. In Dewey's *Art as Experience*, I suggest that we can find the case for such an appreciation.

a. beauty and interestedness

Dewey believed that the process of aesthetic judgment involved more than merely judging an object. He wrote, "For to perceive, a beholder must create his own experience."^[29] This meant that the beholder had to have an experience with the object similar to the one had by the artist in creation. However, the experiences were not the same. Each determined what was significant and ordered the particulars into a whole; "the artist selected, simplified, clarified, abridged, and condensed according to his interest. The beholder must go through these operations according to his interest."^[30]

This meant that aesthetic judgments were more than just about the object and the artist. They were also about the interests of the viewer, what the viewer brought to the encounter and how the viewer synthesized the experience within his or her mind. Objects were composed of practical, emotional, and intellectual properties and, according to Dewey, it is impossible to divide these properties from each other as one experiences an object. Aesthetic judgments are no easy task but, ultimately, the object demands a holistic encounter. Those who only focus on the emotional, however, are left with only a partial judgment of the object, one that is deficient and lacking.

A genuine aesthetic experience is one that gives a consummatory experience and affords continuous renewed delight. It is one that has the ability to evoke the experience of production and consummation for viewers over and over again. For this reason, Dewey believed that fine art should be both enjoyable and useful. What was often regarded as fine art he referred to as self-indulgent, self-expressions of egotism. In contrast, Dewey referred to things that were merely useful as routine.

In the case of wind farms, their utility is undeniable, even by opponents who would want to diminish their significance. Also, others have commented of the "graceful lines" wind turbines exhibit in motion.^[31] Yet, these characteristics alone are insufficient to advance an aesthetic appreciation of wind farms. Individuals with a genuine interest in the natural environment must view wind turbines in the light of those interests. An aesthetic evaluation that privileges sustainability will inevitably find beauty in wind farms for the role they play in this endeavor. As Maine resident Harold Clossey expressed, "Wind turbines are becoming more and more a source of pride, not only because so many of the people of Maine have played a part in bringing these projects to bear, but also because we believe in clean, renewable energy sources that do not pollute our rivers, lakes and streams."^[32]

b. individuality of beauty

Kant's second and fourth categories are that beauty is universal and necessary. Dewey, however, understood the subjectivity of aesthetic judgments differently. As opposed to believing that aesthetic judgments ought to be universally shared, Dewey felt that all judgment were individual. Retelling the story of a man who complained of the discordant sound of church bells, he pointed out that, in fact, the sound was musical. It was later discovered that the man's betrothed had jilted him to marry a clergyman. Dewey termed this "projection."^[33] That is, prior experiences transfer themselves upon the aesthetic evaluation of a present object. Such projection can

lead to hostile first reactions to new modes of art.[34]

Contrary to the claim that there exists a universal subjective perception of beauty, Dewey actually argued that individual experiences and even psychical influences infuse our perception of what is beautiful. David Suzuki's recounting of a conversation with Mostafa Tolba, former executive director of the United Nations Environment Programme, demonstrated this reality. He shared with Suzuki that, while growing up in Egypt, smokestacks belching smoke were considered a sign of progress. After becoming an adult and learning about pollution, it took him a long time to get over the instinctive pride he felt when passing a tower pouring out clouds of smoke. Notice that for Tolba these feelings were not deliberate or conjured up but immediate. He illustrates how our sense of beauty is influenced by our individual experiences.

As Justin Good pointed out in "The Aesthetics of Wind Energy," projections can explain why many environmentalists are opposed to wind farms. He stated that, from a traditional modernist point of view, nature has no intrinsic value unless it is valued by an intelligent being with rational interests. Naturalists and ecologists who love nature and spend time there recoil at this idea. For them, the "industrial look" of wind farms is connected to modernist thought and carries with it an ideology of progress that they perceive as unnatural and ugly.[35] Dewey's understanding of how projections influence individual aesthetic judgments provides the opportunity for wind farm supporters and opponents to discuss these barriers.

c. beauty and purpose

Dewey also wrote,

...esthetic experience is a manifestation, a record and celebration of the life of a civilization, a means of promoting its development, and is also the ultimate judgment upon the quality of a civilization.[36]

Dewey believed that by understanding the aesthetic experiences of a civilization we could come to understand their culture. Art is not merely an aspect of culture but provides its ultimate judgement. As we appreciate a work of art, we are also appreciating the civilization from which it emerged. Though the artist may have passed away, his or her act of producing provides us with insight into that artist's life and community.

