



Friends of the Old Croton Aqueduct

Newsletter

No. 34, Winter 2009/10

The Education of John Bloomfield Jervis

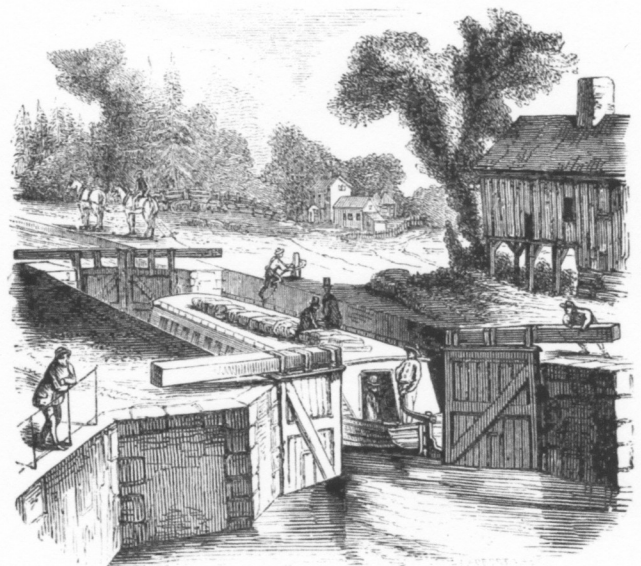
Cornelia Cotton

"We were forty miles from Albany
Forget it I never shall,
What a terrible storm we had that night
On the E-ri-e Canal.
O, the E-ri-e was rising
And the gin was gittin' low,
I scarcely think we'll get a drink
'Fore we get to Buffalo-o-o, 'fore we get to Buffalo."

This chantey was my first introduction to the Erie Canal, and for much of my life, like most people, I had only a vague idea what and where it was. Wasn't it a historic relic somewhere upstate, the locks broken, the channel filled in, and forgotten? It was not until I fell in love with the Old Croton Aqueduct, and learned that its creator, John B. Jervis, worked on the Erie Canal as a young man, that my interest was awakened.

To my surprise, the Erie Canal today is a functioning waterway and enjoying a resurgence. Its 363 miles and astounding difference in water levels (571 feet between Lake Erie and the Hudson just above Troy) are regulated by thirty-five (formerly fifty-seven) locks. While most of today's traffic consists of pleasure boats, commercial shipping has dramatically increased over the past few years. A single barge carrying three thousand tons of cargo replaces one hundred trucks and provides the added bonus of a voyage through beautiful country.

The Erie, or Grand Western, Canal was first envisioned in the eighteenth century, but did not come to fruition until 1817 (completed in 1825) with the energetic



Engravings from The Erie Canal—150 years. Lionel D. Wyld, Ed. Published by Oneida County Erie Canal Commemoratives Commission, Rome, NY, 1967.

support of DeWitt Clinton, mayor of New York City, then senator, and finally governor of New York. It was often called "Clinton's Ditch." It is considered the greatest engineering feat and public works project in the U.S. up to that time. In Jefferson's words, it was "New York's gift to the nation."

The canal brought many benefits. It transformed New York into the Empire State. As the nation's first super-highway, it enabled immigrants to flow west. It opened up the Midwest which could then send its

bountiful crops east and from there to Europe. And it made New York City the richest port in the country.

Those who have long admired Jervis talk of his genius as an engineer: his competence in design and construction techniques combined with his innovative adaptations to the task at hand; his superb management of public works; his dedication, personal integrity and leadership. His admirers also point to his sensitivity and respect for the political process in promoting the successful outcome of large undertakings. Yet this man grew up in the backwoods near Rome, New York, left school at age fifteen and had been expected to follow in the footsteps of his father, a carpenter.

How then did he acquire the knowledge of engineering that took him to the apex of his profession, and why was the execution of some of the greatest public works of the nineteenth century entrusted to him? The answer is his apprenticeship on the Erie Canal and his rugged upbringing which, along with a strong Calvinist orientation, taught him how to work hard, endure privations and become self-reliant.

Strangely, those who praise Jervis' skills and marvel at his lack of a university education also dismiss the importance of his experience on the Erie Canal. Referring to his first job there, they say he was "only an axeman."



And so he was, but only at the beginning. When he arrived there at age twenty-two, axe in hand, he was assigned to remove brush and small trees in a swampy section of the project, working from dawn to dusk under harsh conditions. He cut stakes used in marking the canal line and helped set pegs for the leveling instruments. These were mounted and operated by target men who were higher in the hierarchy of workers. Eager to solve "the mystery of the level," Jervis observed these operators, asked questions, and received permission to handle the instruments.

