

Niagara Falls: Sublime, Engineered, or In-Between?

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Category: Humanities

“The Falls of Niagara may justly be classed among the wonders of the world. They are the pride of America, unequalled in grandeur, magnitude, and magnificence, by any other known cataract; and have since they were discovered exerted an attractive influence over millions of the human race, who have flocked thither year after year to gaze upon that tumultuous crash of water with feelings of the deepest solemnity. The power and majesty of the Almighty are, perhaps, more awfully exhibited and more fully realized in this stupendous waterfall than in any other scene on earth.”

-T. Nelson, 1860

The passage above, taken from the introductory pages of a late-nineteenth century guidebook of Niagara Falls, is representative of the feelings that visitors to Niagara Falls have historically felt upon viewing the natural wonder. Early travelers documented their affective experiences at Niagara in travel journals and postcards, and these stories of the great cataract filtered out of the wilderness and back to civilization in New York, Boston, and London, where they sparked imaginations and imbued Niagara Falls with deep meaning in the mind of the public long before the site was accessible to the masses. Without a rich history or humanized landscape to call its own, America embraced the wilderness as its heritage, and Niagara Falls quickly became *the* symbol of the new republic: untamed wilderness, unimaginable beauty, and untapped resources. Since its introduction into the Euro-American consciousness, Niagara Falls has become a highly contested landscape, simultaneously embodying the conflicting ideas of preservation and progress and ultimately forming an identity as an American icon dependent on its status as a place in-between the constructed and the natural.

To understand the significance of Niagara Falls in the American mind we must understand how the falls were interpreted by the first wave of visitors in the early/mid- 19th century. A few stories of the natural wonder began reaching the public at the beginning of the 18th century, and these stories gave Niagara Falls a mystical status in the collective

imagination. It was a site of unrivaled beauty, a place where heaven was just almost within reach, and where the extraordinary was possible. It was with this preconceived notion of Niagara Falls that visitors swarmed up the Erie Canal upon its completion in 1825, planning to access the previously inaccessible Eden at Niagara. For this genteel class of tourists entrenched in ideologies of Romanticism, a visit to the falls was a kind of pilgrimage. At Niagara, one could hope to temporarily transcend the trappings of mundane life—the quest up the Erie was a liminal journey climaxing at the falls, a journey that ended in renewal. As British novelist Anthony Trollope wrote in 1863: “To realize Niagara, you must sit there till you see nothing else than that which you have come to see. You will hear nothing else, and think of nothing else. At length you will be at one with the tumbling river before you...you will fall as the bright waters fall...you will rise again as the spray rises, bright, beautiful, and pure”(McGreevy 34-35). In his analysis of the travel journals of 19th-century visitors to the falls, Patrick McGreevy breaks down the appeal of Niagara into four themes: geographic remoteness, nature beyond human control, potential for future progress, and the threat of death. All of these themes can be summarized in the one main draw of Niagara-- it was a place not quite of this world, and the quintessential icon of the rapture and terror typical of the natural sublime.

The reports of these early travelers shaped the reputation of the falls as a site of unsurpassed natural beauty, which has since been the dominant narrative surrounding Niagara Falls. This narrative took on new meaning as the nation underwent industrialization and urban centers became increasingly filthy. Nature became the “other” to the world of urban industrialization, and people began to see the natural world as an antidote that could heal the ill effects of the urban environment: “Wilderness is a place you go for a while, an

escape to or from. It is a departure into a kind of therapeutic land management, a release from our crowded and overbuilt environment...” (Shepard, 70). Mills and factories that sprung up around Niagara Falls polluted the area and threatened the integrity of this natural space as a healing haven. Fearing the demise of Niagara Falls, a group of influential artists and policy makers began the “Free Niagara” movement, spearheaded by Frederick Law Olmstead (1822-1903). He believed that shared natural spaces had the power to “elevate the moral and spiritual condition of the ‘common man’”(Strand 137). To Olmstead, the future of the United States as an increasingly industrialized nation was entangled with the declining landscape at Niagara. With the help of his extensive and powerful social network Olmstead worked towards protecting Niagara Falls from industrialism and making it free for the public.

Among Olmstead’s collaborators was Frederic Edwin Church (1826-1900), who in 1857 produced one of the most acclaimed paintings of Niagara Falls (Figure 1). The painting is notable for its close detail of the falls, but Church only chose this framing to crop all of the surrounding industrial buildings from his masterpiece. Church, Olmstead, and a few other powerful men gained support for their cause and eventually submitted a petition to the state governor in 1880, accompanied by a letter that described the plight of the falls: “...In place of the pebbly shore, the graceful ferns and trailing vines of the former days, one now sees a blank stone wall with sewer-like openings through which tail races discharge...overlooking this disfigured river brink stands an unsightly rank of buildings in all stages of preservation and decay...”(Strand 143).



