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**IS DEDICATED TO THE MEMORY OF**  
**DANIEL M. DUMYCH**

**DIED APRIL 17TH 2000**

**AGE 43**

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**FREELANCE WRITER / HISTORIAN/AUTHOR**

**RECORDS MANAGEMENT COORDINATOR, COUNTY OF NIAGARA**

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*He had created an historical based web site entitled*

**Water Power at Niagara**

*Last updated on April 4<sup>th</sup> 2000*

*This is a copy of his original web site*

# Waterpower at Niagara

by Daniel M. Dumych

Niagara Power,  
1825 - 1893

Niagara Power,  
1894 - 1896

Niagara Power,  
1897 - 1910

Niagara Power,  
1918 - 1961

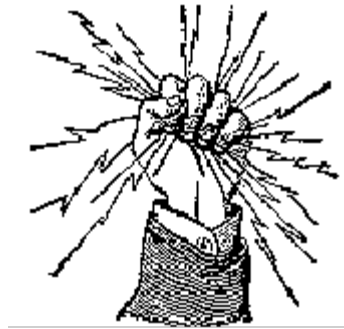
Schematic of Power  
Station

Canadian Niagara  
Power Company, Ltd.

Nikola Tesla  
in Niagara Falls

Books by  
Daniel M. Dumych

Biographical Info  
Daniel M. Dumych



**I**t began modestly in 1757 with one small sawmill. Less than 140 years later, Niagara Falls became the world's leading producer of electrical power. Essential to power development at Niagara were Nikola Tesla, George Westinghouse, William B. Rankine, J. P. Morgan, Edward Dean Adams, and John Jacob Astor IV; crucial to its realization were the hundreds of now-nameless workers who hacked the power station's wheelpit from obstinate bedrock, and tunneled its tailrace for almost two miles beneath the city .

With the first generation of power in 1895, electrical power became plentiful and inexpensive. Revolutionary new electrochemical and electro-metallurgical industries flocked to Niagara. For much of the Twentieth Century, Niagara Falls was the world's center of electrochemical and electrometallurgical production.

This web site is about those years...

[E-mail Daniel M. Dumych](mailto:dumych@niagara.com)

*"Remove not the ancient landmark, which thy fathers have set."*  
Proverbs 22:28

# Niagara Power 1825 - 1893

## Waterpower at Niagara

June 24, 1825 - The Porter Brothers issue an "Invitation to Eastern Capitalists"; this first call to develop Niagara power on a large scale goes largely unanswered

## Niagara Power, 1825 - 1893

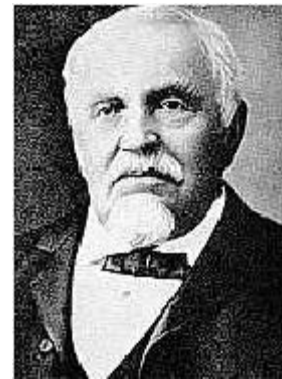
July 1, 1861 - A Hydraulic Canal is completed; it is 36 feet wide and 8 feet deep; the Civil War ruins its chances for successful development

## Niagara Power, 1894 - 1896

1875 - Charles B. Gaskill establishes a flour mill on the Hydraulic Canal's Basin

## Niagara Power, 1897 - 1910

May 1, 1877 - Jacob Schoellkopf and his associates buy the Hydraulic Canal for \$76,000



Jacob Schoellkopf

## Niagara Power, 1918 - 1961

April 23, 1878 - The Niagara Falls Hydraulic Power and Manufacturing Company is incorporated

## Schematic of Power Station

December 14, 1881 - The Niagara Falls Hydraulic Power and Manufacturing Company opens Station No. 1, which supplies power to adjoining industries

## Canadian Niagara Power Company, Ltd.

February 2, 1886 - Thomas Evershed unveils his plan for developing power at Niagara without marring its scenery; he proposes the use of a power tunnel

## Nikola Tesla in Niagara Falls

June 12, 1889 - The Cataract Construction Company is incorporated by William B. Rankine, Francis L. Stetson, and Edward A. Wickes

## Books by Daniel M. Dumych

July 1, 1889 - Thomas Evershed submits preliminary plans for the construction of the power tunnel to the Cataract Construction Company

## Biographical Info Daniel M. Dumych

October 4, 1890 - 10:42 a.m. - construction begins on the power tunnel; the work is done by the Cataract Construction Company for the Niagara Falls Power Company



William B. Rankine

December 14, 1891 - The Cataract Construction Company decides to use a central power station to generate and distribute electrical energy

December 20, 1892 - The Niagara Falls Power Company's power tunnel and the power house inlet canal are completed

May 6, 1893 - Alternating current is chosen as the means to develop power at the Niagara Falls Power Company's Station (under construction) on the upper Niagara River

October 26, 1893 - Contract signed with Westinghouse for the construction and installation of three alternating-current dynamos in the Niagara Falls Power Company's power house

# Niagara Power 1894 - 1896

**Waterpower at  
Niagara**

**Niagara Power,  
1825 - 1893**

**Niagara Power,  
1894 - 1896**

**Niagara Power,  
1897 - 1910**

**Niagara Power,  
1918 - 1961**

**Schematic of Power  
Station**

**Canadian Niagara  
Power Company, Ltd.**

**Nikola Tesla  
in Niagara Falls**

**Books by  
Daniel M. Dumych**

**Biographical Info  
Daniel M. Dumych**



May 23, 1894 - The Niagara Power and Development Company, under the leadership of William T. Love, holds a sod-turning ceremony to mark the beginning of the construction of its power canal at LaSalle, New York. The company would fail within a few years, leaving a long-lasting and infamous legacy, the Love Canal.