Boldly, he applied for a job as a surveyor for the following spring. He bought books, which he studied at night. As a first step toward a career in engineering, he taught himself the "taking of sights," and how to compute



his observations. He learned to make maps and plot lines and profiles. In his second year on the project, as his talent and application came to the attention of his superiors, he was promoted to resident engineer. While this was mostly a supervisory position, he gained experience in building waste weirs, small stone culverts, spillways, and arches. During the next winter pause, he practiced drawing. He obtained a copy of the *Edinburgh Encyclopaedia*, in which he studied canals, water works, bridges, trusses, and other structures.

Over the next few years, he worked on various sections of the canal, each of which posed a variety of problems. He learned to build dams and locks, to bridge streams, and to cope with different consistencies of soil—swamp, gravel, clay, and rock—until he became thoroughly familiar with all aspects of hydraulic engineering.

His superiors, having noticed his frugal and prudent personality, also entrusted him to settle contractors' accounts. Then, as now, contractors found ingenious ways to inflate their claims. Due to his careful note-taking, measurements and calculations, Jervis was well prepared when disagreements over claims arose, and by referring to his memoranda, was able to save the state thousands of dollars.

Eventually, he was appointed superintendent of a difficult stretch of the canal that required substantial repairs and improvements before it could be used for navigation. Over time, his salary increased. Characteristically, Jervis used his first savings to pay off his father's mortgage.

Once the canal was completed, Jervis faced the question of what he should do next. The State Commissioner of the Erie Canal implored him to stay on as supervisor to oversee its operation, but he declined. His schooling was finished. He was now an engineer, ready for the next venture.

The eight years he spent on the Erie Canal, rising from axeman to superintending engineer, were crucial to his career. They were his learning-by-doing university. Without that education, he could not have moved on to other great accomplishments including building railroads, and our own Old Croton Aqueduct.

New Interpretive Signs Unveiled on the Trail in Yonkers

The event, hosted by the Friends to honor Assemblyman Mike Spano and Groundwork Hudson Valley for their support of the Aqueduct, took place on October 21, a beautiful autumn day, at the junction of the trail and Lamartine Avenue. Since Mike Spano had an important meeting in Albany, our good friend, former State Senator Nick Spano, stood in for his brother, pulling off the paper cover of one of the signs with appropriate panache. Executive Director Rick Magder and Community Development Director Vernon Brinkley of Groundwork Hudson

Valley revealed the second sign, which will be placed on the trail close to Summit St.

We were delighted to have so many of our members and supporters in attendance. The group in the accompanying photo is just a partial representation of those who came out to admire the signs and applaud their function: to remind every walker that under the trail is a National Historic Landmark.

The event was managed by Charlotte Fahn, Elisa Zazzera, and Joe Kozlowski, with Mavis Cain doing the introductions.



Pictured with one of the new signs are, from left, August Cambria, Yonkers Parks Commissioner; Senator Nick Spano; William Greenawalt, member of the Taconic Commission; Jayne McLaughlin, Director of the Taconic Region of State Parks; Aqueduct Manager Steve Oakes; Vernon Brinkley of Groundwork Hudson Valley; Patricia McDow, City Councilwoman; Rick Magder of Groundwork; John Tomlin, representing State Senator Andrea Stewart-Cousins; and Friends president Mavis Cain. Not in the photo but also present were John Liszewski, Yonkers Public Works Commissioner, and Margot Perron, Van Cortlandt Park Administrator. (Photo by E. Zazzera)

Thanks and Farewell

The Friends said goodbye to Dmitri Benzinger, one of the three-man Aqueduct Trail team, at a farewell get-together on September 9, his last day. Dmitri is still working for State Parks but closer to home in Sterling Forest. His position is being filled by Jeff Litwinowicz who, like Dmitri, comes from Harriman.

Right: Dmitri Benzinger (left) with co-workers Tony Failla (center) and Steve Sciamenon. (Photo by C. Fahn)



Ed Rondthaler III and the Friends

Charlotte Fahn

If ever someone merited the designation "Living Treasure" it was Ed Rondthaler. Ed lived in Croton-on-Hudson from 1941 until last year. He died at the age of 104 on August 19, 2009, in Cedar City, Utah, where he had moved to be closer to family. Ed had innumerable passions. One of them, luckily for the Friends, was the Croton River.

In fact, according to former board member Cornelia Cotton, also of Croton, Ed was one of the earliest members of the Friends but even before the Friends existed, he had joined the Old Croton Aqueduct Committee after hearing her give a talk about the fledgling organization.