Figure 1: Niagara Falls, From the American Side. Frederic Ewin Church, 1867

The river was personified as a wounded body, which underscores the belief that healing Niagara was symbolic of healing the country. The appeals worked: in 1885 a bill was passed that created the Niagara Reservation, America's first state park.

But the battle fought by the "reservationists" was far from finished. Although the legacy of Niagara Falls as a natural wonder has remained in the forefront of the American consciousness, a less publicized history of technological development has also shaped the falls. While for many Niagara represented the natural world, a way to commune with the earth as it was "before," others looked at Niagara and saw the future. Among the early visitors were engineers, industrialists, and other enterprising individuals who could not look at Niagara Falls without seeing enormous potential for technological progress. A few mills and hydraulic canals were harnessing a modest amount of horsepower from the falls by the late 1800's, but significant progress started after Thomas Evershed sold his plan for a water diversion tunnel to the Niagara Falls Power Company (NFPC) in 1886 (McGreevy 110). The NFPC aimed to transmit electricity to Buffalo for mass consumption. Leading experts Nikola Tesla and George Westinghouse contributed to the final plan for alternating current

long-range transmission that allowed electric streetlights to light the streets of Buffalo in 1896. At Niagara Falls today, 50-70% of the water that would naturally flow over the falls is diverted into intake tunnels on the Canadian and American sides that carry the water under the cities of Niagara Falls to hydroelectric plants 4.5 miles down the river.

For the engineers who tapped the river's resources and the consumers who bought from them, hydroelectric power represented a new beginning. In contrast to the darkness, grime, and noise of the industrial-era factories, hydroelectric plants were clean, well lit, and almost noiseless. It was a new technology for a new era. During that time a new trend of "expositions" started up around the country. These events, often lasting a few months and requiring huge investment of labor and money, were dedicated to celebrating the progress of mankind and the optimism for the future. Anthropologist Burton Benedict remarked on expositions: "They promulgated a whole view of life. They created a world in which everything was man-made. Nature was excluded or allowed in only under the most rigorously controlled conditions... at world's fairs man is totally in control and synthetic nature is preferred to the real thing" (Nye 143). A mere fifteen years after the creation of the state reserve at Niagara Falls, Buffalo hosted the 1901 Pan-American Exposition, a testament to the power of electricity. An entire city was built on 350 acres of land (now Delaware Park) a few miles from Niagara Falls. The buildings were studded with light bulbs that illuminated the area at night with a soft, diffuse light (Figure 2), and at the center of the exposition complex was the Electric Tower, a 389 foot tower covered in lights with a replication of Niagara Falls spilling from its side.



Figure 2: “New Panoramic View of the Illumination Looking for the Triumphal Bridge”. Photographer: Undetermined. Source: *The Latest and Best Views of the Pan-American Exposition, Buffalo, N.Y.*: Robert Allen Reid, 1901.

Its architect, John Galen Howard, described the building in a way that captured the theme of the Pan-American Exposition: “As regards the architectural design of the Electric Tower, it may be called essentially American...certain ‘influences’ may be pointed out by the critic; but the tower cannot be said to have been designed in any strictly traditional ‘style.’ It shows the trend of thought in this country, and may be taken as an example of modern American architecture”(UB Libraries, *The Electric Tower*). The exposition represented the desire of the American people to move forward, past colonial roots and Old World influences, into a new identity marked by innovation and progress.

It seems paradoxical that just a few miles outside of this electrical, futuristic wonderland the Niagara Falls State Park lay in stillness and serenity, a testament to the origins of the past. Indeed, the narratives of Niagara Falls as a place of sublime beauty and untouched wonder but also as a place of technological innovation have often been presented as juxtaposition. But the engineered and the natural at Niagara Falls are not diametrically opposed; instead, these narratives have reinforced and reproduced each other over time.

The blending between these two dichotomies really begins long before Euro-Americans were aware of Niagara Falls. Through most of the history of Western civilization, the quality of human life was determined by nature. In the Middle Ages “untouched nature” was dangerous, a threat to existence, and rumored to be the Devil’s terrain. The future was in the hands of the natural world, not controlled by humans. This inability to control nature was coupled with the belief that the ancient times had been the peak of civilization. But the scientific discoveries of the 16th and 17th centuries as well as the discovery of the New World began to change people’s perceptions of civilization. “Progress” was an idea that became interwoven with the visions of the future, and eventually it was taken for granted that the passage of time would result in greater scientific achievements and a more just and moral world. A key part of the idea of progress was increasing human domination over nature. Writing in the 1600’s, philosopher Francis Bacon articulated his view of the ideal future, a world where “its citizens seek the knowledge of causes and secret motions of things, and the enlarging of the bounds of the human empire, to the effecting of all things possible” (McGreevy 104).

