A SCENE OF SICKNESS, MISERY AND RUIN

By Clayton H. Ramsey

Raging yellow fever epidemics in the 19th century caused immense suffering in Georgia's coastal communities, inspiring "melancholy sentiments about the insignificance of life."

Early September 1808. Heavy rains had slashed the coastal village of St. Marys for weeks. Tucked in the southeastern corner of Georgia, the settlement of 350 Caucasians and 150 African Americans lay just north of the river that shared its name and separated it from Florida. Rainwater from the storms pooled on the sandy ground and filled the wells that supplied drinking water, turning those sources rank and fetid.

By the 5th, a packet boat sailing from Savannah had docked in St. Marys' harbor, carrying mail, passengers, and foodstuffs. The cargo of corn in its hull was rotten. Illness had disabled a few of its seamen. Health officials in St. Marys, trained to notice signs of pestilence and authorized to quarantine any visitor, especially crews on ships such as this, were hesitant to conduct a thorough examination of the sailors and cargo because of the offensive smell.[1]

As a result of the authorities' inattention to their responsibilities, two sick sailors were able to come ashore. If their symptoms were typical, while still on board they would have experienced chills, fever, head and back pains, nausea, vomiting, and fatigue. Passing the point where recovery was possible, they would have progressed to exhibit an unnatural yellow (jaundiced) hue to their skin, suggesting liver failure, and a high fever. With internal hemorrhaging, they probably bled from their mouth, eyes, and nose, coughing up black clots of blood. In their final hours, there would have been shock, organ shutdown, and finally death.[2]

The first sailor died just hours after being admitted into St. Marys, with an advanced case of the disease. His companion expired a couple of days later. After the second death, two other sailors died and many of the passengers who had been aboard the packet boat began to exhibit the same ominous symptoms that had preceded the deaths of the four crewmen. Despite reassurances by the authorities, concern among the residents began to mount. Something dangerous had made landfall.

It was not typhoid or malaria. Those they would have recognized. Instead, it was another disease entirely. Yellow fever had found a foothold in Georgia.

The heavy rains, the concentration of susceptible residents in a central town area, and the presence of warehouses filled with decaying provisions stockpiled by smugglers with contacts in Florida and the Caribbean made St. Marys particularly vulnerable to this contagion.[3] James M. Lindsay, a nurse for one of the dead sailors, was the first citizen to die, nine days after the blighted boat docked. Sip, a freedman who also attended the stricken crew, passed a day later. The course of the disease was relatively swift and deadly. It was a nasty illness, fast acting and terrifying to those who witnessed its effects.

The St. Marys town council formed a committee of health on September 28, weeks after the appearance of the disease. Without clear preventive instruction from the medical authorities, much of the white population chose to flee the area, while the disease, according to a survey on the 29th, had spread to 55 cases—31 whites and 24 blacks. By October 2, there were only 100 people left in the town limits, mostly the sick,

the slaves, and a handful of doctors.

The response by the committee of health was belated. The group eventually issued a report and set up a hospital for the poor. Coffins were provided and regulations set that required the prompt burial of the dead. Believing the disease was spread through what they called "fomites," particles in bodily fluids or waste that carried infection, they also burned the clothing and bedding of the victims of the illness.

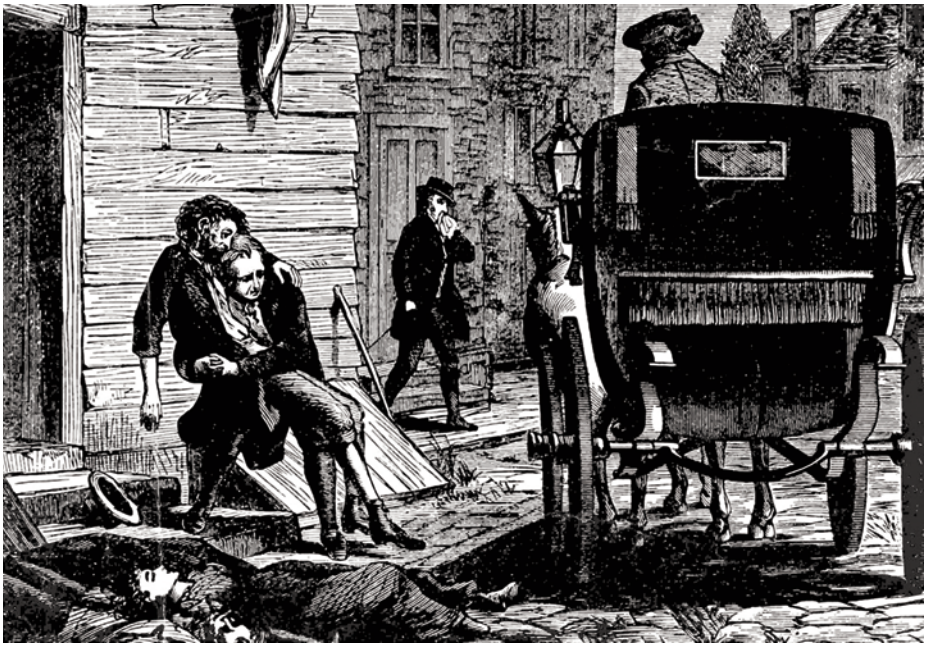
Without accurate knowledge of what was causing the disease and how it was passed from one person to the next, doctors developed different treatment plans. Dr. Benjamin Rush, the Philadelphia physician who had emerged as an authority on yellow fever during epidemics in his city that recurred throughout the eighteenth century, advised blood-letting to purge the body of corrupted blood.