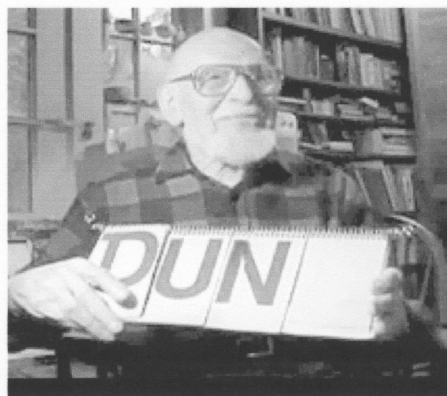
Many of us first met Ed when, in 1999, at the splendid suggestion of Cornelia, we asked him to give our first public lecture. The talk, held at Sunnyside and co-hosted by Historic Hudson Valley, was built around a photographic tour of the Croton River. Ed and his adored wife Dot, who died several years ago, sometimes accompanied by their three sons, had over the years explored the entire length of the river – on foot, by canoe, and sometimes with an ear to the pavement where the water had been channeled underground.

At the time we were ignorant of Ed's renown in the Croton area. To our astonishment, a hugely enthusiastic, overflow crowd showed up to enjoy his beautiful photos of the river and its flora and fauna, and to hear his narration of Croton adventures – rich in detail and full of good stories, delivered in his deep, near-stentorian voice, which remained so even 10 years later.

In June 2005 a group of us attended Ed's 100th birthday celebration at the Croton Free Library, organized by Carl Oechsner, president of the Friends of History, another standing-room-only event. On that remarkable occasion, Ed stood at the podium for 40 minutes, brimming with energy, and entertained everyone with stories, songs, and a demonstration of phonetic spelling – another passion.

Ed loved to show visitors to his Sears Roebuck house on the bluff above the Croton River the sculpture of the river that he had created on his living room wall. The work featured representations, in wire, of the bridges that had once crossed the river, as well as a working tide wheel.

I never ended a phone conversation or visit with Ed without rushing to jot down some of the stories he told. One of my favorites is of the prescient Ringling Bros. elephant who refused to cross the High Bridge that once



Ed Rondthaler

spanned the Croton Gorge – the day before the bridge collapsed. I once asked him if it was apocryphal. He smiled and said "who knows, but it's a good story."

At Carl Oechsner's request, Ed composed and sang

"in full voice" a tribute to the New Croton Dam at its centennial celebration in 2005. Read it to catch the flavor of this old-fashioned yet up-to-date, courtly, warm, and unique personality.

"Our Old Dam's New Ballad"

Tiny drops of water bubbling from below,
Cascade down the hillside, nodding to and fro;
Grow into a brooklet, burst into a stream,
As they jolly onward in the sunlight's beam.
Flowing ever forward, bearers of good cheer,
Reach the mighty fortress in its hundredth year.
Over it they tumble, bumping stone by stone,
Racing toward a future that's enchantingly unknown.
Hip hip, hip hip, hooray!"



"Quaker Hill near the source of the east branch of the Croton River" From Scribner's Monthly, Vol. XIV, No. 2, June 1877.

The Old Croton Aqueduct in History and Culture

Ed Brody

1. From Henry Hudson (1609) to the Revolution (1776)

The Old Croton Aqueduct is much more than a trail and a tunnel. It is a key part of New York City and Westchester history. It is vigorous individuals and politics. It is public needs versus private rights. It is immigrants and labor. It is the many uses of water and their social implications.

This is the first of several articles on these topics. It sets the stage by taking us to the eve of the Revolution.¹

Dutch New Amsterdam

When Henry Hudson reached what is now Manhattan in 1609, he found forests, fields, and wildlife in abundance.² Most of all, he found beavers. The European demand for fur was great and the trade very profitable. This led to a permanent settlement at the southern tip of the island in 1625. A fort was laid out and the town limits extended from the southern tip about one-half mile north to what is now Wall St.

Geology favored the island with a wonderful harbor, but the Hudson and East rivers are estuaries and therefore salty. Most of the island had rich soil and flowing streams. There was a 70-acre, spring-fed deep pond, later known as Collect Pond — a corruption of the word kolck, Dutch for pond — near what are now Chambers Street and Broadway, about a mile north of the town limits. But south of the Pond (shown on the map as “Fresh Water”), which is where the settlers lived, the soil was porous and swampy and the groundwater briny. Rainwater was gathered for human use.