However, antithetical to this notion of human progress was the experience of the sublime. The sublime is “an abstract quality in which the dominant feature is the presence or idea of transcendental immensity or greatness: power, heroism, or vastness in space or time. It inspires awe and reverence, or possibly fear”(Bell 4). Emmanuel Kant was one of the first philosophers to meditate on the sensation of the sublime, which he called a “negative pleasure, as the mind is both attracted and repelled by the object”(Bell 4). The sublime, which has most commonly been found in nature, is essentially the root of the existential crisis of insignificance people have confronted when viewing a natural spectacle-- and

human insignificance was not in the rhetoric of progress that emerged out of the 17th and 18th centuries. For believers in the inevitable progress of humanity, the sublime was a challenge to prove that mankind could progress as superior to nature, rather than at its whim.

The way this challenge was interpreted at Niagara Falls is revealed in the extreme stunts that were popular at the falls in the early 20th century. One of the first staged events at Niagara Falls was the destruction of the schooner *Michigan* in 1827. The event planners promised that the schooner would be loaded with caged ferocious creatures and then plunged over the falls. Local hotel owners obtained the condemned ship and on the event day chained its animal crew (two bears, a buffalo, two foxes, a raccoon, an eagle, a dog, and 15 geese) to the deck and set it loose. Between 10,000-20,000 spectators watched the force of the water eviscerate it. While today this event is interpreted as a savage act of animal cruelty, it was in keeping with the human-nature relationship at the time. Spectators were satisfied with the outcome of the event; as the *Rochester Telegraph* put it, “The power of the Almighty was imposingly displayed over the workmanship of mere human hands.” But, as author and Niagaraphile Ginger Strand points out, “it was now humans who staged nature’s triumph. Nature’s supremacy was already looking like an act”(Strand 68). Nature’s supremacy was diminished further in 1859 when tightrope walker Charles Blondin successfully crossed over the gorge on a wire, and even further when the middle-aged and untrained Annie Edson Taylor became the first survivor of a barrel trip over the falls. The sublimity of Niagara Falls began to decrease in the public consciousness.

It can be argued that Niagara Falls as a sublime experience truly ceased to exist in 1895, when the waterpower that made the falls so awesome to behold was greatly diminished by diversion to hydroelectric dams. More than any other human influence on the falls, the

production of electricity marked a new era of total human control. This is best captured in two images. The first, titled *The Spirit of Niagara* (Figure 3), was used to market the 1901 Pan-American Exposition. In this painting Niagara Falls is represented as a woman, but instead of being portrayed as a supreme deity, she is docile, and submissive. The second image, painted in 1927, is a mural on the walls of the Schoellkopf Station of the Niagara Falls Power Company (Figure 4). In this mural, titled *The Birth of Power*, human waves tumble over the falls and generate two poles that generate a spark that gives rise to the Genie of Power: “This allegorical painting tells in vivid and powerful tone, but with eerie lightness, the romantic birth story of humanity’s modern servant—electrical power”(McGreevy 118). Comparing these two paintings it is clear that the natural (represented by the female figure) has been replaced by ideals of science, technology, and civilization (embodied in the powerful male figure).



The increasing water diversion at the falls led to a new wave of preservationists who feared that Niagara Falls would run dry if diversion was not regulated. Pressure from these preservationists resulted in the Burton Act of 1906, which was the precursor for the first international treaty between the US and Canada that set a regulation on water diversion. This agreement was in effect until 1950 when the current Niagara River Water Diversion Treaty was adopted. The treaty outlines how much water must be going over the falls at what time (no less than 100,000 cubic feet per second between 8am and 10pm in

Figure 3: "The Spirit of Niagara," 1901

the summer, and no less than 50,000 cubic feet per second in the winter) (*Niagara River Water Diversion*). These stipulations serve no functional purpose other than to placate the tourists, and in them it is apparent how technological manipulation of Niagara Falls has been a balancing act.



