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Yellow Fever and Huntsville

Byers: Yellow Fever and Huntsville

DAVID BYERS

Few remember yellow fever as the horrible disease it once was. It belongs in the list of those killers that had great influence on the development of the world, and especially, America. Smallpox, malaria, and cholera may have killed more people, but the terrible 200 years of yellow fever brought uncontrolled alarm, deaths, long-lasting after-effects and created panic unlike any other threat. In those years, approximately 500,000 Americans were sickened and possibly 20% of those died. For the most part, Huntsville escaped the widespread devastation.

Yellow fever developed in West Africa centuries ago. Blood, containing the virus, was exchanged by mosquitoes (*aedes aegypti*), between monkeys and the occasional human. The disease found fertile victims in the Europeans who had never been exposed or even heard of the disease. Slaves, brought to America from Africa, often had been exposed, sickened and perhaps immunized by the sickness. Those slaves were carried to the Caribbean islands and the coastal areas of the United States. A second group of passengers also came in the ships. Mosquitoes, carrying the virus in their system, perhaps several generations removed from Africa, traveled in the air and water with the slaves. The mosquito found its preferred environment in the warm, humid lowlands and swamps of the New World.

Although perfect conditions for mosquitoes exist in the Far East, no yellow fever outbreaks ever occurred because no slaves were ever taken to those countries. This country was already being punished for its position on slavery.

Yellow fever was seen in Europe briefly in the Middle Ages. It had been prevalent in Cuba since 1650. A full-blown outbreak occurred there in 1762 and again in 1763. Large epidemics were recorded in 1793 Philadelphia, 1802 Haiti, 1820 Savannah, 1822 New Orleans, 1839 Galveston, 1848 Mobile, 1853 New Orleans and Selma, 1855 Norfolk, 1858 Mobile, 1864 Bermuda, 1867 Galveston, 1878 Memphis, Tusculumbia, Grenada City in Mississippi, Fulton County in Kentucky, 1886 and 1888 Jacksonville, 1897 Montgomery, and the last major outbreak in 1905 in New Orleans. The Texas Gulf Coast was struck 19 times between 1833 and 1907.

The first major yellow fever event in this country occurred in Philadelphia, which was at that time the Nation's capital and its largest city. Henry Adams observed in his *History of the United States*, "Compared with Boston and New York, Philadelphia was relatively clean, safe and prosperous by the standards of the 1800s. But Yellow Fever reminded all of the physical danger of urban life." In June 1793 about 1000 refugees, white, black, rich and poor, fled Santo Domingo, where the slaves were fighting against the French who had taken Hispaniola from Spain, and came to Philadelphia. They spoke of a fever epidemic. In the busy port city of Philadelphia, 55,000 people were experiencing a dry summer with an abundance of flies and mosquitoes. Poor sewage management, privies, and cisterns for drinking water made wonderful breeding spots for the insects. This unknown disease sickened many citizens. Two thousand people died.

In the usual pattern of the disease, after a mosquito bite, a person would be fine for a few days while the virus built up in his system. Other mosquitoes would bite this victim, transfer tainted blood to other victims and the epidemic was underway. In the worst cases, in the first three days, the victim would suffer with high fever, headaches, bruises on the skin, back pain, fast pulse, and extreme fatigue. Nausea, vomiting and constipation would appear on the second or third day. Usually then the symptoms would recede and the temperature and pulse would drop to normal. The climax came with internal hemorrhage, bloody vomit, delirium and coma, followed by death. People with mild cases would suffer from fever and headache. Jaundice of the eyes and skin contributed the name “yellow fever.”

In Philadelphia, Dr. Benjamin Rush ordered residents to “leave the city.” Congress recessed and most members fled. George Washington went to Mount Vernon. Many congressmen went to the higher lands of western Pennsylvania. Alexander Hamilton remained, was bitten and sickened, survived but suffered lifelong troublesome effects from the attack. Earlier, the congress fled to York, Pennsylvania when the British threatened Philadelphia.

