## An American Plague: The True and Terrifying Story of the Yellow Fever Epidemic of 1793 Study Guide

An American Plague: The True and Terrifying Story of the Yellow Fever Epidemic of 1793 by Jim Murphy

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## **Plot Summary**

An American Plague - The True and Terrifying Story of the Yellow Fever Epidemic of 1793 by Jim Murphy provides a historic account of the devastation brought on by the relentless, invisible plague that literally brought Philadelphia and the federal government to its knees. The first known case of an illness that was accompanied by high fever and severe vomiting was that of a young French soldier who was staying in a boarding home. The young man, whose name is lost in history, lasted only a few days after he became ill. Not much attention was paid to his death. Only when several other boarders in the same building showed the same symptoms and eventual died themselves did anyone take much note.

However, in the intervening days when doctors began to notice a sharp increase of patients seeking treatment for fevers, aching muscles and severe vomiting, it begin to dawn on them that they may be facing an epidemic. Dr. Benjamin Rush, a respected Philadelphia physician who had dealt with yellow fever in the city in the 1760s, was the first to voice his suspicions that the rapidly spreading disease may in fact be yellow fever. Other doctors, experts and officials were reluctant to agree that the disease may have been yellow fever because the words alone could cause near panic.

The doctors, who did not know about the existence of viruses and bacteria at the time, blamed the disease on such specious theories that the smell from a cargo of coffee that had been dumped on the wharf and had become rancid was causing the sickness. It was generating such an odor that some of the doctors felt that it violated the basic belief at the time that good health depended on balance and that an outside element such as a foul odor could cause an unhealthy imbalance.

Philadelphia was the capital of the nation and President George Washington was headquartered there. Washington was preoccupied with the French government at the time. They were allies in the Revolutionary War and were asking for help from the US in carrying out their own revolution. Washington knew that the US didn't have sufficient forces to combat the European armies and issued a Proclamation of Neutrality, which angered the French as well as many Americans. When the epidemic could no longer be ignored, Washington, many of the country's leaders and Pennsylvania's governor, left town to escape the disease. The city was left in the hands of Mayor Matthew Clarkson, who felt duty-bound to stay. Washington's departure inadvertently caused the first Constitutional crises since he was disallowed from convening Congress in any location other than Philadelphia.

The mayor did everything he could to combat the plague. He had debris and dead animals cleared off the streets, made sure all dead bodies were removed from homes or off the streets and buried, issued the best advice available for avoiding the disease and called a meeting of the College of Physicians to develop a strategy to fight the menace. The doctors bickered about what caused the epidemic and how to treat it. As time went on, many doctors and health care workers along with government officials left town while the number of sick and dying only increased. The mayor called on the New African



Society to supply volunteers to help the sick, particularly the poor who had no means of paying for medical attention.

By late October when the weather began to turn cold, the epidemic was on the wane. People began to return to town, more people ventured out on the streets and previously closed shops began to open. The yellow fever returned again to Philadelphia and to other large cities and occurred in many other countries around the world. The subsequent outbreaks were not as devastating due the experience gained from the 1793 plague. Many years later, it was learned that mosquitoes were the carriers of yellow fever and that tree-living monkeys in Africa and South America were the source of the virus. There is a vaccine against yellow fever but there is no cure.



### **Chapter One: No One Noticed**

#### **Chapter One: No One Noticed Summary and Analysis**

Saturday, August 3, 1793. A heat wave was hitting Philadelphia. The marshes and swamps south of the city were evaporating. The Delaware and Schuylkill Rivers were receding, revealing dead fish and rotting plant life, which were drawing swarms of insects. In the city streets, the many cats that died of heat exposure were drawing flies and mosquitoes. Dead animals were thrown into "sinks" that were dug in place of regular sewers.

Cargo was being loaded onto ships on the Delaware bound for New York and Boston. The sloop Amelia from Santo Domingo had dumped a shipment of spoiled coffee on Ball's Wharf, where it putrefied in the sun and created a stench that emanated throughout the community. Despite the odor, the streets were crowded with shoppers and vendors—glad to be outside in the open air where they could escape the heat of their enclosed houses. The open-air market was creating odors from roasting meats, cheeses, innards and horse manure that competed with the rancid coffee.

