



PHILIP BALL

Quenching New York's Thirst: Murky Tale Refreshingly Told

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Water for Gotham: A History, by Gerard T. Koepfel. Princeton University Press, 355 pages, \$29.95.

Most family histories exhume skeletons, but the clinking of old bones must have almost drowned the speechifying when the Chase Manhattan Corporation celebrated its bicentennial last year. Anyone tempted to read altruism into the bank's origins as the Manhattan Company, water providers to post-colonial New York City, should take a look at Gerard Koepfel's book on the history of the city's water supply.

In fairness, what distinguished Aaron Burr, cofounder of the Manhattan Company, was not his ruthless, Machiavelian determination to exploit New York's thirst for personal gain, but the adroitness with which he pursued this aim. The powers granted by the bill that established the company in 1799 were so astonishingly far-reaching that even now one wonders how they could have been bestowed with so little opposition.

Burr and his fellow conspirators, including the lawyer Alexander Hamilton, never had any intention of squandering their \$2 million capital on so wasteful a venture as a water supply, the ostensible reason for the company's existence. They wanted a bank--and with the stipulation that the company could do whatever it wanted with "surplus capital"; they got it. Not only did the Manhattan Company pipe fetid water--at high prices and with frequent hiatuses--to a few thousand disgruntled customers; it killed off the competing Tea Water Pump, hitherto the city's best source of clean water, and, by claiming prior rights to local sources, effectively stymied attempts to construct a more reliable supply. Despite its unfulfilled obligations, the company had a virtual monopoly on water that the city did not wrest away until the 1830's.

To early 19th-century New Yorkers, the Manhattan Company was nothing but a blight. It refused to make its water freely available for firefighting and street washing, and a letter in the New York Evening Journal in the early 1830's attributed the "numerous stomach infections so common in this city" to the company's "vile water."

But for Mr. Koepfel, this group of unscrupulous entrepreneurs is surely a blessing, peopling his account with colorful characters. In the turbulent story of the ardent and bullish Burr, the Manhattan Company provides but the opening movement. In 1804, Burr, now Vice President, famously shoots Hamilton dead in a duel, flees to Philadelphia with dreams of empire, then to exile in Europe, before returning in his seventh decade to New York's outskirts to wed the notorious Madam Jumel, prostitute turned rich widow. Jumel sued for divorce a year later on grounds of Burr's adultery with a 21-year-old woman and "divers other females."

Hamilton, defending the Manhattan Company against charges of damaging pavements while its pipelines were laid, made no bones about the nature of his defendant: "A perfect monster in its principles, but a very convenient instrument of profit and influence." Evincing no scruples about representing this monster he had helped create, the statesman received poetic justice when the marble statue erected in his honor at the Merchants' Exchange on Wall Street was destroyed in the Great Fire of 1835, which wreaked havoc on the city's commercial heart for want of water for the engines.

Such calamities were a constant reminder of New York's vulnerability without a reliable public supply of water. Fires had repeatedly ravaged the city, though never on such a scale as this one, which destroyed at least a 10th of the city's assessed properties. But to New York's residents the sight of defeated firemen with their hand-pumped hoses was nothing new; nor was this the most feared outcome of the water shortage. Epidemics of cholera, caught from water contaminated with sewage, and yellow fever, borne by mosquitoes that bred in the city's stagnant ponds, were an annual terror. The connection with water was poorly understood. Not until 1849 did the British doctor John Snow deduce in London that cholera was spread by fowl water; yellow fever was considered an airborne poison, unrelated

to the nuisance of mosquitoes.

The city would empty of all who afford to leave when, in summer, an outbreak of yellow fever was rumored. In 1795, half the population took flight when the disease killed 750 people, and another 400 died in the summer of 1822 despite the (fortuitous) filling of most of the swampy ground in which the insects bred. "On the whole," comments Mr. Koepfel, "you would have rather been in Philadelphia,"—a city that had the advantage of being based on a river rather than a saltwater inlet but which had in any case arranged its water supply with far greater economy and efficiency.

New York's struggles throughout the early 19th century to resolve its prevarication about a water source are agonizing to behold. Scheme after scheme is proposed, explored, promoted, planned, even partly enacted—before collapsing in ignominy. Pumps and reservoirs are constructed, and fail to perform. Wells are bored, and turn up nothing worth the money. Plan after plan is submitted to the city's Common Council: The water must be taken from the Bronx River, no, the Saw Mill River, no, the Croton River. Washington Irving's lampooning of the city as "Gotham," a legendary English town of fools, seems increasingly apt (though as Mr. Koepfel indicates, the original Gothamites were by no means as foolish as they seemed).

The eventual respite is, inevitably, both costly and prosaic. From 40 miles north of Manhattan, across the rugged terrain of Westchester County, Croton River water comes to town down an aqueduct constructed largely with the expenditure of much immigrant Irish sweat and blood (not to mention the whiskey, nor the millions of dollars in excess of the wildly optimistic budget). There is no more ingenuity, nor engineering prowess, in this scheme than in countless others that could have worked but didn't—there is simply more sustained determination, more single-minded bulldozing of opposition, a great deal more money, and the mandate of a public referendum to lend moral gravity.

I am deeply impressed that Mr. Koepfel has made such an engaging tale of material that could easily have become leaden. His prose is unflinchingly elegant, his eye for enlivening detail is keen, and his thorough research has been splendidly assembled. This is most certainly not just a book for New Yorkers.

But an eye on the wider issues would have been welcome. After such a tortuous history, the Croton River aqueduct seems like a hard-won victory; but it should be kept in context. New York suffered mightily as a rapidly growing urban center uncommonly devoid of fresh water; yet after all it is the arid West that has fought the greatest battles against nature's hydrological miserliness. It is here, according to the historian Donald Worster, that America truly becomes a "modern hydraulic society." The Croton aqueduct was seven years in the making. But what of the Central Arizona Project Canal, which delivered Colorado River water to Tucson five decades after it was begun? (It was unpalatable after its 335-mile journey, and Tucson promptly rejected it.) And you do not need to have seen Chinatown to know that water is traded for high political stakes in California. Everybody wants some: the Los Angeles and Bay Area conurbations, the massive mid-state agricultural empires. Silicon Valley needs it, too, and the Sierra Club reminds everyone that nature has rights, too, even if it doesn't have many lawyers. New York's water wars, in contrast, are largely over.

This is, then, the unspoken subtext of Mr. Koepfel's book: Water is power. Karl Wittfogel said it in the 1930's, asserting that the "Oriental" despotisms were built around a bureaucratic scaffolding erected to control water. It is a message heard in Israel's disputes with her neighbors, and India's with hers; in Zimbabwe, the bitter harvest of colonial misappropriation of agricultural water is now being reaped.

When it opened in 1842, the Croton aqueduct supplied a city of close to half-a-million souls (no less than half of whom turned out for the inaugural celebration). Today, just 10 percent of the city's water comes from the Croton watershed, via a new aqueduct. The rest now flows down from the Catskills and the Delaware River, sating the 1.5-billion-gallon daily demand. The only visible sign of the old aqueduct in Manhattan is the High Bridge over the Harlem River, today a steel structure less elegant, but also less obstructive, than the original brick arches. The city has plumbed itself anew over the forgotten channels of its jerry-built past.

Philip Ball is the author of *Life's Matrix: A Biography of Water* (Farrar Straus & Giroux).