As opposed to attempting to detach the ends of objects from their aesthetic judgments, it would behoove us, in the case of wind farms, to ask what our aesthetic expressions will say about us to the next generation. Some have presumed that wind farms will become a blight on nature. Columnist Ted Smith wrote, "History tells us that all technology becomes obsolete and when technology that involves massive concrete pads and blades the size of airplane wings becomes obsolete and abandoned, we will have another Tar Creek." [37] The comparison suggests that wind farms will hold no aesthetic quality when viewed from the vantage point of time, and perhaps might even become comparable to a Superfund site.

It is worth noting, however, that Smith's argument here is a practical one and not an aesthetic one. He is concerned with instances when developers, for any number of reasons, abandon wind farm projects. Often what is left behind is a wind turbine junkyard as opposed to an operating wind farm. Practically, I agree with Smith that developers should be held accountable for restoring these locations to their pre-wind farm condition. A non-operative, dilapidated wind farm would hardly be considered beautiful, whether one was deploying Kant's or Dewey's aesthetic. However, I would disagree with the assumption that the mere inactivity of a wind farm would negate its beauty.

If one visits the Smithsonian National Air and Space Museum in Washington D. C., one can see the original 1903 Wright Flyer displayed alongside the stopwatch the Wright brothers used to time the first powered flight. Also on view is the command module for Apollo 13, the vessel that held the first three humans to make a journey to the moon. Although these devices are no longer in use, their construction, the knowledge of their place in history, and the ingenuity behind their design all contribute to their aesthetic appeal. Furthermore, they reflect the culture of a civilization marked by technology and exploration.

As society moves forward in the face of global warming and rapid and disproportionate climate change, we should begin to ask ourselves what values we want portrayed about us in the next hundred years. If Dewey is correct that our aesthetic provides the ultimate judge of our values, then the road ahead is difficult one. An article published in September 2011 indicated that Texas has nineteen coal-fired plants and plans to build nine more.[38] Dewey's aesthetic provides criteria for considering such decisions as contradictory, and challenges us to examine the ends of the objects and structures we create. If the ideals we seek to advance are sustainability, biodiversity, and concern for posterity, judging objects with their ends in mind will inevitably serve to expose the beauty of wind farms.

4. Conclusion

In conclusion, Dewey offers a response to the aesthetic concerns presented by Kant and the feeling-based aesthetic practiced by many wind farm opponents. By advancing an aesthetic that integrates interest, individuality, and purpose, we are able to understand beauty as a total experience with an object, rather than simply as an emotive response. And if Dewey's only contribution here was to correct a currently dysfunctional system, while commendable, it could hardly be deemed an advance in aesthetic appreciation of wind farms. But there's more!

The greatest benefit in Dewey's aesthetic lies in its potential to enrich future aesthetic judgments. According to Dewey, experiences are occurring continuously but they are not all complete experiences. Some are inchoate,

meaning that they are merely part of a total experience. Every experience is not necessarily "an experience." Take, for instance, Dr. Martin Luther King's famous "I Have a Dream" speech. It would hardly be considered an experience if an individual heard only those four words. There would be no purposiveness, unity, or consummation. However, within the context of the entire manuscript, those words ring with artistry and bravado. Thus, it is only after one has participated in a whole experience that one can genuinely make an aesthetic judgment. While this does not preclude aesthetic judgments along the way, Dewey would say that, without a total experience, there is no pure aesthetic judgment.