September 18, 1894 - After a series of meetings with [William B. Rankine](#), the Niagara Falls Power Company's Secretary, Edward Acheson decides to build the new Carborundum plant at Niagara Falls.

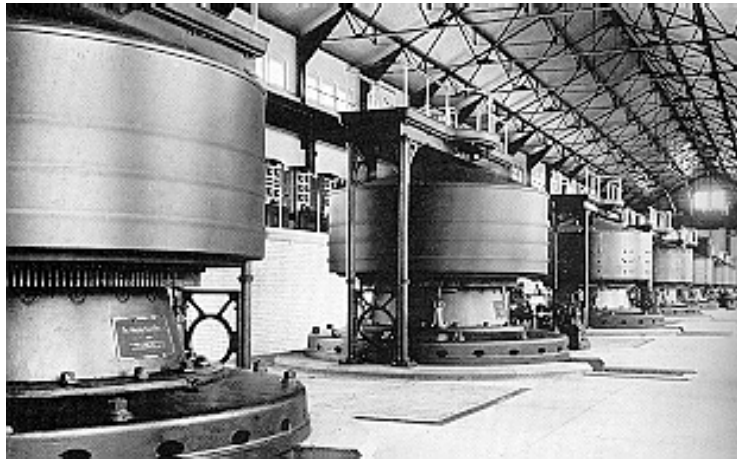
1895 - The Niagara Falls Hydraulic Power and Manufacturing Company begins the construction of Power Station No. 2 at its site in the Niagara Gorge (below the basin of the old Hydraulic Power Canal)

August 26, 1895 - The Niagara Falls Power Company first delivers power for commercial use; receiving it is the Pittsburgh Reduction Company, which in the coming years, would be known as ALCOA

May 4, 1896 - The Niagara Falls Power Company's first three generating units are completed

It was William B. Rankine who made the Niagara Falls Power Company a reality; it was also Rankine who convinced key industries such as the Carborundum Company, the Shredded Wheat Company, and

**Pittsburgh Reduction  
(ALCOA) to locate in  
Niagara Falls.**



Interior of Niagara Falls Power Company Power-house No. 1

July 19, 1896 - [Nikola Tesla](#) visits the Niagara Falls Power Company's Power House with George Westinghouse and others; Tesla tells reporters that it "...is wonderful beyond comparison; those dynamos are the largest in the world. It always affects me to see such things. The shock is severe upon me..."

November 16, 1896 - The Niagara Falls Power Company transmits alternating current to Buffalo; this first makes Niagara world famous; so much power had never before been transmitted over a long distance from a central power station

November 1896 - The Niagara Falls Hydraulic Power and Manufacturing Company's Station No. 2 puts its first four generating units into operation

# Niagara Power 1897 - 1910



Nikola Tesla

January 12, 1897 - Buffalo, New York's Ellicott Club hosts a "Power Banquet"; guest speaker [Nikola Tesla](#) predicts a great future for the Niagara Frontier



January 1, 1900 - The Cataract Construction Company goes into liquidation, having completed its construction contracts for the Niagara Falls Power Company February 12, 1900 - Ground is broken for the extension of the power tunnel to the newly begun Niagara Falls Power Co.'s Power House No. 2



**William B. Rankine, the Second vice-president and Resident Director of the Niagara Falls Power Company, had taken precautions for the President McKinley's visit. After some thought, while out of town on the previous day, Rankine telegraphed orders to**

September 6, 1901--President William McKinley visits the Niagara Falls Power Company's power-station; he is assassinated only hours later in Buffalo, New York

April 27, 1902 - Lord Kelvin visits Niagara Falls, and tour the Niagara Falls Power Company with William B. Rankine, the company's 2nd Vice President

have all passes to the power house suspended, and no tickets to the power house sold for the hours between 1 p.m. and 3 p.m. Furthermore, he arranged for McKinley's carriage to be driven directly into the power house. During the President's tour of the power house, he repeatedly expressed his amazement at the electrical machinery and dynamos. President McKinley asked many questions concerning how the power was generated, and how the volume of power affected the city and its growth.

and Resident Manager

October 31, 1902 - The first generating unit in the Niagara Falls Power Company's Power House No. 2 goes into commercial service

1904 - The construction of the Niagara Falls Hydraulic Power and Manufacturing Company's Station No. 3A begins at the bottom of the Niagara Gorge

September 30, 1905 - William B. Rankine dies while vacationing in Franconia, New Hampshire; more than anyone else, it was Rankine who made the Niagara Falls Power Company a reality; it was also Rankine who convinced key industries such as the Carborundum Company, the Shredded Wheat Company, and Pittsburgh Reduction (ALCOA) to locate in Niagara Falls

March 28, 1910 - The Hydraulic Power Company is incorporated, succeeding the Niagara Falls Hydraulic Power and Manufacturing Company



# Niagara Power 1918 - 1961

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Niagara**

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1825 - 1893**

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1894 - 1896**

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1897 - 1910**

**Niagara Power,  
1918 - 1961**

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The "Mill District"

The Hydraulic Power Company's Power House No. 2 can be seen on the bottom-right portion of this postcard photo, ca. 1900

September 20, 1918 - Under the advisement of the U.S government, the Niagara Falls Power Company and the Hydraulic Power Company consolidate

April 25, 1921 - Ground is broken for a new hydro-electric tunnel; this will serve the Schoellkopf Station

1922 - Construction begins on Schoellkopf Station 3C, and is completed in 1924

October 19, 1950 - The Niagara Falls Power Company is merged into the Niagara Mohawk Power Corporation

June 7, 1956 - 5:10 PM - Schoellkopf Stations 3B and 3C are destroyed when the gorge wall above them gives way; Station 3A is put out of

January 28, 1961 - The state-built and operated Niagara Power Project generates its first electricity

September 30, 1961 - The Niagara Falls Power Company Power Houses No. 1 and No. 2 (Edward Dean Adams Station) and Schoellkopf Station 3A are permanently shut down at 9:47 PM.