Early New Amsterdam was a frontier town, with much drinking and brawling. With everyone out for profit from the fur trade there were few public works. Water was used mostly for livestock and cooking (the preferred beverage being beer). Bathing was thought to transmit disease through the skin and therefore people washed infrequently. Waste disposal was a private



Plan of the City of New York, 1776. Courtesy of The New York Public Library, Lawrence H. Slaughter Collection, The Lionel Pincus & Princess Firyal Map Division, the New York Public Library, Astor, Lenox & Tilden Foundations. www.nypl.org

matter. Garbage and human waste were dumped into the streets (which were, in fact, dirt roads) where wandering pigs thrived. There was a petition for a public well, but it went nowhere.

By 1640, farms had sprung up throughout Manhattan and environs (Jonas Bronck's farm gave its name to the Bronx) and the Dutch West India Company began selling sites. By 1664, the town population had grown to 1,500, still south of Wall Street, when New Amsterdam was ceded to the English, becoming New York. The fort had no water supply and could not hold out!

English New York

The English were oriented more toward public works than the Dutch and the town's first public well was dug in the fort area. As the population grew, the city expanded by filling in marshland and creeping beyond Wall St. to Maiden Lane. The Common Council now ordered that wells be built and maintained by the inhabitants. But the Council did not do the work or finance it so this undertaking was not completed for 10 years. Well construction did continue, but these were mostly for fire fighting; the city provided leather buckets for the citizens to use and return. Surprisingly, there appears to be no record of major conflagrations to this point, perhaps because the houses were spaced far apart.

The first true epidemic (malaria or typhoid) is not reported until 1668. This was followed by smallpox, beginning in 1680 and continuing regularly thereafter. In 1702 yellow fever joined the mix, killing almost one fifth of the population, returning in 1732 and 1743. No one knew the causes or the cures of these diseases. Further upstream, in 1682 Frederick Philipse, a Dutch carpenter who had arrived 30 years earlier and married two rich widows, acquired from the Indians the land that is now Hastings and Dobbs Ferry. By 1693, the Manor of Philipsburg covered the east bank of the Hudson from Spuyten Duyvil to the Croton River, the future Aqueduct route. By 1697, he owned most of Westchester and what is today the Bronx.

By the mid-18th century New York had become a favored stop for travelers but they noted the bad water. It was said that even the horses did not like it. Around 1750 a private pump was built just north of Collect Pond, known as the Tea Water pump. Water was carted into the city and sold by the pail. Public wells were still mostly for firefighting, for most beverages were alcoholic. Chocolate, coffee and tea were also drunk, though not for breakfast. Warm beer was preferred then so there was little need for drinking water.

As a central location with a good port, the city grew

to 13,000 by mid-century. Its first college—now Columbia University—was built. The city was now creeping north; the worst polluters—tanners, dyers, etc.—were pushed out of the city proper, right up to the freshwater Collect Pond/Tea Water area!

By the eve of the Revolution, over 20,000 people lived at the lower end of Manhattan. Virtually all of their homes now had water delivered by the Tea Water Men. Canal Street was still suburb. Greenwich Village was country. Westchester was now the richest county in New York State. A military map shows Yonkers, Dobbs Ferry and Tarrytown as communities.

Almost, but not quite

In mid-1774, an engineer named Christopher Colles³ made a novel proposal to the New York Common Council. He would build a well and reservoir to convey 250,000 gallons of water to the city daily via wood pipes under the streets. He would build the reservoir on the high ground northwest of the Collect Pond, where there was still no pollution, drill a well and use a steam-driven pump. Although costing the substantial sum of £18,000 it could pay back in three years. Despite the revolution that was brewing, the Council agreed and issued promissory notes to raise the initial funds.

Work proceeded: the land was bought, the well was sunk, the water tested, the reservoir and a steam pump were built, and pipe supplies were ordered. Though people had begun to flee the city, work continued until September 1776 when the city was abandoned to British troops. Colles fled and the British destroyed what had been done. Only the well remained. Would it all have worked?

Footnotes

1. Much has been written about the history of New York City and Westchester, in particular, see G. Koeppe, *Water for Gotham* (2000, Princeton University Press).

2. The Manahatta Project reconstructs the ecosystems of Manhattan at the time of the Dutch arrival -- <http://themanahattaproject.org>.

3. Colles was an extraordinary man. Born in 1739 in Dublin and raised by a successful uncle, he came to Philadelphia in 1770, where he eventually built a steam engine, one of the first in the United States, to pump water for a distillery. After the New York City experience, he made proposals to the New York State legislature about connecting Lake Ontario to the Hudson River via a Mohawk Valley canal. But this was not funded. In 1789-92 he developed the first road map/guidebook of the United States, publishing the Albany-Williamsburg section before abandoning it due to few subscriptions. In 1812 he did construct and supervise a semaphore telegraph in NYC for the war effort. He died in New York City in 1821.