Figure 4: "The Birth of Power"

The hydroelectric companies have been acutely aware of the way their role in dominating the natural wonder might be perceived by the public. Appeals to the common good and the future of mankind have been used to justify the diminishing of the falls. A popular slogan among the American companies was "Power for the People," a phrase reminiscent of the slogan used by multiple revolutionary political movements in US history. Hydropower at Niagara Falls was marketed as a natural step in the progression of humanity towards a more just and livable world. But

simultaneously hydroelectric companies have sought to validate the Niagara tourist's desire to experience authentic natural beauty. In a 1901 article written about the granting of the charter for waterpower development on the American side of the falls, William Andrews states, "The recipients of this charter...were men who not only realized the commercial value of such development, but were opposed to the desecration of the most impressive natural object of the world for utilitarian purposes." He then goes on to detail how preserving the beauty of the falls was a key factor in determining the best way to draw water away from the river, assuring the reader that the alterations are invisible. His article ends: "This masterpiece of Nature remains to-day with its beauty and grandeur unmarred, its

8,000,000 horse-power inappreciably affected by the petty thefts of man, and its usefulness enhanced a thousand-fold”(UB Libraries, *How Niagara has been Harnessed*). Even today at the Robert Moses Niagara Power Plant visitors are greeted by a similar reassurance when they walk into the lobby, where an engraving on the wall claims, “The preservation and enhancement of the beauty of Niagara Falls and the Niagara Gorge were paramount considerations in the realization of this comprehensive program...” The fear that the natural beauty at Niagara would be superseded by the technological has been a constant theme in the harnessing of the falls. Although Niagara Falls is certainly still beautiful, it is not “authentic” and no longer encompasses the sublime beauty that entranced its early voyeurs. Instead, Niagara Falls has fallen into the picturesque: “The sublime contrasted with the picturesque: the picturesque was pretty, and of human scale; the sublime was vast, powerful, forbidding, terrifying, awe-inspiring, and held the possibility of death”(Bell 4). The picturesque fits in with the narrative of progress that America still clings to; the picturesque is comfortable. While Niagara is still marketed as a natural wonder it has increasingly become an experience easily summarized on a postcard, a place that allows close communion with a national identity rather than the power of nature.

This is where the division between nature and technology at Niagara Falls fades into non-existence. The goal at Niagara Falls has become to preserve *beauty*, not the sublime; to preserve an icon, not a natural wonder in its full power. After the public outcry that led to the regulation of water diversion the hydropower companies changed their approach and decided to highlight the effects of natural recession on the waterfalls over time. Their research showed that nature, left unchecked, would lead to the eventual erosion of Niagara Falls. Public opinion shifted, and preservation came to mean *less* water, the opposite of what

it meant twenty years earlier. Engineering Niagara Falls became synonymous with preserving it: rather than nature vs. technology, the story was now nature saved by technology.

In truth, this story had been playing out at Niagara Falls since the 1700s. Proprietors of the early commercial ventures at the falls immediately began altering anything within means that would make the tourist experience more comfortable and spectacular. Luna Island and Goat Island, separating the Horseshoe and American Falls, were bolted into the bedrock so