As the French army fought in 1802 for re-enslavement and control of the black population of Hispaniola, 24,000 of Napoleon’s soldiers died from yellow fever. Eight thousand more were sickened. Perhaps this major loss of forces led Napoleon to forgo his dream of a French empire in the Mississippi Valley of the Americas and sell the Louisiana Territory to Jefferson.

The Civil War was fought, as a Union Army Surgeon General described, “at the end of the medical Middle Ages.” Twice as many men died of disease than of gunshot wounds. Elementary sanitation and a connection between hygiene and health were ignored. The primary killers were diarrhea and dysentery, followed by typhoid fever and malaria. Other troubling diseases were smallpox, cholera, pneumonia, mumps, chicken pox, whooping cough, measles, tuberculosis and even some scurvy. Yellow fever lagged in those war torn years. Small outbreaks occurred in Philadelphia, New York, Boston, New Orleans, Baltimore, and Washington. As luck would have it, there was never an epidemic outbreak of yellow fever in the troops on either side.

Many cities across the country experienced large sporadic outbreaks. It became clear that the disease occurred in humid, damp coastal areas, but the vector was unknown. Some thought yellow fever spread from contact, coughing, food, and other methods. Spread of the epidemics followed rivers and railroads. A single infected traveler could bring trouble to an area thought to be unthreatened. As the disease moved from one location to another, many commercial interests would prevent the local authorities from declaring quarantines that might stop all traffic and business, as well as the threat of epidemic. Other cities, expecting to be a target because of their location, would use military or police to stop all entrance. Usually efforts of that kind failed as someone or some mosquito would get across the lines.

With no clear explanation, someone noticed that prisoners confined within a 15 foot wall were less susceptible to the disease. Those who slept on higher floors usually escaped the infection. There were many ideas about how the disease was

transmitted. In 1900, Dr. Walter Reed and a few courageous doctors and volunteers finally proved, without a doubt, that mosquitoes were the agent of transmission. This work was at their station in Cuba following the Spanish American War. He carefully eliminated all other possibilities, then infected and re-infected using only mosquito bites as the exposure. About half of the American troops stationed in Cuba were infected by either yellow fever or typhoid fever. Sources of unclean water were removed and the typhoid was slowed. After an aggressive effort to dispose of the stagnant water in pools, tires, and other places of standing water, mosquitoes were greatly reduced and Cuba's yellow fever problems were greatly reduced. Insecticides also helped to bring the disease under control.

Major General William C. Gorgas, the Surgeon General, against much political opposition, controlled mosquitoes in the Canal Zone and prevented both malaria and yellow fever so the Panama Canal could be completed in 1914. In 1937, Dr. Max Theiler of the Rockefeller Foundation developed a safe and effective vaccine for yellow fever.

Memphis in 1878 was quite aware of the epidemic in New Orleans, just a short boat ride to the south. Although efforts were made to stall the onset, the checkpoints failed and Memphis had a major outbreak. Earlier exposures in the mid-century did little to prepare for what was coming. A mild winter and a long and wet spring followed by a hot summer provided the mosquitoes perfect conditions for breeding. From late July until frost in October, 17,000 people were infected and 5,150 died. Twenty-five thousand fled the town. "The wealthy fled, the fearless or indifferent remained from choice, the poor from necessity." The blacks were thought to be immune to the disease, but that was proved untrue. Seventy percent of the affected whites died, only 7% of the sickened blacks died. Perhaps some resistance had built up with the repeated exposure of generations to the fever in Africa.

Huntsville's yellow fever experience is best told by quoting from two newspapers in the city. The *Huntsville Advocate*, the Republican paper, and the *Weekly Democrat*, published by J. Withers Clay, the son of Clement Comer Clay, were both delivered on Wednesdays.