Niagara Falls Power Company's Power-stations No. 1 and 2,  
with the Transformer Building situated between them.  
Only the Transformer Building remains today.

# William B. Rankine, June 1893

## **WILLIAM B. RANKINE** **A Friend Who is Well** **Acquainted With Him Talks of** **His Responsibilities and Ability**

("Niagara Falls Gazette," Niagara Falls,  
New York, June 15, 1893)



Last Saturday and Sunday,  
William B. Rankine, secretary and  
treasurer of the Cataract  
Construction Company, was in the  
city. The fact is not a very strange  
one, as Mr. Rankine's goings and  
comings are numerous for he is an  
exceedingly busy man. But it is  
this constant flitting to and fro of  
Mr. Rankine that makes his last  
visit of interest.



This morning a friend stated that Saturday was the first rushing day in two years that Mr. Rankine had discarded business cares and given himself up to perfect enjoyment of a brief vacation. He had as his guests that day Mrs. J. W. Rankine of Oswego [note: should actually be Owego] and her sister, Mrs. Charles L. MacAlpine of London, Eng. accompanied by deLancey Rankine. The time was passed in sight seeing and the perfect beauty of the day thoroughly enjoyed.

"I do not see," said his friend, "how Mr. Rankine stands it as well as he does. While he is here at the Falls it is a constant hustle with him in looking after the various interests of the immense capital he represents. He is thoroughly posted on the most minute detail of the power project and he can talk detail and use technical terms with the best of them. On the trains to and from New York he is constantly meeting people who talk business matters over with him and now that the transmission of power through the State to several large cities and on the canals is proposed each of those places are increasing in importance to him in a business way.

**I think everybody  
who ever met Mr.  
Rankine will agree  
that he is one man in  
10,000 and perfectly  
fitted to assume with  
credit the great  
responsibility that  
rests upon him.**

While in Niagara his entire time is occupied. It is no different when he is at the New York office of the company in the Mills Building. The fact is that it is worse there than here for the principal part of the company's mail is received there. I really wish you could see how Mr. Rankine handles his mail. Each morning when he reaches his desk in the New York office he finds a big pile of letters awaiting his coming. His clerk and stenographers are called into service and briefly Mr. Rankine dictates how the numerous letters shall be answered.



"I know for a fact that during the past two years Mr. Rankine has paid out over his signature over \$3,000,000. Pretty nice sum, isn't it? Every morning while in New York Mr. Rankine has submitted to him a statement showing the exact balance in the bank to the Cataract Construction Company, Niagara Falls Power Company, Niagara Falls Water Works Company, Niagara Development Company, and the Niagara Junction Railway Company. When he is here at the Falls this statement is mailed to him. These are just a few facts about a gentleman who is working hard so that Niagara's future may be all that has been predicted for it. I think everybody who ever met Mr. Rankine will agree that he is one man in 10,000 and perfectly fitted to assume with credit the great responsibility that rests upon him."

# Canadian Niagara Power Company, Ltd.

On April 7, 1892, Canadian and American investors formed the Canadian Niagara Power Company. Their agreement with the Queen Victoria Niagara Falls Park Commissioners granted them the right to build a power house within the park boundaries. The company was also given the right to divert water from the Niagara River to generate power. This contract, in turn, provided the Park Commissioners with the revenues desperately needed for the young park's development. Furthermore, it was specified that every possible precaution would have to be taken to preserve the natural features of the park.



Construction of the powerhouse was delayed until May 23, 1901. The many financial panics of the 1890s had initially made investors very slow to offer up their money. Only after the Niagara Falls Power Company's development across the river proved successful did investor confidence guarantee this project's success. Among those who snapped up Canadian Niagara stocks were the Rothchilds, J. P. Morgan, and John Jacob Astor IV.

On January 2, 1905, the powerhouse of the Canadian Niagara Power Company was formally opened when two 10,000 electrical horsepower (roughly 8500 kilowatts) units were put into operation. These generators were the largest and most up-to-date dynamos of their kind in the world. From its very inception, the Canadian Niagara Power Company, Ltd., was dedicated to excellence and innovation.



With the passing of years, the powerhouse would eventually grow to have eleven generators. The last was put into service in June 1924, bringing the total installed capacity of the power station to 120,500 horsepower at 25 Hertz. The cost of the powerhouse, at the time of its completion in 1924, came to a total of \$5,199,827.78. In 1927, the powerhouse was named the William Birch Rankine Station, in honor of the company's foremost founder.

