

## Location, location, location!

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The First State has more to offer residents than tax-free shopping. In addition to world-class museums, quiet neighborhoods, and many acres of park and farm land, Delaware is a convenient central location within the Mid-Atlantic region. Its largest city is half an hour from Philadelphia, an hour from the beaches, and two hours from New York City. For those working in the nation's capital, a quick train ride makes living in New Castle County an attractive alternative. While modern Delawareans may enjoy proximity to larger cities, epidemics often made this less appealing to our eighteenth-century predecessors. Regarding yellow fever, Wilmington's location mattered in surprising ways.

During the first annual meeting of the Medical Society of Delaware in Dover in 1790, members decided they needed to support original research on subjects of "general medicine or hygienic interest." They chose a topic for study, with doctors presenting their findings at the following annual meeting. Over the decades, the Society awarded prizes for groundbreaking work on diverse topics, including ophthalmia, influenza, cholera infantum, smallpox, and the "Epidemic of Bilious Colic in Dover." In the first year, however, they did not award a prize.

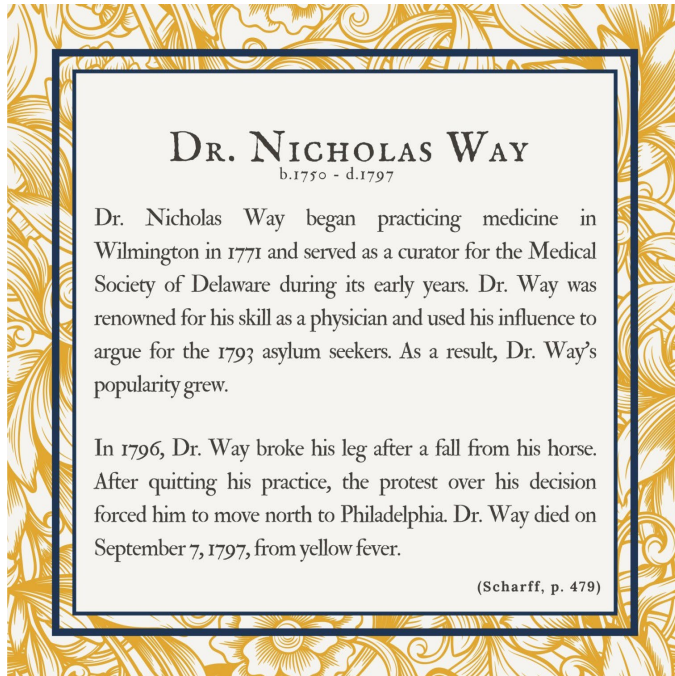
After attempting to discover the

"origin and nature of the noxious power which especially prevails in hot and moist climates during summer and autumn and produces intermittent and remittent fevers, and certain other disease, and by what means may this insalubrity of climate be corrected and the diseases thence arising be most successfully prevented and treated," (p. 472-473)

the Society agreed they had failed. The awarding committee determined that the research assumed too many facts without evidence. A lack of experimental inquiry resulted in "the defect of all original discovery." Even though Philadelphia saw an outbreak in 1762, yellow fever was just too obscure in Delaware to provide physicians with enough data to work with.<sup>1</sup>

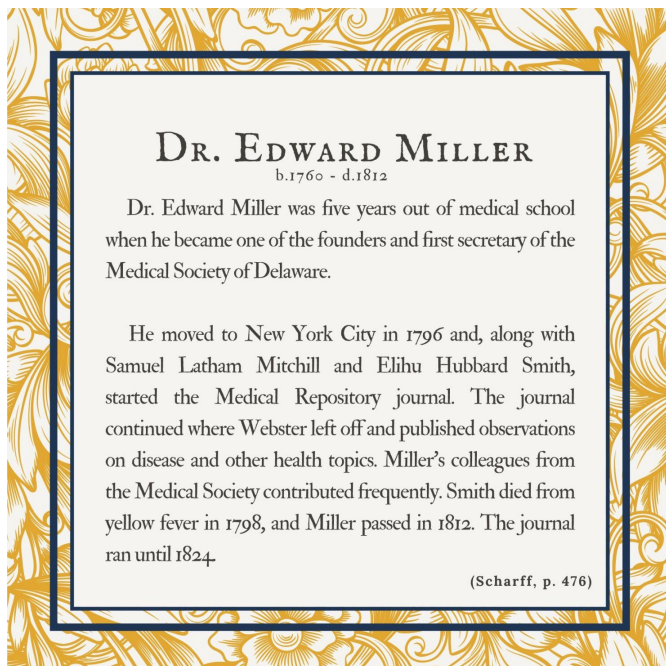
In 1793, a brutal yellow fever epidemic hit Philadelphia, killing thousands. Doctors in the city viciously argued in the newspapers over the cause and cure of the disease. In the meantime, twenty thousand people fled the city to seek asylum in the surrounding areas. Refugees crowded the roads and waterways to Wilmington. With the cause still unknown, city officials initially refused them entry. Dr. Nicholas Way, a founding member of the Medical Society of Delaware, and others convinced the city to accept them (Figure 1). Despite the risk, New Castle County escaped the 1793 outbreak unscathed.