Dr. Daniel Turner, a recent transplant from Rhode Island to St. Marys, thought the fever's spread could be averted by change of diet, counseling avoidance of meat and strong drink, and encouraging the consumption of voluminous amounts of lemonade. He ordered cathartics like calomel and jalop to clear the bowels. If that didn't work, he prescribed warm baths, blistering, laudanum massages, enemas, and brandy.[4]

Mercury, administered both internally and externally, was the favored treatment of several other local doctors, but was not as popular as the armamentarium of Dr. Turner. None of the regimens proved particularly effective.

By the time the epidemic dissipated with the first frost, 87 whites had contracted yellow fever, 42 of whom died. Forty-five African Americans, many of whom did not have the means to escape the epicenter of the disease transmission, caught the fever, with only three of them eventually succumbing.[5] Especially with the white flight, the difference in mortality rates between the two races was stark. Researchers would later point to genetic factors as the reason for the difference and report, "Caucasians diagnosed with YF [yellow fever] were 6.8 times more likely to succumb than non-Caucasians with the disease." They concluded, "No other major causes of death during the 19th century demonstrated a similar mortality skew toward Caucasians."[6] But then, the reason didn't matter, only the effect did.

At least one scholar has suggested this difference in reaction to various fevers, yellow included, was what drove the slave trade.[7] The argument was that European powers would have preferred to locate plantation operations in West Africa, near the labor supply, but eventually realized the cost of transporting slaves to the Americas was less than the cost in loss of white lives had they remained in Africa. The supposed heartiness and resistance to the effects of the fevers further recommended the enslaved Africans as the preferred source of reliable labor hearty enough to withstand the scourges.



At the time, science had no sophisticated understanding of genetically based immunity. But the numbers, measured against other factors, in retrospect prove it. In planning the commerce of the slave trade, it was a grim but pragmatic calculus, and one that was "ultimately to be enshrined at the core of 'scientific racism.'"[8] Europeans reasoned that Africans were better suited for enslavement due to the immunity differential—business backed by science, or so they thought.

After the emergence of rational scientific inquiry during the Enlightenment, there would be lamentable cases of its misappropriation for despicable ends. The use of eugenics to feed ideologies of hate was one such example. The history of yellow fever was another.

The story of yellow fever in Georgia wasn't limited to St. Marys, of course. Other coastal towns were affected by the malady known also as Siam fever, the saffron scourge, stranger's fever, the black vomit, and yellow jack. Whatever the name attached to the disease, it was to be an unwelcome visitor to the state for at least another century.

When General James Oglethorpe established the settlement of Savannah in 1733, he picked Yamacraw Bluff, forty feet above the Savannah River, to build his community. It was dry, sandy ground but nevertheless surrounded by marshland. By 1820, Savannah had become a thriving seaport. Much of the marsh had been converted to rice fields, and the harbor saw traffic from Europe, West Africa, the Caribbean, and other cities on the Eastern seaboard, bringing passengers and commodities.

In 1819, 50 Irishmen transported by ship to Savannah died, probably from yellow fever. The state legislature immediately passed an act limiting the intro-

duction of foreigners to the port during the warm months of July through October. One thing they were learning from experience: yellow fever came from elsewhere and thrived in the heat.

The next year, 1820, would bring the most excruciating lesson. Thousands of people were crammed into closely packed buildings. Sea trade was brisk. Wet rice culture was an important part of the local economy. A fire in January blazed through the city, reducing some areas to ash. This crisis was followed by heavy rains in the spring and summer that filled the ruins with pools of standing water. It was a deadly combination of manmade and natural conditions.