[Continued...](#)

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1825 - 1893**

**Niagara Power,  
1894 - 1896**

**Niagara Power,  
1897 - 1910**

**Niagara Power,  
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**The powerhouse itself is built of native limestone, marble, and brick, with a glazed terra-cotta roof and eaved with copper. It is monumental and quietly majestic, but not overwhelming or intimidating.**



Canadian Niagara's powerhouse is tucked away on the Ontario side of the Niagara River, about 500 meters upriver from the Canadian Falls. Water is guided into the powerhouse's forebay by an arm-like weir, which extends out into the river. From the forebay, the water flows into the powerhouse, and then plunges downward 41.5 meters, through penstocks over 3 meters in diameter. At the bottom, the water comes into contact with the turbine's blades, pushing the turbine into furious rotation. The spinning motion of the turbine, connected to a steel shaft 1.02 meters in diameter, is transferred directly back up into the powerhouse. On the main floor, at the top of this shaft, is the generator. The generators rotate at 250 revolutions per minute, with a peripheral speed of 177 kilometers per hour. Within the austere iron shell of the generator, electricity is created. Down below, the water empties into a 7.6 meter high, 671 meter long discharge tunnel, which runs under the tranquil landscape of the Queen Victoria Park. Near the base of the Canadian (Horseshoe) Falls, the tunnel discharges into the lower Niagara River.

The powerhouse itself is built of native limestone, marble, and brick, with a glazed terra-cotta roof, and eaved with copper. It is monumental and quietly majestic, but not overwhelming or intimidating. The structure does not violate the scenic integrity of the Queen Victoria Park. Instead of intruding on the park's landscape, the powerhouse is an integral part of it. The look of the powerhouse's limestone walls echoes the bluffs west of the building, and the overhanging deep-green terra cotta roof is suggestive of the trees which top the bluff at the edge of the park.

After the advent of the Hydro-Electric Power Commission of Ontario in 1906, private Ontario power developments were gradually absorbed by the provincially-owned utility. The Canadian Niagara Power Company, Ltd., is the only Niagara Falls power company to remain privately owned. It was first an affiliate of the Niagara Falls Power Company, and then, in 1950, made a direct subsidiary of the Niagara Mohawk Power Corporation. Present agreements with Ontario Hydro have put the Rankine Station on "standby status." Under this arrangement, the Canadian Niagara Power Company gives Ontario Hydro its water diversion allocation in return for an amount of power equal to what would have been generated at the Rankine Station. Should an emergency or high water situation develop, the powerhouse is allowed to generate electricity at whatever capacity is warranted.

[Previous page...](#)



# Nikola Tesla in Niagara Falls, July 1896



[Niagara Falls Gazette](#), 20 July 1896

A Gazette reporter, who spoke with Mr. Tesla... described the inventor: "It is a difficult thing to interview Nikola Tesla, but to sit down and talk with him, man to man, is a privilege to be enjoyed and remembered. One seldom meets a man more free from affectations and self-consciousness. He does not like to talk about himself and when the subject comes up he is sure to steer away from it as soon as possible..."

The reporter continued: "...Tesla is an idealist, and anyone who has created an ideal of him from the fame that he has won will not be disappointed in seeing him for the first time. He is fully six feet tall, very dark of complexion, nervous, and wiry. Impressionable maidens would fall in love with him at first sight, but he has no time to think of impressionable maidens. In fact, he has given as his opinion that inventors should never marry. Day and night he is working away at some deep problems that fascinate him, and anyone that talks with him for only a few minutes will get the impression that science is his only mistress, and that he cares more for her than for money and fame.

He had one of his rare moments yesterday when he could be induced to talk of science, and when asked of the advances made in the problem of transmission, with earnest face and eyes fairly ablaze, he said, "There is no obstacle in the way of the successful transmission of power from the big power house you have here. The problem has been solved. Power can be transmitted to Buffalo as soon as the Power Company is ready to do it."

As the famous electrician grew enthusiastic he gestured with his hands which are apparently trustworthy indicators of his nervous condition. They trembled a little as he held them up and the conclusion to be drawn from

**"...Oh, it is wonderful beyond comparison; those dynamos are the largest in the world. It always effects me to see such things. The shock is severe upon me..."**

*N. Tesla, 1896*

them was that their possessor was a man of tremendous nervous energy...

He said: "I am just off a sick bed, and am not very strong yet. Yes, this is my first visit to Niagara Falls and to the power house here. Oh, it is wonderful beyond comparison; those dynamos are the largest in the world. It always effects me to see such things. The shock is severe upon me..."

## Niagara's First "Brush" With Power: The Brush Electric Light & Power Company of Niagara

by Daniel M. Dumych

The Brush Electric Light & Power Company of Niagara was organized on November 18, 1881, by Jacob F. Schoellkopf, George B. Matthews, W. D. Olmsted, Arthur Schoellkopf and Benjamin Rhodes. The new company aimed to make electricity available in the town of Niagara, an area that included the Village of Niagara Falls. This company is of great significance historically. Its hydro-electric generating station was the first to be established in Niagara Falls (the future "Power City of the World") to supply electricity for commercial use.

The power station was located in Quigley's Mill, a paper manufacturer. In this mill were water-wheels, operating under a head of approximately 86 feet. These water-wheels powered the paper mill and several small factories by belt drive, and a Brush Electric Light & Power Company arc-light machine. The first arc-light machine installed here weighed 2250 pounds, and delivered sufficient power to light sixteen 2000 candlepower open arc lamps. This machine sounds identical to the Brush machine used two years earlier in Prospect Park to light the Falls of Niagara.