Aquefest 2009



Nepperhan Community Drum & Bugle Corp bringing great rhythm & spirit to Yonkers Aquefest. (Photo by E. Zazzera)



Everybody loved Jonathan Kruk's stories. (Photo by D. Tuzun)



Kids were everywhere at Hastings. (Photo by D. Tuzun)

For inquiries about Old Croton Aqueduct State Historic Park or to report trail conditions, call Park Manager Steven Oakes at 914-693-5259; mailing address: 15 Walnut Street, Dobbs Ferry, NY 10522.

An Easy Gift for the Holidays

Many on your gift list may enjoy receiving the new edition of the Westchester map. The Friends' color map-and-guides of the Aqueduct in Westchester (Old Croton Aqueduct State Historic Park), and of its route in New York City, fit into a holiday stocking or business envelope. The following vendors carry one or both maps.

Westchester County (area code 914)

"& Antiques," 111 Grand St., Croton-on-Hudson, 271-6802 or 762-7533*

Art Barn, 211 North Highland Ave., Ossining, 762-4997

Village Bookstore, 10 Washington Ave., Pleasantville, 769-8322

Cary's Pharmacy, 105 Main St., Dobbs Ferry, 693-0008

Corey Glass Picture Framing, 3 Main St.,

Hastings-on-Hudson, 478-0154

Galapagos Books, 22A Main St., Hastings-on-Hudson, 478-2501

Hudson River Museum Shop, 511 Warburton Ave., Yonkers, 963-4550*

New York City

Urban Center Books, 457 Madison Ave. betw.

50th and 51st St., 212-935-3595

Posman Books, Grand Central Terminal, 212-983-1111

Tents & Trails, 21 Park Place, 212-227-1760

*Call ahead to check on hours and map availability.

To order online:

Fun on Foot, at www.funonfoot.com

NY-NJ Trail Conference, at www.nynjtc.org

201-512-9348

Friends of the Old Croton Aqueduct,

www.aqueduct.org



To purchase by mail: The maps are \$5. each (members, \$4.). Add 75 cents shipping and handling for the first map, 50 cents for each additional map. Please specify which map(s) you want. Send a check for the total to the Friends at 15 Walnut St., Dobbs Ferry, NY 10522. Questions? Call 914-693-0529.

MEMBERSHIP COUPON

Your tax-deductible contribution helps to protect and preserve the trail.

- | | |
|---|---|
| <input type="checkbox"/> Renewal | <input type="checkbox"/> New Member |
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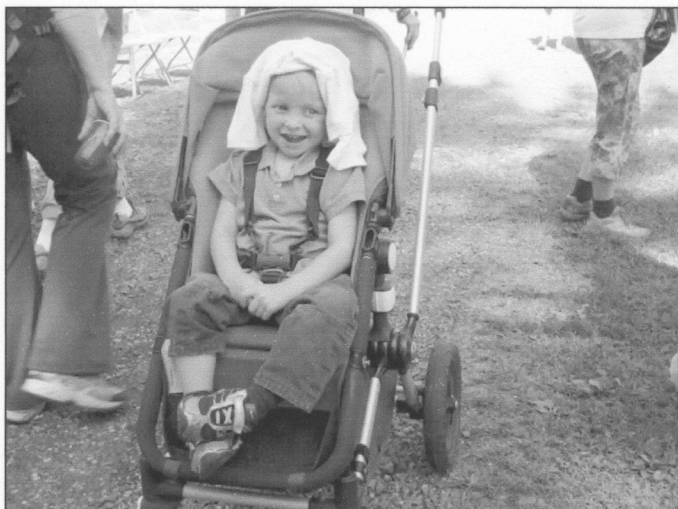
Please make check payable to Friends of the Old Croton Aqueduct. Send it with this coupon to the Friends at Keeper's House, 15 Walnut St., Dobbs Ferry, NY 10522-2109.

Name _____

Address _____

City/State/Zip _____

Please let us know if you would like to volunteer.



The 'Aqueduct' kid t-shirt is sooo soft! (Photo by D. Tuzun)

Newsletter: Ruth Gastel, *Editor*. News items, reminiscences, and comments welcome: 914-479-1414 or ruthg@iii.org or by mail c/o the Friends.

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Friends of the Old Croton Aqueduct is a private, non-profit, volunteer organization formed to protect and preserve the Old Croton Aqueduct. The Friends work to raise public awareness of the Aqueduct and trail, and to secure the resources that will enable this historic greenway to remain unspoiled in perpetuity. *Address:* Keeper's House, 15 Walnut St. Dobbs Ferry, NY 10522-2109; *telephone* 914-693-4117, www.aqueduct.org

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