By the end of August, 119 had died of yellow fever. The authorities publicly denied the full extent of the disease. Days of "humiliation and prayer" were nevertheless organized by local clergy to petition the Lord to prevent any further deaths from "fever and ague." But it was not until a ship carrying victims of yellow fever docked on September 5 that leaders began to acknowledge that the same affliction that had swept through Philadelphia, Charleston, and New Orleans had now come to Savannah. The board of health officially admitted the presence of yellow fever and pushed up the reported death toll to 202. Residents were encouraged to leave the city to escape the "miasma" that was killing its people. The mortality rate mounted.

At the height of the epidemic, there were fewer than 1,500 in the ravaged town, out of a normal population of 5,000.[9] By the time the winter frost broke the power of the illness, Mayor Thomas U.P. Charlton estimated that one-third of the population, white and black, had died.[10] The official register listed 695 whites who perished, with only a spotty reference to black deaths, possibly close to 200 from causes that were not limited to the fever.[11] Surviving records have gaps, making accurate estimations about the disease uncertain. But whatever the precise statistics, the consequences were severe.

The disease was still something of a mystery to doctors. Medical science was making progress, but a uniform and formalized system of medical education was decades away. Medicine still stood on the bridge between colonial and modern. Apprenticeship was still common and there weren't enough university-educated physicians to meet the needs of growing populations, especially in the southern states. Using traditional remedies as well as those that might be taught in Philadelphia and London, doctors in Savannah struggled to meet the needs of their patients with what professional training they had, fighting to stave off the effects of the disease without a clear understanding of what might be causing it.

With doctors still laboring under the notion that the disease was airborne, or the result of pestiferous soil, or passed through contaminated clothing, or any of a number of other theories, it was no wonder that the civil authorities were incompletely prepared to meet the public health crisis yellow fever presented. Public resources were taxed, in some ways for the first time. Evacuation was considered the only reliable preventive measure. The city dealt as best it could with citizens who had neither the means nor the desire to flee.

The social environment was bleak. As Dr. William R. Waring wrote at the time, "The scene of sickness, misery, and ruin was awful, shocking, and well-fitted to inspire a melancholy sentiment of the shortness, uncertainty, and insignificance of life."[12] During the 14-year period from the outbreak of yellow fever in 1807 to the end of the epidemic in 1820, there were

4,000 deaths, nearly equal to the city's population in 1810. As with the other perennial yellow fever outbreaks, cold weather stopped the spread of the disease, but did not eradicate it completely.

Yellow jack returned to Savannah in at least another seven annual cycles. When the Danish brig *Charlotte Hague*, sailing from Havana, moored in the harbor in 1854, she brought death with her. One source claimed the fever "began on August 5, 1854, in a house on the corner of Broughton and Lincoln Streets."[13] Wherever it originated, whether from river dredging, an inadequate sewerage system, rice fields, or blighted ships, as some proposed, its presence was undeniable. Mayor John E. Ward blamed the pestilence on an "atmospheric storm." For most who felt the epidemic was an act of Providence, that was as satisfactory an explanation as any.

The 1854 scourge followed a familiar course. Cases peaked by the end of the summer. Whites fled in a panic, possibly up to two-thirds of the population, going inland to places like Augusta and Macon by train and up the coast by boat. The poor and the slaves could not follow.

Physicians cared for the sick and the dying with whatever resources happened to be on hand. Business was suspended. Disposal of bodies was problematic, both because of the number of casualties and the saturation of the ground. A hurricane in early September added to the loss. In the thirteen weeks of this yellow jack visitation, there were an estimated 1,008 white deaths, 605 of which were "definitely" caused by the fever, and 80 black deaths, with 15 confirmed from the fever.[14]

One improvement in response was the founding of the "Young Men's Benevolent Association" (YMBA) on September 12 to oversee "the relief of the sick and indigent in the city of Savannah during the prevalence of epidemics or in the case of sudden emergencies."[15] The city was beginning to build a charitable infrastructure that responded to the suffering caused in regular intervals by yellow fever. In this disaster alone, the Benevolent Association, with the cooperation of philanthropic sources outside the city and the support of the governor, raised more than $100,000 for relief efforts, along with clothing and other supplies.[16]

With improvements in civic response came developments in medical practice. Drastic measures like bleeding, blistering, and purging, which had largely defined the treatment of the fever, were no longer as common. Most physicians had ascribed to the "miasma" theory for centuries, claiming diseases of all sorts, especially the "fevers," were caused by the decay of animal and vegetable matter, which released contaminations into the air. Moisture in the soil, mosses, marshes, noxious gases, and sewers were also blamed for releasing these poisons.