Prospect Park's Brush Dynamo Electric Machine, which was supplied by the Telegraph Supply Company of Cleveland, weighed 2250 pounds, and had a capacity for lighting sixteen arc-lights at 2000 candle power when run at 760 rpm. This water-wheel powered dynamo was located on the park grounds, on a raceway which ran alongside the rapids located above the American Falls. This unit was used to illuminate the Falls, its mist, and the park grounds, and went into operation on July 4, 1879. Its inventor, Charles F. Brush, came to Niagara Falls to assist with the machine's installation. Public response to the lighting was so favorable that it led to the establishment of the Brush Electric Light and Power Company of Niagara two years later. The Brush Company began supplying power on December 14, 1881. The Niagara Falls Gazette for that day reported the following:

"This evening [Wednesday, December 14, 1881], the company will furnish light for the Schoellkopf and Matthews grist-mill, J. Quigley's pulp mill, Oneida Community Building, Marr & Duff's dry goods store, H. E. Griffith's drug store, S. Hirsch's dry goods store, and the Gazette office."

With the passage of time, the Brush Electric Light & Power Company of Niagara would serve, in addition to Niagara Falls, the Village of Suspension Bridge (two miles distant), and Niagara Falls, Ontario, across the Niagara River gorge in Canada.

The company had a small hydro-electric installation on the "Canal Basin," a canal-fed forebay at the top of the Niagara Gorge, north of the American Falls. However, because of frequent power interruptions, caused mainly by the obstruction of the canal by ice, a steam plant was also maintained near the water wheel to furnish supplemental power.

The properties and franchises of the Brush Electric Light and Power Company of Niagara were acquired by the Buffalo and Niagara Falls Electric Light Company (itself an arm of the Buffalo General Electric Company) in 1894, after the Brush company went into receivership.

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Click [here](#) to return to the previous page.



## The President's Premonition

by Daniel M. Dumych

*(Sometimes events can cast their shadows in advance of their arrival. The following account, which I found quite by accident this summer, describes one such shadow cast upon President William McKinley while in the Village of LaSalle in August 1897.)*

Most of us have heard of the Pan-American Exposition, which was held in Buffalo in 1901. However, fewer of us know that the Pan American was originally going to be held on Cayuga Island, across the Little Niagara River from the Village of LaSalle (now a part of Niagara Falls, New York).

The surveys, test borings and other preparatory work for the "Pan-Am" began in 1897. Cayuga Island had an area of approximately 150 acres, and was largely undeveloped. Much of the island was woodland and underbrush, and only two houses were situated there. The mainland was reached by an old, narrow bridge that crossed the Little Niagara River. Work was done by a smallish crew of men who lived in a camp on the island and took their meals at the home of D. N. Long, a farmer and occasional inventor.

Mr. Long's most recent invention was an acetylene lamp. This lamp was already being used to light his home, and proved to work very well. The lamps were made of metal cylinders about ten inches tall and three inches in diameter. Before being made more visually pleasing with shades and trimming, they looked exactly like bombs.

By the middle of August 1897, work had proceeded to the point where building locations could be decided upon. President McKinley, who would be attending a Grand Army of the Republic convention in Buffalo later that month, was invited to "drive in the first stake" for the commencement of construction. The president promptly accepted.

On the morning of August 26, 1897, President McKinley arrived, along with a substantial entourage. The Pan-American Exposition Company's officials wanted very much to impress the Presidential Party with the work going on at Cayuga Island. Upon his arrival on the island, great heaps of brushwood at different points on the island were all simultaneously set ablaze. Flames shot up as high as seventy-five feet, making for quite a display. It was in such a setting, surrounded by members of his party, company officials, and admiring LaSalle residents, that the President drove in the ground-breaking stake to initiate the construction of the Exposition.

After the ceremonies had concluded, Mr. Long, the inventor of the acetylene lamp, invited the President and others with him to rest on his porch. A good number of chairs were placed about the porch, along with some of Mr. Long's lamps, which just "happened" to be there. Mr. Long, hoping to be asked about them by the President, placed one of the lamps, still looking very much like a bomb, beside the President's chair.

President McKinley eyed the lamp with distrust and suspicion. It was explained to him that it was nothing but a new type of lamp that had been invented by Mr. Long, who was eagerly waiting to demonstrate it to the President. President McKinley, however, commented that it had a "very evil look" about it. He continued, saying, "I have a premonition that something serious is going to happen to me in connection with the Pan-American Exposition!"

The year 1901 saw the opening of the Pan-American Exposition, not on Cayuga Island, however, but in Buffalo. Construction on Cayuga Island had been temporarily halted during the Spanish-American War, and with the restoration of peace came a change in location for the Pan-Am. After the consideration of a number of sites, including that on Cayuga Island, a property near Delaware Park was decided upon, because of its superior railway facilities and nearby hotels.

On September 6, 1901, President McKinley was shot in the Temple of Music at the Pan-American Exposition. After an agonizing eight days, the President passed away on September 14, 1901. The cause of death - a bullet, a tiny metal cylinder, looking very much like a bomb.

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## It's All in the Shreds! The Story of the Shredded Wheat Company

by Daniel M. Dumych

By late 1900, Henry Perky, of Worcester, Massachusetts, had been convinced that it would be a wise choice to relocate his Shredded Wheat plant to Niagara Falls. The new power houses would be able to supply electricity cheaply and abundantly, and locating the plant in Niagara Falls would give it prominent publicity. Perky intended it to be not only a factory, but a tourist attraction! Excitement grew quickly in the city.