The *Advocate* reported on June 12, 1878: "A sanitary measure of more than ordinary importance has been passed as the 'National Quarantine Act of 1878.' It is particularly designed to guard against those two scourges to humanity – Asiatic cholera and yellow fever – the ravages of which have frequently been so appalling."

That same day, the *Democrat* reported: "Savannah has had a sad and sufficient experience in the yellow fever business. It is determined not to have it again. The sanitary condition of the city is represented as excellent. The quarantine regulations are more rigidly enforced than ever before. An improved apparatus is used for fumigating vessels from infected ports."

An update appeared in the *Advocate* on July 31: "That terrible scourge Yellow Fever has made its appearance in New Orleans. Up to Monday night there had

been 80 cases with 33 deaths. Memphis, Vicksburg, Mobile, Montgomery and Galveston have quarantined all trains and vessels against the city, and trade and travel is seriously interrupted. We trust the authorities may be able to confine it within the limits of the city and they may soon get the disease under control.”

Helpless to stop the spread and frightened by rumors, citizens pursued every idea, no matter how far-fetched, to limit the damage. In Montgomery, the mail from Mobile and New Orleans was perforated and vapor blown into the envelopes in an effort to kill the germs that could be transported on letters. Still, a postal employee died of yellow fever. Huge bonfires were lit in the streets in the hope that the smoke would drive germs away. After the fever struck Montgomery, neighboring counties posted armed guards at the county lines to prevent anyone from leaving the county.

The *Democrat* reported on August 14, two weeks later: “The Yellow Fever prevails in malignant form in New Orleans and at Grenada, Mississippi and both places have been dreadfully scourged. Memphis and Mobile have established quarantines. In Grenada hundreds have taken it including the Mayor. There is great panic in Memphis and thousands have fled. Some of them have come to Huntsville and many more are expected. There is talk of establishing a quarantine in Huntsville.”

On the same day, the *Advocate* wrote: “Yellow fever has made its appearance in New Orleans. We do not expect it here but every property holder should proceed to organize himself into a committee of one to see that his premises are free from garbage and filth of all kinds. Forewarned is forearmed.” Another report said: “The prevalence of yellow fever in New Orleans is attributed to the coming of fruit vessels to the city with clearance papers made out from an uninfected port, while they are known to have touched at infected ports in transit. In these precarious times it would be better to disinfect every vessel coming from Cuban, Mexican or South American ports with carbolic acid, even if her papers indicate that she is all right. The risk is too great.”

The *Democrat* reported on August 21: “This plague is raging at New Orleans, Vicksburg, Grenada, Canton, and Memphis. We hear reports of it appearing at Leighton and Chattanooga, but doubt their truth because similar reports have existed as to Huntsville and they are entirely without foundation. The panic in the fever-stricken districts has been awful and the stampede general. A family, coming from Mobile, was not permitted to stop at Decatur on Sunday last, and they went to Athens and came through by private conveyance to Huntsville.”

The *Advocate* reported on the same day: “Hundreds of the people from the low lands of Mississippi are fleeing to the mountains of North Alabama. Our city will be crowded before another week. Our officials are on alert to prevent the introduction of the fever.” And, “The New Orleans board of health has adopted a resolution declaring the mode of quarantine adopted by Mobile is unnecessarily harsh and the request is made that Mobile authorities permit the passage of through freight and passenger trains after being fumigated.”

A writer from the *New Orleans Times* stated: “The extraordinary haste made by many surrounding towns, little and big, to quarantine against New Orleans,