Dr. Josiah C. Nott began to question this orthodoxy in 1848. "Fever should have its genus and its species like other things in nature," he reasoned.[17] Disease was not from a single source, a general "miasma," differentiated only by geography and the constitution of the patients who came into contact with it. Diseases had different features, different causes. He even suggested that yellow fever, the "mighty monarch of the South," might be transmitted by certain insects. This form of transmission was echoed later by

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Sickness, Misery and Ruin

Dr. Richard Arnold and Dr. Carlos Juan Finlay, years before the United States Yellow Fever Commission produced its famous report. This idea laid the groundwork for a genuine advancement in medicine, one step closer to solving the puzzle of yellow fever.

But decades would pass before practice caught up with theory. People still smelled cloths dipped in vinegar, pieces of camphor, or tarred rope. Some chewed garlic, dipped snuff, or smoked cigars to clear their passages of poisoned air. Whitewashing walls, firing cannon and muskets, burning gunpowder, lighting fires, and putting garlic in shoes were all tried as means of dissipating the poisonous miasma.[18]

Sometimes the quackery of medics matched the uselessness of common practice. In addition to the accepted use of phlebotomy and purgatives, some added iron tinctures, lemon juice saturated with salt, mustard poultices, and even quinine, mistaking yellow fever for malaria, among other treatments.

In 1860, Dr. Oliver Wendell Holmes Sr. told the Massachusetts Medical Society, "I firmly believe that if the whole materia medica, as now used, could be sunk to the bottom of the sea, it would be all the better for mankind—and all the worse for the fishes."[19] While not necessarily a direct reference, Dr. Holmes could have easily pointed to the treatment of yellow fever to support his contention.

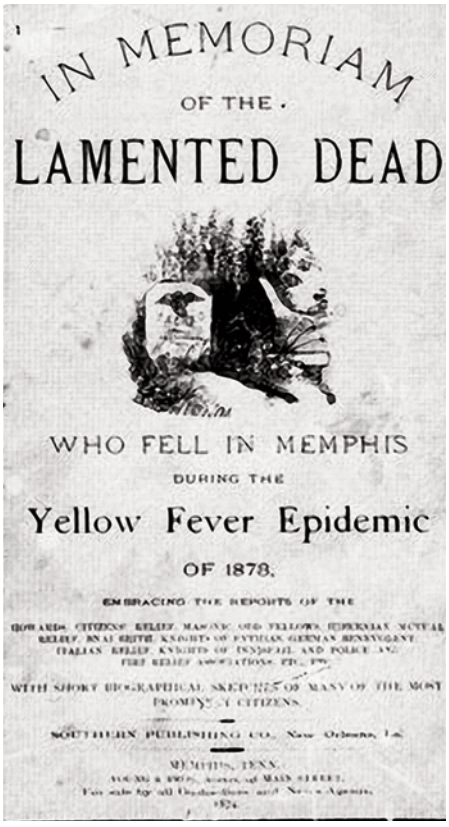
There were sporadic cases of yellow fever in Savannah after the epidemic year of 1854, but there was general remission until 1876, when it ripped "through the city like an avenging fury." The disease struck Bainbridge in 1873, but it was the port city of Savannah that once again sustained the greatest losses a few years later. Dr. J.C. Le Hardy outlined the familiar pattern: "a mild winter, an early spring, with rainfall sufficient to fill the ponds, swamps, and low grounds surrounding the city, with stagnant water, and finally, with the intensely hot and oppressive month of July."[20] The right conditions once again emerged for the unwelcome guest whose visitations seemed cyclical.

On August 31 the authorities initiated a mass exodus by announcing the disease in the *Savannah Morning News*. The newspaper provided a daily record of cases through the course of the epidemic, listing those who had survived and those who didn't. Benevolent associations strained the limits of their resources to meet needs. Casualties multiplied even as doctors labored. One physician, a Dr. Falligant, made 80 visits per day during the second week of the epidemic, 90 per day the third week, and 100 the fourth, reaching 106 by the end of the month.[21] Cutting branches from trees, burning tar in the squares, and disinfecting the ballast stones of ships were tried, but had no effect, other than to occupy the survivors with futile activity.

By the time the board of the Georgia Medical Society announced the end of the epidemic on November 14, some 1,066 lives had been claimed.[22] One physician estimated there had been 10,000 cases. But the bare statistics hide the horror, the panic, the destruction caused by the disease to the social fabric. Families were ripped apart, businesses shuttered.

What made this iteration of the epidemic particularly disastrous was the financial condition of the city, strained by years of overreaching decisions. By January of the next year, Savannah defaulted on its loans. With so-called "acts of God" like yellow fever, and man-made financial crises, the city was faced with what one official called its "midnight hour."[23] It was a harbinger of the yellow fever calamity in the Mississippi River Valley two years later.