On December 18, 1900, a parade was organized to honor Perky for bringing Shredded Wheat to Niagara Falls. Although it was a chilly, wet evening, a large crowd gathered at the west end of Falls Street. Soon a brass band joined them, and they marched up the streets to the old Colonel Porter residence, across the street from where the factory was to be built. The group called out for Mr. Perky, who was lodging at a nearby house. He obligingly came out and told his listeners that rather than deliver a speech, he would like to mark the occasion by immediately breaking ground for the plant. He strode to the site, the crowd swarming behind him, and promptly sunk a shovel into the ground. The throng broke into rousing cheers, and then dispersed, eager to meet the future.

At the time of its completion, the Shredded Wheat plant was a futuristic and humane model of what a factory should strive to be, a dreamer's dream. It was designed to be a "Palace of Light", and indeed it was, with 844 windows holding 30,000 panes of glass. The construction of the main Shredded Wheat building required 3,000 tons of steel and 200 tons of marble. All sections of the building were air conditioned, and heat was regulated with thermostats. These are ordinary enough features now, but at the turn of the century, the average factory building was little more than a covering to protect workers, and especially machinery, from the elements.

Tours of the factory, or "conservatory", as Mr. Perky liked to call it, were given daily. Guests were greeted in a large reception area, decorated with potted palms. The room was furnished with colorful oriental carpets and leather-upholstered oak furniture. Slender columns supported the high ceiling, and encircled around the base of each was a leather settee. It was from here that visitors were lead on their tour. Cordial guides showed in detail the entire process of making Shredded Wheat, from wheat kernel to biscuit. The tour was concluded with a generous serving of still-warm Shredded Wheat, served with cream and fresh fruits, or out-of-season, preserves.

The Shredded Wheat Company was concerned with the welfare of its workers. Female workers at Shredded Wheat were provided with free meals; males had to pay a nominal amount of only ten cents. After lunch, workers were encouraged to make use of the numerous rest lounges, attend a lecture in the thousand-seat auditorium, or visit the company's circulating library. Besides providing a one hour lunch break, the Shredded Wheat Company was possibly the first to provide coffee breaks, giving a fifteen minute break both in the morning and the afternoon. The facility also supplied its employees with the use of thirteen bathtubs, thirteen shower baths, seven sponge baths and one hundred and four sinks, this at a time when only some homes offered the luxury of indoor plumbing. For recreation, a skating rink, tennis court, bowling alley, and baseball club were available to employees. Shredded Wheat was also home to a one hundred and twelve member choral group and the well known Shredded Wheat Concert Band. Educational courses in shorthand, typing, and business correspondence were available to employees. The company organized city-wide landscaping contests, supplying seeds and shrubbery free of charge, and built a public playground and landscaped park across the road from its Buffalo Avenue plant. Use of its auditorium was offered to the public, and many concerts, plays, lectures, and classes in cooking and etiquette took place here. Social and educational betterment was a consistent theme in what the company offered to its employees.

In the 1950's, Niagara Falls saw the abandonment of the original yellow brick Shredded Wheat building. For a brief while, it housed the Niagara County Community College. After the completion of the college's new campus, the building became a victim of the wrecking cranes which were so active during the years of federally sponsored (and ironically named) "urban renewal." All that now remains of the "Palace of Lights" is

an empty lot and a few battered yellow bricks. Henry Perky's dream has returned to the realm of dreams.

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## 1893--The Year When a New Age Began

by Daniel M. Dumych

In 1893, the Westinghouse Electric Company was awarded the contract to light the World's Columbian Exposition in Chicago. Westinghouse seized this opportunity with both hands to publicize the benefits of the alternating current system. It had purchased the patent rights to the system in 1889 from inventor Nikola Tesla, whose work would soon also be applied in Niagara Falls. The world would never be the same.

Upon completion, the Chicago fairgrounds had more lighting than any other city in the country at that time. The demonstration of alternating current's abilities did not stop there. An electrified moving sidewalk carried throngs along a steamboat pier on the waterfront side of the fair, an electric railway ran along the other three sides of the grounds, fifty-eight electric launches plied through the Fair's lagoon, and electric elevators were at the visitors' service in most buildings. The Westinghouse Company had shown on a small scale what could be done to entire cities, entire nations. Here a vision of a new world was shown, and the lesson was not lost upon its visitors.

Nikola Tesla himself made an appearance at the Fair's Electric Building. Strikingly dressed in white tie and tails, he would astonish and sometimes terrorize his audience by deliberately directing, through his body, several hundred thousand volts of electricity, which flashed and crackled from a Tesla coil. (In the coming years, the Tesla Coil would become an almost obligatory feature in horror films!) Light bulbs without connections to any wires mysteriously flared into brilliance in his hands. Tesla's cork-soled shoes made this high voltage spectacle relatively safe, but he kept this fact from the audience, lest his performances then become less exciting. The crowds were also held spellbound by the "Egg of Columbus," an electro-magnetic device which caused a copper "egg" to spin on end, while simultaneously circling the edges of the round, velvet-covered top of the apparatus. Tesla used this device to illustrate his principle of the rotating magnetic field, the basis of alternating current. This was entertainment and education bundled into one neat, electrified package.

The immensely successful demonstration of alternating current at the Columbian Exposition created a favorable impression on the business and scientific world. On May 6, 1893, it was announced that the world's first large-scale central power station, then under construction at Niagara Falls, would use alternating current as its *modus operandi*.

