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## Nor Any Drop to Drink

*Supplying New York with potable water turned out to be no small trick.*

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By CALEB CARR

**F**ew historians are adept at describing the crucial role that infrastructure development plays in the evolution of a city's character. Into that select group now steps Gerard T. Koepfel, a journalist whose extraordinarily well-researched and remarkably readable "Water for Gotham" tells how the residents of what became New York sought to secure an abundant, clean supply of that most basic of human needs through the first two and a half centuries of the city's existence.

Koepfel's book offers a clear reminder that many of history's greatest conundrums can be fully understood only if we turn away for a time from high politics and socioeconomic theory to focus on how people within a given community dealt with the more basic business of survival. In the case of New York, there is the enduring mystery of how a city eternally plagued by drunkenness, filth, disease, violence and corruption consistently produced some of the great engineering marvels of the world. Koepfel has gone a long way toward shedding light on this paradox by studying the nuts and bolts -- and mud -- of city life.

In his opening chapters we see the Dutch of New Amsterdam, in this as in so many things, establishing an abysmal pattern for the city's future. What springs and ponds they found on Manhattan were



### WATER FOR GOTHAM

#### A History.

By Gerard T. Koepfel.  
Illustrated. 355 pp. Princeton, N.J.:  
Princeton University Press.  
\$29.95.

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of an inferior quality, which they immediately worsened through indiscriminate dumping of shockingly high levels of animal, human and proto-industrial waste. The lack of clean water gave those early residents what they seemed to want most -- one more reason to drink alcohol -- and encouraged them to establish their absurdly high ratio of taverns to citizens. But it also contributed to the Dutch capitulation to the English in 1664: when Peter Stuyvesant tried to explain the city's supine surrender to his superiors at the West India Company, he listed among his reasons the fact that his fort was "without either well or cistern," an excuse that sounded "very strange" to the company's ears.

But in fact it was not very strange, and as Koeppele makes abundantly clear, the deplorable state of the city's wells only worsened over the next century. New Yorkers eventually found themselves forced to drink imported goods: "Like moderns favoring bottled water over the common tap," he writes, "fastidious late colonials eschewed the neighborhood well for 'tea water' brought by pail and barrel from springs on the fringes of town." A rumored conspiracy among the black slaves and servants who did all that tea water hauling resulted in the murder of many blacks and a decline in the tea water habit; then the city's new supplies were corrupted by more dumping. This was followed by outbreaks of yellow fever and cholera, diseases that repeatedly descended on New York as if to try to coerce its leaders into doing something about the state of the water supply.

The only truly meaningful attempt to address the problem before the Revolution was devised by the inventor and engineer Christopher Colles, who had every talent a man in his line of work needed but was cursed with plain old lousy luck. "Had I been brought up a hatter," he was periodically heard to say, "people would have come into the world without heads." Colles designed and began building a hydraulic system of pumps and delivery pipes that was as good as anything then in service, but the Revolutionary War halted its construction. During their occupation of New York, the British indulged in that spiteful rapaciousness that characterized their campaigns in America, destroying nearly everything of value in the city, including Colles's New-York Water Works.

And so, disease once again visited New York, compounded by fire: we tend to think of water as being important mainly for bathing and drinking, but a sound water system was also needed to keep urban blazes at bay. Nothing comprehensive was done, however, until someone saw a chance to make a profit. That someone was the ubiquitously troublesome Aaron Burr.

"The evolving elements of Burr's complex nature," Koeppele comments with typical understatement, "were amply displayed in 1798, when he embarked on what proved a brief adventure for him and an enduring agony for New Yorkers." That agony was the Manhattan Company, a corporation created by Burr and his cronies nominally to go about the business of supplying the city with good

water, but in reality to provide a cover behind which they could, through unethical if not illegal use of the funds they raised, start an anti-Federalist competitor to Alexander Hamilton's Bank of New York.

Burr's underhanded dealings were less important for giving birth to what would become the Chase Manhattan Bank than for ensuring that no private or public entity would effectively address the question of New York's water supply for the next three decades. Burr's Manhattan Company held the exclusive rights for the duration of that period, yet did nothing to help a city that continued to be plagued by fire, disease, bad sanitation and its citizens' tendency to drink alcohol rather than the swill that came out of their local wells.

Finally, the city fathers took matters into their own hands and broke the grip of Burr's successors at the Manhattan Company. At this point, the story of New York's quest for water turns heroic. A succession of determined (and even, in most cases, honest) men went about the unprecedented work of designing and building an aqueduct from the Croton system of lakes and springs in Westchester into Manhattan.

The chief steward of this project was John Bloomfield Jervis, an engineer who pursued the project with a devotion bordering on obsession. During the course of the work Jervis lost his wife after childbirth, and lost the baby, too; but, Koepfel notes, "if he took any time to mourn his loss, it is not recorded." With such men at the helm, New York finally saw its water problem solved. In 1842, the city's new reservoirs were filled by the remarkable aqueduct, causing the young George Templeton Strong to note, "Croton Water is slowly flowing towards the city, which at last will stand a chance of being cleansed -- if water can clean it." Such cleansing, of course, never came; but thanks to Gerard Koepfel's entertaining and highly useful narrative we can better understand why. New York's character had been established nearly 200 years earlier: it was beyond the power of any purifying agent in 1842, and remains so to this day.

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*Caleb Carr is the author of "The Alienist" and "The Angel of Darkness." His next book, "Killing Time," will be published in October.*

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