In 1900, Dr. Walter Reed was chosen by Surgeon General George M. Sternberg to lead the U.S. Army Yellow Fever (or "Reed") Commission in Cuba. Based on his team's experimentation at Camp Lazear and the preceding work of Scotch-French physician Carlos J. Finlay decades earlier in Havana, Reed demonstrated that the means of transmission of yellow fever was the female mosquito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OF THE
LAMENTED DEAD
WHO FELL IN MEMPHIS
DURING THE
Yellow Fever Epidemic
OF 1878,
EMBRACING THE REPORTS OF THE
WITH SHORT BIOGRAPHICAL SKETCHES OF MANY OF THE MOST
PROMINENT CITIZENS.
SOUTHERN PUBLISHING CO.
MEMPHIS, TENN.

Aedes (Stegomyia) aegypti that bred in warm, wet climates. In what was later called the "urban cycle," the mosquito served as the carrier, or vector, between human hosts, passing the virus from one infected human victim to the next.

As of 2018, the Centers for Disease Control reports that there is still no cure for yellow fever. But vaccination and a new understanding of how it is transmitted not only allowed for the dramatic completion of the Panama Canal in 1914, but also contributed to the relief of what had been destructive public health crises that tore through American cities like clockwork.

Yellow fever was the scourge of the nineteenth century, hitting coastal cities with merciless vengeance. The swath of devastation across the southeastern United States had far reaching consequences, from spurring progress in the science of infectious diseases and epidemiology to the formation of nationalized boards of health and perhaps even contributing to the declaration of war against Spain over the matter of control of Cuba in 1898.[24]

No transmissible disease can be understood in isolation, and yellow fever is no exception. As it spread through

Dr. Walter Reed demonstrated that the means of transmission of yellow fever was the female mosquito Aedes (Stegomyia) aegypti *that bred in warm, wet climates.*

communities in Georgia for almost a century, it killed thousands and affected aspects of society from governance to economics, race relations to sanitation. A reminder of both our individual and municipal vulnerabilities, it also provided an occasion for social development, charitable involvement, and medical advancement.

While we might be touched by the pathos of yellow fever's effects on human lives and scoff at the limitations of 19th-century medicine, we might also consider the global epidemics that plague us now, pondering what advances will be necessary to eradicate them.

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Endnotes

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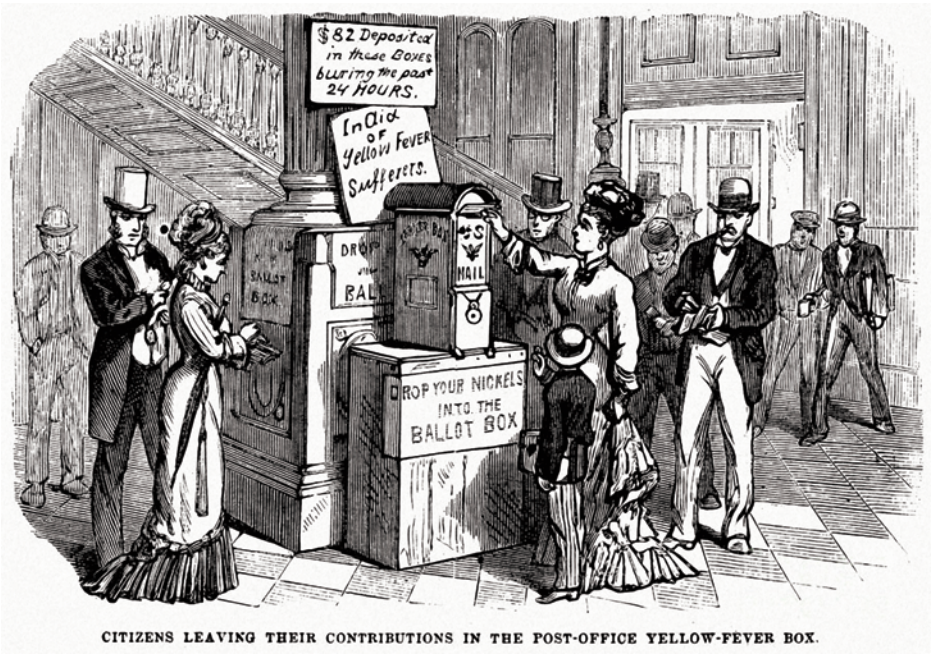

CITIZENS LEAVING THEIR CONTRIBUTIONS IN THE POST-OFFICE YELLOW-FEVER BOX.