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thereby subjecting their own citizens as well as ours to great and unnecessary inconvenience, is a striking illustration of the recklessness and selfishness of frightened humanity. This irrational panic appears to be a studied effort to make their so-called precautions as irritating and injurious as possible." Another news item reported: "The Memphis board of health will keep no secrets, but will announce every case of yellow fever appearing." After a long discussion of the appearance and treatment of a patient, the paper reported: "As to the cure, no remedy has yet been found, and all treatment so far, even by the best physicians, is as empirical as the causes of yellow fever are unknown beyond conjecture." Another article stated: "As to the causes of the scourge, the old atmospheric theory has gone by the board, and the best writers seem to believe the poison is of animalcular origin, these animalcules generating and spreading over surfaces like grasshoppers and caterpillars, and being introduced into the human blood. If they exist the most powerful microscope has been unable to discover them. One fact that seems to point to their existence is that the same extremes of heat and cold that kill all other insects also kills yellow fever, whose contagion cannot exist and becomes innocuous at 32 degrees and 212 degrees. Yellow fever is always killed out after a good freeze and never spreads above 600 feet about the level of the sea. Acclimatization does not prevent and no person has a second attack."

From these newspaper reports, the reader can sense the terror and threat of the unknown. Every responsible person had to decide on the measures he and his family would take to avoid this disease. The always-asked question was, "What is the truth?" Yet life went on. The candidates in the race for the congressional seat were given much more space in the papers and letters from readers never were about sickness but reflected the strong feelings between the two political parties. Reconstruction (declared officially ended by the new President Hayes) was still progressing slowly thirteen years after the war ended. The Democrats, including General Joe Wheeler, strongly supported Colonel William Willis Garth. The Republican Party, including many Negro citizens, loudly held for Colonel William H. Lowe.

On August 28th, the *Advocate* reported: "The scourge is spreading rapidly over a wide section of the country. The fever seems to be abating somewhat in Memphis. The Negroes are stampeding from Granada leaving the stricken with no one to pass a drink of water or wait upon them but a handful of nurses. It beggars all description. Total deaths over 80 and increasing rapidly. Two nurses are down and the survivors are in great stress. New York and Brooklyn have had cases. Nashville refuses to quarantine. Louisville opens her gates to all afflicted districts."

That same day the *Democrat* wrote: "Yesterday Dr. Dement received a telegram from Memphis, asking if the Huntsville city authorities would receive and take care of 40 children of the Memphis Orphans' Home till November." Three doctors, of the Board of Health, suggested to the mayor: "In view of the contingency of yellow fever cases appearing here, to provide a hospital there would be no danger in admitting the orphans in the city after 14 days quarantine two miles outside of the city limits and rigidly enforcing the sanitary laws." "The Mayor and Aldermen met and appointed a Health Committee to select a hospital.

They telegraphed Memphis the orphans should be provided with quarters for 14 days outside the city limits and then be located at the Donegan House if desired.” The home of James J. Donegan, a brilliant and wealthy entrepreneur, then sat empty on the lot of the present-day Annie Merts Center, the office of the Huntsville School Board. Approximately 30 people, family, guests and servants, had once occupied the very large home until the illness of the owner. Huntsville had no real hospital at the time. A committee of ladies appointed to solicit subscriptions for the orphans met at the Huntsville Hotel. After the meeting, a telegram from Memphis was received stating that the orphans would not be sent.

The paper also reported: “A lewd woman from Memphis reached Huntsville last night, went to a bawdy house in Pin Hook, took sick, and the case is pronounced yellow fever. It has created no panic, and our physicians apprehend little or no spread of the disease. Its prevalence depends more on altitude than latitude. It has extended no higher than Memphis about 272 feet above sea level, except once at Fort Smith, Arkansas, 460 feet. Huntsville is 612 feet at the R. R. depot and 690 on the square by official measurement. Our city authorities have fenced in the yellow fever case in Pin Hook and forbid communication with the house where it exists.”

No one knew the real cause of the epidemic. Medical doctors, who were on the scene, tried diligently to compare symptoms and treatment methods and results, but often were way off the trail. A New Orleans physician wrote: “Only ten per cent of fatal cases of yellow fever are the direct results of the disease. Fifty per cent are the results of improvidence in eating. When the fever has been checked, twenty per cent from improper treatment, and five per cent resulting from not taking the remedies in time.”