Figure 1. Dr. Nicholas Way



Interestingly, those studying the disease fell into two camps: one believed that a miasma created by domestic filth and overcrowded conditions was the cause, and the other declared that international trade imported the contagion from more tropical locations. Dr. Benjamin Rush of Philadelphia became the leader of the first camp. Now that the disease was no longer obscure in the area, Delaware's doctors again sought to weigh in on the matter. In 1793, Dr. Edward Miller, a young Sussex County physician, prepared a paper defending the theory of the domestic origin of yellow fever (Figure 2). Upon reading the work, Dr. Rush declared its author "second to no physician in the United States."<sup>1</sup>

Figure 2. Dr. Edward Miller



Regardless, the debate and the disease thrived beyond the Delaware River valley. In 1795, Noah Webster (of dictionary fame) placed a circular in American newspapers soliciting physicians to share their observations regarding the origins of yellow fever. Though not a doctor himself, Webster believed that physicians would not find the source of the disease until they examined all available evidence. Webster received nine responses. He compiled the letters into a volume titled *A Collection of Papers on the Subject of Bilious fevers, Prevalent in the United States for a Few Years Past*, and, using his own money, published the book in 1796. Even though Webster created what has been called the “world’s first scientific survey,” he did not continue his inquiry into the disease.<sup>2,3</sup> His efforts were not in vain because others were inspired to pick up where he left off.

Yellow fever again devastated cities during the summers of 1796 and 1797. Both times, the disease spared Delaware, although the state’s luck soon ran out. In late spring 1798, heavy rains flooded the region, and the land remained soggy and damp even with that summer’s oppressive heat. The bilious fever attacked again in June; for a third time, Philadelphians fled for safety en masse. Now a deadlier strain of the disease followed them to Delaware. On August 7th, Wilmington saw its first cases of yellow fever. By the epidemic’s end, more than 240 people had died in the city alone (Figure 3 & 4).

Figure 3. The Wilmington Mercury

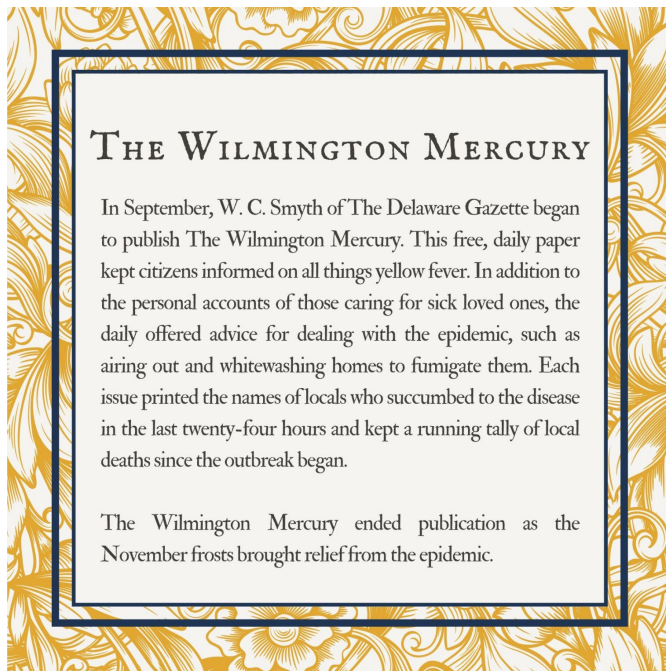


Figure 4. The Wilmington Mercury, October 23 & 24, 1798.



# The Wilmington Mercury.

Printed Occasionally and Delivered *Gratis*—to the Patrons of The Delaware Gazette—By *Smyth*.

## THIRD & FOURTH DAY (TUES. & WEDNES.) EVENINGS,

TENTH MO. (OCT.) 23 & 24, 1798.

[Collected for the Wilmington Mercury.]

### HEALTH-OFFICE.

Wilmington, 10th Mo. (OCT.) 24-

### DEATHS.

For the last Forty-Eight Hours,

ending 6 o'Clock this Evening:

Cornelius Crips,	
Ann Graham,	2
<i>Borough Hospital Report.</i>	
From 22 to 24th of 10th Mo. (OCT.)	
Admitted,	2
Died,	0
Discharged, cured,	0
Remaining in Hospital,	7

### TOTAL DEATHS,

From 8th Mo. (Aug.) 7; to 10th

Mo. (OCT.) 24—inclusive.