The development in Niagara Falls pioneered new ground. Its use of alternating current made it possible to send electricity for long distances, and thus, exploit the enormous potential of the Falls. Electricity became available to virtually anyone, anywhere, from farmer to financier. Until then, power transmission was subject to the limitations of direct current, which had to be used within one mile of its point of generation. One can imagine how much more expensive and inefficient such a venture would have been. The cost alone of building a power station every square mile would have made its use very expensive, and limited. Our world would have doubtless been a very different and dimmer one.

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Click [here](#) to return to the previous page.

# Books by Daniel M. Dumych

**Waterpower at  
Niagara**

**Niagara Power,  
1825 - 1893**

**Niagara Power,  
1894 - 1896**

**Niagara Power,  
1897 - 1910**

**Niagara Power,  
1918 - 1961**

**Schematic of Power  
Station**

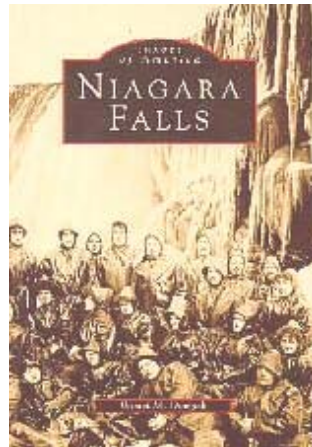
**Canadian Niagara  
Power Company, Ltd.**

**Nikola Tesla  
in Niagara Falls**

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**Biographical Info  
Daniel M. Dumych**

"By the 1960s, urban renewal and a new convention center were touted as being Falls Streets' only salvation. The belief was "build it and they will come." It was built, but they didn't come. They left. The problem, of



## Images of America: Niagara Falls

By Daniel M. Dumych

The photographs in this book show Niagara Falls through the cameras of many photographers. Some are of views which kept visitors spellbound and in a state of awe; others hint at the nearly boundless power of the Falls. It was this power that industrialists of the 1890's were driven to harness, some wishing it for the good of all, others for their

own personal gain. When this power was partially captured, power stations and factories were created, miracles in themselves. These, too, are represented here, the photographs showing determined laborers and their mighty works.

Others sought not to capture the power of the Falls, but to challenge, sometimes even belittle, its mightiness. Perhaps, daredevils thought, after seeing the Falls harnessed to produce power, the Falls were not so formidable a force. Perhaps they could plunge over the brink of the Falls and survive, or walk across the Niagara Gorge on slender, quivering ropes without falling?

This is a book of memories, and what are memories but echoes from the past? In looking over the "visible echoes" in this book, it does not take long to realize how historically significant Niagara Falls has been. Let the people and places in the photographs speak to you of times passed...

[Order "Niagara Falls, Vol. 1" from the publisher](#)

(This book features two heavily-illustrated chapters on power development at Niagara)

## Images of America: Niagara Falls, Vol. 2

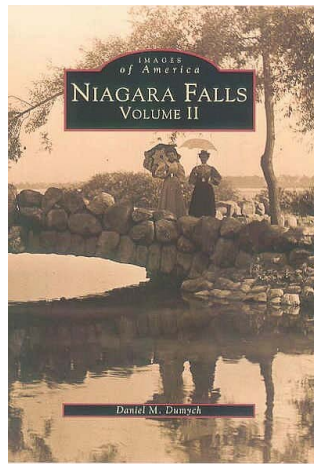
By Daniel M. Dumych

Excerpt from the book's introduction:

"...My intention is to use photographs that document areas of Niagara Falls' history that I feel are especially important. The first chapter is about Falls Street. I think it is safe to say that there is a universal fondness for Falls Street among Niagara Falls residents. Falls Street once acted as the

course, is not unique to Niagara Falls. Downtown shopping districts have been declining across the country."

*D. Dumych,  
Niagara Falls. Vol. 2*



corridor which linked the New York Central Railroad Station with Prospect Park. Out-of-town tourists who arrived by train were bound to patronize Falls Street businesses on their way to or from the Falls. It was only when rail ridership plummeted in the late 1940s and 1950s that Falls Street businesses fell into a decline from which they never recovered. City residents intensified the problem when they chose to shop at the new plazas in LaSalle and the Town of Niagara, instead of patronizing Falls Street businesses. By the 1960s, urban renewal and a new convention center were touted as being Falls Streets' only salvation. The belief was "build it and they will come." It was built, but they didn't come. They left. The problem, of course, is not unique to Niagara Falls. Downtown shopping districts have been declining across the country.

The book's second chapter celebrates one of our greatest local successes, the establishment of the Niagara Reservation. Before the reservation's creation in 1885, much of the area surrounding the Falls was a slovenly mess. Photographs show this sad state of affairs in excruciating detail, and then reveal the wonderful changes that took place after 1885. I'm glad to say that the park is still a success, more than one hundred years after the fact.

[Continued...](#)

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The 1890s were a time of bold undertakings in America, a time of innovation and progress. Many technological advances had their origins in Niagara Falls, where an electrical revolution was taking place. These developments in the hydro-electric and electro-chemical fields were due largely to Niagara's abundant supply of water. Niagara Falls was a world leader in these areas for over a quarter of a century. Photographs taken during this "revolution" appear in the third chapter, "The Power Capital of the World."

The book's fourth chapter, "Times and Places," is a broad category, which has Niagara Falls' past as its only theme. There is an emphasis here on streetscapes and buildings, everyday scenes that are too often forgotten because they are so commonplace.