From the *Memphis Avalanche* on August 27th: “Dr. Alex Erskine was taken with fever yesterday. His fever was reduced last night and Dr. John Erskine hopes the attack will not prove yellow fever.” Several Huntsville doctors traveled to the areas where their help was badly needed. It took real courage to face the uncertainty of this horrible and unknown threat.

The *Weekly Democrat* on September 4 published a story entitled **The Scourge in Mississippi**: “Leaving Huntsville at one o’clock, I arrived in Grand Junction at 10. One lady had died there a few days before but no cases were there then. An acquaintance of mine had poured carbolic acid in his hat, in the first fever excitement, put the hat on and the acid trickled all down his face. It took the skin off until he resembled a peeled onion. Passing Grenada at night the car windows are tightly fastened, the doors closed, and the train moved at 20 miles an hour. A brave operator sat in the telegraph office to tell the world the tale of pestilence and death. I spoke with Dr. Mauderville of New Orleans who was returning home from Memphis. He said it was the most malignant type of fever he has ever had to contend with. Five deaths occurred in Grenada today. Judge R. Watson, U. S. District Attorney for Northern Mississippi and a very prominent Republican politician is down with the fever today. In Canton it is not so bad. Nearly everybody left town. Six new cases and two deaths reported there today. The first fatal case was Dr. McKie who contracted the disease from a patient he was attending. There are 500 cases at Vicksburg with 25 deaths in the past 24

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hours. *The New York Herald* has a reporter at Water Valley. *The New York Times* sent a man but he became alarmed and fled. Signed, H. G. C.”

The few cases in Huntsville were all refugees from other areas. Three from Memphis were spoken of in an article from the *Advocate*: “A poor soiled dove, Ida Edwards, died of Yellow fever in a Pinhook bagnio (bath house). She came from Memphis and Dr. Goldman did his utmost, but the poor creature, deserted by her late companions passed away with all her sins upon her. Frank Engering from Memphis, came on Friday and died early this morning. Dr. Erskine paid him every attention, but the disease could not be controlled. John Fifer, a printer from Memphis who was raised here and learned his trade here, came Friday. He had lost a brother by the fever in Memphis and had nursed him during his illness. He was taken down Sunday and is resting easy.” It continued, “There is little fear of the disease spreading. The ablest physicians of this country and Europe are of the opinion that it is not contagious. Keep cool, stay calm, do not listen to nor circulate idle rumors. There is nothing to fear.”

Staying calm came in several forms. *The Advocate* on September 11th wrote: “It is said that one of the best ways to thoroughly fumigate a house is the use of sulphur, this placed in an iron vessel and alcohol poured over it. The alcohol is set on fire then the sulphur ignites and thus sulphurous acid gas will be generated and will penetrate every crevice, hall, room, cellar and attic. Every germ of disease will be destroyed and perfect freedom from infection insured.”

Another page told: “Only one death from the fever among the hundreds of refugees who have come among us. A child, Paulina Solomon, was brought here by her parents from Brownsville, Tennessee. She was sick but a short time then died. Mrs. John Brodie, who came from Memphis and was eleven miles out in the county, died last Wednesday. These cases have given it a good test and it has not attacked any of our citizens.”

The Democrat reported on September 11: “Two new cases of persons from Memphis have occurred. Miss Birdie Holt, sister of our clever Express agent, and Mary Eliza Turner. Miss Holt was attacked after 13 days absence from Memphis and Mary Eliza after only a few days.”

Again and again we realize the readers of these papers had no understanding of the real cause of the fever. *The Advocate* told a story placed in Tuscaloosa: “Two refugees from Vicksburg had the fever last week. One died and one recovered. Both were boys and they were quite imprudent in walking one and a half miles, in the sun, to the University bathhouse and bathing in the cold water. The seeds of the disease might have been expelled without development in this anti-malarious locality, had the boys been more prudent.”