Adults,	215
Children,	22

Tot. 237

### DONATIONS received this Day.

Messrs. Riddle & Bird, 5 dolls.

John Peak, 4 quarters mutton

Samuel Walker, 3lb. butter

Published by Order of the Board,

THOMAS MENDENHALL,

President;

JAMES LEA, Secretary.

### Singular Case of the Yellow Fever.

Second Day of the Week, in the evening, a young woman of a very delicate constitution, in my family, was taken unwell; she took some warm camomile tea, went to bed, and slept well.

Third Day morning, she took calomel oil, which operated well, and kept about; her complaint appeared no more than those incident to the season, and weakly constitutions.

Fourth Day, more unwell, with considerable fever; but another of my family then lying in the violent agonies of death, her case could not be so minutely attended to—she was put into a warm bath, and sweated moderately.

Fifth Day morning, more unwell, and had a black stool. I called in a neighbour who had been much among the sick; he advised having a Doctor—who was quickly had, and who ordered three injections in the course of the day, made of the decoction of mallards and flaxseed. About 11 o'clock she puked, and the nurse said it was black as tar. I immediately got mint, brewed it well in vinegar, till it was nearly dry, then moistened it with rum, and had it laid over her stomach and belly. This done, another parcel put on to leav, to apply in the same manner when the first was dry, and so on successively throughout the day. I also gave her about one draehm and a half of the salts of wormwood every half-hour, to settle her stomach, which had the desired effect; and, with a pewter syringe the injections were repeated as fast as they came away, which brought off black flakes, like scales. The Doctor came again, in the evening, and ordered one injection in the course of the night; and I ordered them to be continued as the day before, with the charges of mint, and half a teaspoon-

ful of the salts of wormwood three or four times, and oftener, if she felt any motion to puke; but, it so happened, that neither was done after 10 o'clock, (tho' for this omission I do not mean to censure the good nurse).

Sixth Day morning, early, I was alarmed to find her puking; I inquired concerning my directions, found the omission, and had it renewed as soon as possible. The Doctor came, saw what she had puked, which was not so high coloured as the day before, tho' a little bloody; he said he was not sent for soon enough, therefore could do nothing for her, and turned away; but before he went far, turned about, and said, Give her chicken broth. His so saying, animated the nurse to do her utmost. This morning the white of her eyes appeared very yellow. The mint as before, was continued all this day & night, and about half a teaspoonful of the salts of wormwood every hour; the foregoing injection, with the addition of English plantain boiled in it, (the salts of wormwood were given in several things, but lime juice was found to be most agreeable). This evening she was very weak and faintish, and wanted something to make her sleep; but laudanum being disapproved, her feet and legs were put in warm water, with a handful of salt it, after which she had a reviving sleep. This day & night being cloudy, and the air damp, I kept a little fire in the room, but allowed a circulation of air to pass through. Her drink has been barley water, lime-water, and milk, as she chose; her food whatever her stomach would take well, and her linen changed every day.

Seventh Day, rather better; her skin growing very yellow. This day the mint continued as before; the injections and salts not so frequent. In the evening, in a hopeful way; the mint continued all night, the salts of wormwood and injections less frequent, her stomach appearing pretty well settled, and some of the injections coming away clear.

Eighth Day morning, not so well; slept but little last night; soaked her feet in warm water, with a handful of salt and some vinegar in it, and with the help of an injection, discharged a blackness similar to that she had heretofore puked; gave her a small portion of calomel oil, repeated every half hour till it worked. The oil, assailed with injections, operated well; some of the first discharges were hard, knotty lumps, then abundance of dark matter, and some of the last nearly the right color. I think it would have been better, if this physic had been given one day sooner. Same day, in the evening, very weak and faintish, complained of some pain in her bowels; at night, gave her several small injections, with a teaspoonful of red bark in each.

Ninth Day morning, rather better, but very weak; her countenance such, that we had but little hopes. This day and night, gave her several injections, with bark stewed in them, and some of sweet oil and molasses.

Tenth Day, better, gave her more calomel oil, and by the discharges it was evident, that the disorder was again collecting. From this time she apparently mended, the yellow disappearing, but required particular attention for several days. Physic given, and the foregoing applications to settle the stomach, as circumstances appeared to require; and, as she got better, it became necessary to lay the hand of restraint on her food, as she craved almost every thing that was improper; her appetite would take more than her stomach could digest. This, I have been informed, has been the case with several others.

From the first of her being taken, when the fever was on, I had a poultice of onions

applied to her feet, and her body several times moderately washed with the following liquid:—Of good lime about the size of a large egg, of salmonic one ounce rubbed to a powder, on these pour three pints of boiling water, cover it over, and when cool, bottle it for use. And when she was cool, her body in like manner washed with rum and vinegar, and sometimes a warm brick put to her feet.