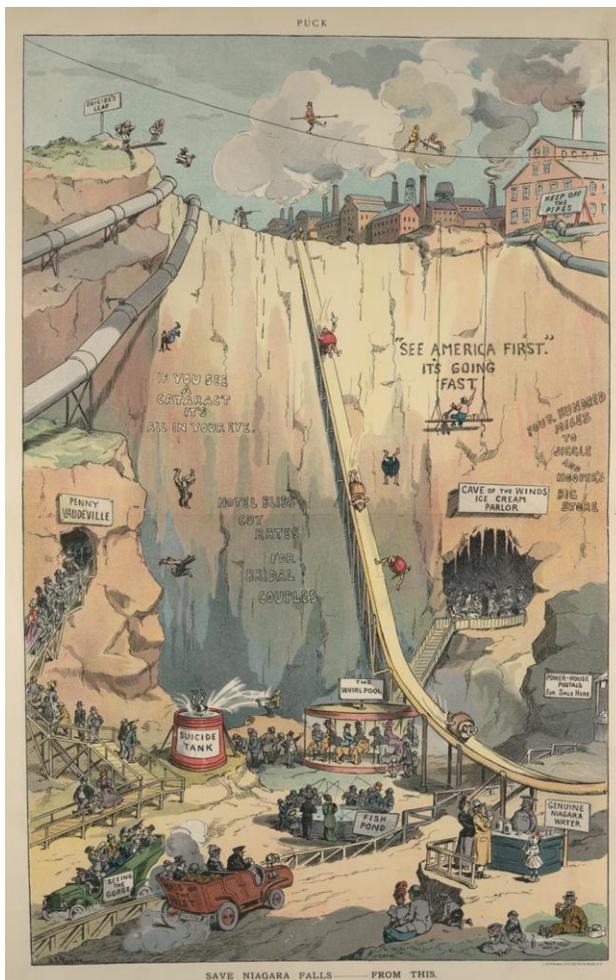


Figure 5: "Save Niagara From This" *Puck Magazine*, 1906

that they no longer shook against the force of the thundering water. Terrapin Point was enlarged with landfill so tourists could get a better view of the waterfall (Strand 48). In more recent years sensors have been inserted in cracks to monitor rock slippage. In 1973 the commission in charge of tourist management at Niagara Falls issued surveys to tourists asking how their viewing experiences would best be enhanced: a) by removing the rocky talus from the base of the American Falls, b) by increasing flow over the American Falls, c) by having the water raised in the Maid of the Mist pool, or d) doing nothing. Only 30% of respondents chose the last option (Strand 194). If preserving the natural was ever the

goal at Niagara Falls, it has long since been replaced by a desire to preserve the spectacle, or at least some semblance of it. In 1906 a lithograph was published in *Puck* magazine titled “Save Niagara Falls—From This”(Figure 5). It shows a barren waterfall surrounded by pipes, factories, and tourist stands. The image reflects the fear that without regulation of industry and preservation efforts Niagara Falls would actually dry up. Ironically, the only time the waterfall has been barren in its 12,000 year history was in 1969, when the Niagara River was dammed so that the US Army Corps of Engineers could clear debris and further stabilize the waterfall *in the name of preservation* (Figure 6). In the words of Ginger Strand, Niagara Falls is “more a monument to man’s meddling than to nature’s strength”(Strand 5).



Figure 6: The American Falls "turned off," 1969

What, then, can we make of Niagara Falls? The place has become an enigma, clinging to a precarious position between a status of either natural or technological wonder, totally decontextualized from the histories of industrialization, deindustrialization, and commercialization that characterize the cities on the shores just beyond the frame of the

tourist camera lens. As tourism theorist Ernest Sternberg notes, “There is a price to be paid for such decontextualization—tourists must contend with the jarring congruity between the spectacle at stage center and the urban decay located just off stage” (Sternberg 960). What do these incongruities, both surrounding the falls and within them, mean for the 12 million tourists that visit Niagara Falls annually? Some people feel a sense of betrayal upon learning about the realities of water diversion. But as mentioned early, Niagara Falls is no longer a

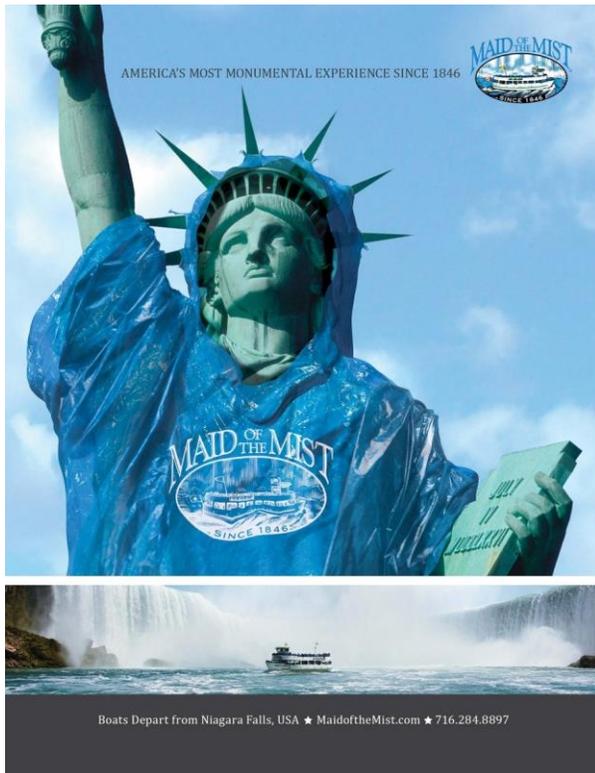


Figure 7: "America's Most Monumental Experience"

multiple interpretations based on the desires and knowledge of the individual viewer. As long as its iconography is maintained Niagara Falls continues to fulfill its most prominent historical function as a point of connection to America.

sublime spectacle but an icon. The Maid of the Mist’s most recent advertising campaign compares the experience of Niagara Falls to viewing a national monument—a comparison that may finally be a subtle nod to both the cultural and physical construction of Niagara Falls (Figure 7). Niagara Falls is a self-consciously staged experience, but in its attempt to simultaneously claim conflicting identities the falls creates ambiguity that allows for

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