A *Democrat* obituary appeared on September 11: “In the Big Cove in this county. On Sept. 7, 1878, of convulsions. Mamie, infant child of the late Fred Schaudies, Jr., aged 3 months. She was brought sick from Memphis and the Schaudies, Sr., her grandparents, took the little innocent to the country and camping out, nursed it till its death, fearing it might have yellow fever.” A list of four more deaths pointed out they all had come from Memphis.

On September 25, the *Advocate* reported: “Dr. John Erskine, who left

Huntsville and located in Memphis after the war, died of yellow fever in that city Tuesday morning. A noble man has fallen. He was President of the Board of Health of Memphis and labored for poor stricken humanity with no hope of reward." Many doctors and nurses were lost to the disease in 1878. Also, "All our convalescents, Mr. Fifer, Miss Birdie Holt, and Mary Eliza Turner are doing finely. There are no new cases."

The October 9 issue of the *Democrat* reported: "The fever seems to be abating in New Orleans, Memphis and most other cities and towns. Tuscumbia reports two cases and the people have stampeded. The Memphis and Charlestown railroad shop hands have come to Huntsville. Florence reported 23 deaths in the last 30 days, all confined to a small area around a brickyard pond. Decatur has had 40 to 60 cases, most comparatively mild with only 6 to 8 deaths. Doctors Dement, Lowry and Clopton have been there."

The October 16th *Democrat* gave a scorecard of other cities. Decatur had 15 sick, 3 deaths, total cases 117; Chattanooga had 26 new cases, 22 deaths; Memphis had 100 new cases, 39 deaths; Tuscumbia had 2 new cases, no deaths; Vicksburg had 28 deaths in the last 24 hours, new cases 183; total cases to date 11,720, deaths 3,519; Athens, original yellow fever here, people vamoosing; Huntsville, no resident cases to date. It is impossible to make all these numbers add up. Excited reporting, fear for community and maybe a bit of stretching the story made for inaccurate totals.

The end appeared on October 23rd when *The Advocate* wrote: "Jack Frost gave Bronze John a black eye last Saturday morning. Let's hope it was a settler." On October 30, *The Democrat* wrote: "Jack Frost has met and conquered Yellow Jack. All along the line the Boards of Health pronounce him dead and invite refugees to return home."

Still the biggest headlines were reserved for politics. *The Advocate's* headline on November 6 was not about the end of the terrible epidemic: "VICTORY, Hallelujah, 'Tis Done. The People Triumphant. The election of Col. Lowe will reach 2,000 majority. Col William M. Lowe is our next congressman."

It took time for the average person to realize the full extent of the epidemic. The report of the Fever Commission appeared in the November 27 issue of the *Weekly Democrat*. The important and nationally known group reported a sufficient amount of evidence had been taken to state the first case was brought to New Orleans in June by conveyances unknown. Among the conclusions were, nearly all inland towns in the United States were guilty of neglecting drainage, deposits of fetid and refuse animal and vegetable matter, and were inattentive to the purity of drinking water. The transmission of the disease was due to human contact. In some cases the poison was carried in clothing or about the persons going from infected districts or in such forms as cotton bagging or other goods. The weight of testimony was very pronounced against the further use of disinfectants. Personal prophylaxis, drugs or other means, was proven a constant failure. And quarantine, effectively provided, protected its subjects from attacks of yellow fever.

Many cities reacted like Memphis in the next year and with good public health leadership, worked to remove sewage effectively and drain the wet areas

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and low ground. About 12 more years passed before the mystery was solved. Dr. Walter Reed and his selfless workers provided the exact procedures to avoid another epidemic. Although yellow fever still appears in some remote countries occasionally, no large populations ever suffered the deadly summer like this country in 1878. The citizens had provided care for refugees, their families, and the economy was not destroyed as in some other areas. Huntsville was very lucky.

Author David Byers is a Huntsville native and graduate of Alabama Polytechnic Institute. He is a 4th generation retired wholesale nurseryman. Mr. Byers is the author of the book "Crapemyrtle, A Grower's Thoughts" and has written numerous articles on Huntsville history.

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