The day she had the first black stool and puked, a man who had been used to nurse in the disorder, and is also a quack, came to see her, he said it was out of the power of man to cure one that had both black stool & puke. But she is now able to be about, and appears to be quite through the disorder.

As this appeared to be an extraordinary instance, I have been thus particular for the benefit of my fellow-creatures, that they may see the effects of good nursing and simple means, with the divine blessing, and the confidence due to Doctors.

I wish all printers of Newspapers in the Union to publish the foregoing, and every family to record it.

ZACHARIAH JESS,  
Wilmington, (Del.) 10th mo. 1798.

Notice is hereby Given,  
THAT an adjourned meeting of the Levy Court, for the County of Newcastle, will be held at the Court-House, on

Tuesday, the 30th day of October, Instant—at which time, all persons having Accounts against the County, are desired to bring them forward.

A punctual attendance of the Members of the Court, is required.

ABEL GLASFORD,  
Newcastle, }  
Oct. 23. 1798. } Clerk of the Peace.

Public Notice is hereby given,  
THAT I, the Subscriber, gave two Notes of Hand, to William Welch, of the County of Cumberland, in the State of New-Jersey, for the sum of \$1. 15s. each, dated the 18th July last; the first Note due the 25th December, and the other the first of April next:—THIS IS TO FOREWARN all persons from taking any assignment on them, as they were obtained from me in a fraudulent manner; and I am determined not to pay either of them, unless compelled by due course of law.

THOMAS SUTTON,  
Sept. 25. 1798. Oct. 23—4wq

Stop the Runaways!  
RAN AWAY, on Monday last, 22d

October, milt. from the sloop APOLLO, Thomas Newbold, master, three Servant Men, named Ben Will, and James Ben.

Is of middling size, well set, yellow complexion, his face full of carbuncles—Will.

Rather under size, something of a yellow complexion, and his face full of carbuncles—James.

A black man, rather slender, appears young, sloop shouldered, and has a lounging walk. A generous reward, and reasonable charges will be paid to any person who takes up said Runaways, and delivers them, or either of them, to the Captain, on board the Apollo sloop, lying in the Creek, near Wilmington.

For Matters of vessels, and others, are cautioned against harbouring the aforesaid fellows, at their peril.

Oct. 23. 4wq

The origin of the pestilence continued to evade physicians. In a letter from Dr. James Tilton to William Currie on November 13, 1798, he breaks from the domestic vs. foreign origin argument. He notes that neither thoroughly explains the unusual patterns of the disease:

The fever became epidemic between the 15th and 20th.—It commenced with persons immediately from Philadelphia, as well inhabitants of the borough, as of the city. Shallop-men and others, who passed from one place to the other by water, were the first victims. From there it extended rapidly to the inhabitants of fixed residence. A ship manned chiefly by French royalists that entered our port after the sickness had commenced was also suspected of contributing to the evil; but of this, I have no evidence. From all the information that came to my knowledge, every physician of this place and all others of correct observation agree that the disease was imported to us from Philadelphia by infected goods and furniture, as well as infected persons. We suppose the disease to be propagated by contagion, from infected persons, clothing, vessels, houses, &c. It is remarkable, however, that stronger exhalations arise from persons affected by this fever than in other febrile diseases, and we have reason to believe that many were affected by the contagion at a distance from the sick, reaching quite across our streets. No instance of those who fled to the country communicating it to others has come to my knowledge within the vicinity of Wilmington (p. 138-139).<sup>4</sup>

Tilton's letter was later published in William Currie's epidemiological study of the outbreak. The study included data on weather conditions, statistics on the sick and dead, and the proceedings of the Board of Health and Guardians of the Poor.

In *A Brief History of Disease and Pestilence*, Webster, citing evidence gathered by Tilton and Currie, theorizes why Wilmington avoided an outbreak until 1798:

The distemper has an atmosphere in which it is readily contracted. Beyond that atmosphere, it is not infectious. In other words, it is a condition of the atmosphere and not the effluvia from the sick, which is to be dreaded. Thus, in 1797, the fugitives and sick from Philadelphia did not spread the fever in Wilmington - in 1798, they did. That is, in 1797, the atmosphere of Wilmington would not generate and nurse the disease - in 1798, it would (p. 336).<sup>5</sup>

Even though physicians isolated the conditions in which the disease thrived and eliminated the possibility of direct patient-to-patient transmission, the third piece to the puzzle—mosquitoes—remained elusive until 1901. Regardless, the investigations into the 1790s yellow fever epidemics stand out as the earliest examples of interdisciplinary medical geography. Delaware's proximity to Philadelphia, the ease of travel between the two cities, and the international ports provided the ideal conditions for testing hypotheses on the origin and nature of the disease's spread. Location really does matter.

## References

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