For communities and wind farm opponents, this means that, upon hearing of a proposed wind farm project, they should delay their judgment and opposition. As opposed to immediately reacting from emotion, they should have town hall gatherings and attend city council meetings. By discussing the potential benefits and harms of a proposed wind farm project, individuals will slowly move towards having "an experience." In Boone's article, "The Aesthetic Dissonance of Wind Machines," he challenged Saito's support of the Cape Cod wind farm project. He called attention to the relatively low percentage of electricity the project would produce and also questioned its location, given that 33 percent of the nation's potential wind energy is located in North Dakota, South Dakota, and Kansas.^[39] In a response, Saito indicated that both sides were waiting for the final report of the environmental impacts study by the U.S. Army Corps of Engineers.^[40]

Dewey would not only applaud this type of rigorous and engaged research but would argue that a pure aesthetic judgment demands it. In some situations, a proposed environmental project may actually produce more harm than good, altering its aesthetic evaluation. In 1979, as the Tellico Dam was being completed to bring hydro electric power to Tellico Village in Tennessee, it was discovered that the dam would put the Snail Darter fish in danger of extinction. Consequently, the project was halted. Although the project was later completed, this is one example of how an ongoing query into the environmental impacts of a project can and should affect its aesthetic judgment.

Allen Carlson wrote, "When we are actually unable to find an object aesthetically pleasing in the thick sense because of the (negative) nature of its expressive qualities, this often makes aesthetic enjoyment of this object in the thin sense psychologically difficult, if not impossible."^[41] Carlson's observation points out how knowledge of the "thick" description of an object can affect its aesthetic enjoyment. Saito made a similar point when she questioned the perception of a beautiful green lawn sustained by toxic chemicals. "Such an attractive green carpet may not necessarily turn ugly with knowledge, but it may start appearing somewhat sickly and garish; at the very least, it will not remain innocently and benignly beautiful."^[42] These points demonstrate that additional knowledge of an object's negative impacts can affect the sensory perception of that object. The question remains, however, whether knowledge of its benefits can make an object beautiful. David Suzuki's article "The Beauty of Wind farms" suggests so:

Some people think wind turbines are ugly. I think smokestacks, smog, acid rain, coal-fired power plants and climate change are ugly. I think windmills are beautiful. They harness the power of the wind to supply us with heat and light. They provide local jobs. They help clean our air and reduce climate change. And if one day I look out from my cabin's porch and see a row of windmills spinning in the distance, I won't curse them. I will praise them.^[43]

For Suzuki, coal-fired plants and wind farms are not simply different types of industrial parks both of which ruin the beauty of nature, as the residents of Kythera, Greece suggest. Rather, coal-fired plants are ugly because they contaminate drinking water, ruin air quality, and increase climate change from global warming, while wind farms are beautiful because they produce zero harmful emissions, are 100 percent renewable, and reduce disproportionate climate change. Such an understanding integrates both cognitive and emotional judgments into an aesthetic evaluation and is indicative of the hard but necessary work required for an aesthetic appreciation of wind farms.

Of course there are limits even to Dewey's philosophy, and I am not in any way suggesting that cognitive knowledge will change aesthetic judgments in every case. That would be far too idealistic. There is undoubtedly a difference in the aesthetic appeal of two wind farms with the same degree of environmental value based on qualities like color, arrangement, size, and so on. In this regard, Kant's aesthetic is not useless, and I am not advocating the random, disorderly arrangement of clumsy wind turbine structures against a landscape. Factors such as placement, color, and configuration all serve to enhance the aesthetic appeal of a wind turbine farm and can even meet the standards of Kant's purposiveness without a purpose. The distinction I make between Kant and Dewey is not that Kant is against wind turbines and Dewey in favor, but rather on their basis for judging beauty. Dewey's aesthetic asks much of individuals in the way of conceptual knowledge and requires that individuals move beyond a mere knee-jerk reaction toward being informed, aware, perceptive, and engaged. This is not impractical. As Saito pointed out, "We engage in conceptually-based aesthetic appreciation with works of art all the time--by taking courses in music, art history, and literature.... It is just that we have not developed an equivalent formal discipline or discourse guiding our aesthetic appreciation of nature, environment, and designed objects."

If the current decline in wind turbine sales along with Kant's feeling-based aesthetic is going to be overcome, this work is essential. For although it is far from my intention to lay the environmental woes of society at the feet of Immanuel Kant, his philosophy is not blameless. It is therefore the responsibility of philosophers and environmentalists to take the lead in redirecting renewable energy conversations beyond merely emotional responses towards a more holistic understanding.

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