The Village of La Salle is covered in the fifth chapter. La Salle, although so close to the thriving industrial areas along Buffalo Avenue, was quiet and rural, making it a perfect suburb for Niagara Falls. At the turn of the century, it was known for the excellence of its strawberries, peaches, and Bing cherries. La Salle only flirted with industry briefly, possessing a button factory for a brief few years, a small automobile factory for several more, and a long, narrow canal leading to nowhere, built by a man named William Love. The canal was a great swimming hole until in the early 1940s, when an industrial use was imposed upon it.

The book concludes with a chapter on the Niagara Power Project, Niagara Falls' most recent power development. Photographs show the immensity of the project, of the excavation and blasting work done on a gargantuan scale, much in the same way that Niagara's earlier projects were massive undertakings in their time. Perhaps in the future, the Niagara Power Project will be superseded by an even more immense hydro-electric power development...  
[Order "Niagara Falls, Vol. 2" from the publisher](#)  
(Among the chapters in this volume is "The Power Capital of the World," illustrated with fifty photographs.)

[Previous](#)

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## Daniel M. Dumych

Freelance writer / historian  
Records Management Coordinator, County of  
Niagara



### EDUCATIONAL BACKGROUND:

New York State Regents high school diploma,  
1974  
Bachelor of Arts degree (summa cum laude) in  
Liberal Arts English, May, 1980  
Master of Science degree in Student Personnel  
Administration, August, 1981  
Postgraduate work in Education, Pennsylvania  
State University, 1981 - 1983

### PUBLICATIONS:

- "Encyclopedia of the United States in the Nineteenth Century," Charles Scribner's Sons Reference books; author of essays on "Waterpower" and "Inventors and Inventions," 1999
- [Niagara Falls, Volume 2](#), Arcadia Publishers, 1998
- [Ninety Years of Light: How the Canadian Niagara Power Company brought the electric light to Fort Erie in 1907](#), The Canadian Niagara Power Company, Ltd., Fort Erie, Ontario, 1997
- Contributor to "Educational Curriculum Kit" distributed by the Niagara Mohawk Power Corporation and New York Power Authority to commemorate the centennial of the first long-distance transmission of electricity in 1896, November 1996
- [Images of America: Niagara Falls](#), Arcadia Publishers, 1996
- "American National Biography," Oxford University Press; author of monographs about E. G. Acheson, J. L. Cohen, T. Davenport, W. L. Emmet, R. Eickemeyer, R. A. Fessenden, J. Geddes, E. J. Houston, A. E. Hunt, W. B. Rankine, E. Weston, and C. White, 1995 - 1996
- "Darkness at the End of the Rainbow: President McKinley's Visit to Niagara Falls," Niagara's News and Notes, April 1996
- ["Niagara's First 'Brush' With Power: The Brush Electric Light & Power Company."](#) Niagara's News and Notes, October 1994
- ["It's All In The Shreds: The Story of Shredded Wheat."](#) Niagara's News and Notes, March 1994
- ["The President's Premonition."](#) Niagara's News and Notes, January 1994
- "The Man in the Speckled Suit," Niagara's News and Notes, November 1993
- "The Niagara Mohawk Power Corporation: From the Past into the Future," pamphlet for distribution by the Niagara Mohawk Power Corporation at the 1993 Erie County Fair
- ["1893 - The Year a New Age Began."](#) Niagara's News and Notes, May 1993

- A Monument of Light: Thoughts on the Fiftieth Anniversary of Nikola Tesla's Death, published by the author, 1993
- The Canadian Niagara Power Company: One Hundred Years, Niagara Falls, Ontario: Canadian Niagara Power Company, Ltd., 1992
- William Birch Rankine: One In Ten Thousand, published by the author, 1991
- Nikola Tesla: Electricity In Niagara Falls, published by the author, 1991
- "Nikola Tesla: The Inventor Who Changed the World," published by the Niagara Falls Convention and Visitors Bureau, 1990
- "Nikola Tesla and the Development of Electrical Power at Niagara Falls," The Tesla Journal, No. 6 & 7, 1990

#### MEDIA WORK:

March 2000 - Interview filmed for Quorum Television's "The Force That Changed the World," scheduled to air on PBS in June 2000

August 1999 - Interview filmed for Actuality Production's "Modern Marvels: Niagara Power," which first aired on The History Channel in December 1999

July 1999 - Interview filmed for Wall to Wall Television's "Naked Planet - Niagara"; to air on PBS in 2000.

1997 - 1998 - Consultant and researcher for Screenlife, Inc.'s production, "Niagara: A History of the Falls," which first aired on A & E in June 1999

Spring 1993 - Educational video, produced for use by North Tonawanda School System; interviewed about Niagara Falls and North Tonawanda street railways and the Erie Canal

July 2, 1992 - ABC television's "Good Morning, America"; discussed early power development in Niagara Falls

November 27, 1990 - NHK (Japanese Broadcasting Corporation) television special about forgotten inventors; interviewed about Nikola Tesla's role in the development of hydroelectricity in Niagara Falls; aired on Japanese national television on January 6, 1991

# **Water Power at Niagara**

**BY**

**DANIEL M. DUMYCH**

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Daniel M. Dumych, 43, of North Tonawanda, a Niagara County author and historian who was an authority on the history of electric power in New York and Ontario, died unexpectedly Monday (April 17, 2000) in Niagara Falls Memorial Medical Center.

"Niagara has experienced the loss of a gifted young historian," said Chief Niagara County Clerk Wayne F. Jagow. "He was well respected in the county and across the state."

In the newly created position of records management coordinator for Niagara County, Dumych was working on a database of the county's immigration and naturalization records dating back to the 1830s.

...Buffalo News

**DEDICATED TO HIS MEMORY**

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