Just a block from the market was the home of wealthy manufacturer, Robert Morris, who had used some of his fortune to finance the Revolutionary War. At the time, he was allowing George and Martha Washington to use his residence. Washington had just become the country's first president and Philadelphia was named its first capital. Washington was consumed with foreign affairs. The French had helped the Continental troops defeat the British. In 1789, France erupted in revolution. France naturally turned to America for help, but Washington hesitated. He knew that America did not have the forces to defeat European nations waging war against France.

Many thought that Washington's Proclamation of Neutrality betrayed their closest ally. Thomas Jefferson, who was Washington's Secretary of State, argued that America was obliged to support France because its struggle for liberty was similar to their own. The situation worsened when France's new minister, Edmond Charles Genet, hired privateers to attack British ships coming to America's shores. Washington refused to supply military support even though many Americans saw Genet as a hero. Rallies to support the recent influx of French refuges were held in front of Washington's residence. Some threatened to drag Washington out in the streets if he refused to support the French Revolution.

Some Philadelphia residents were worried about the large supply of caged pigeons that were for sale at the market, feeling that the birds would bring on disease. Doctors had been seeing an increase of illnesses during the oppressive hot spell. The Reverend J. Henry C. Helmuth of the Lutheran church felt that it was the souls of the Philadelphians that were deteriorating as illustrated by the increase of drinking and gambling.



On that Saturday, a French sailor, his name lost in history, became desperately ill with a fever. His condition worsened into violent seizures and finally death. Soon after, residents at the boarding house where he lived suffered the same fate. Not much attention was given to these initial deaths and life carried on as usual in Philadelphia.



## **Chapter Two: All Was Not Right**

## Chapter Two: All Was Not Right Summary and Analysis

Monday, August 19. Two doctors were called on to try to save thirty-three-year-old Catherine LeMaigre, who was very ill and fading rapidly. The woman's condition continued to worsen. She spewed black vomit and her skin turned a pale yellow. The doctors called in Dr. Benjamin Rush, who had studied with America's foremost doctor, John Redman. The three doctors discussed the patient's condition, Rush noting that there had recently been an unusual number of patients with the same symptoms chills, headaches and muscle pains, followed by a high fever and constipation. The fever would subside for a short period then shoot back up again. As the fever destroyed red blood sells, the skin would turn yellow. As intestines began to fail, the patients would vomit blood that had turned black. Depression and delirium followed, along with a rash that resembled mosquito bites. Dr. Rush was intimately familiar with the disease, as he had recently lost a young daughter who had the same symptoms.

One of the doctors, Hugh Hodge, attributed the onset of the disease to the rancid coffee. The medical field at the time did not know about the existence of viruses and bacteria and based the causal effects of disease on the Greek humoral concept, which theorized that good health depended on the balance of body elements. Thus, placing the blame for the recent illnesses on the horrid smell from the wharf made sense to the doctors. However, Dr. Rush thought there was more involved and compared it to the yellow fever that had struck the city in 1762. Dr. Rush didn't make the charge lightly as the words "yellow fever" would cause panic in the streets. Yellow fever was known to kill fifty percent of its victims.

Dr. Rush was convinced that his diagnosis was correct. He began to spread the word to his friends and neighbors, other doctors and the city's mayor, advising everyone to leave the city. Many of the city's doctors thought Rush was wrong, attributing the spreading illness to other, less devastating diseases. Catherine LeMaigre died on Tuesday, and on Wednesday, twelve more died and on Thursday, thirteen more patients with the same symptoms died. On Thursday, the mayor placed a warning in the newspaper about the spreading menace. He ordered the city streets to be cleared of all dead animals and decaying garbage. Despite the efforts of the mayor and the governor to control the disease, seventeen more died on Saturday. Along with the disease, fear was beginning to spread. The tolling church bells became a constant reminder of the spreading malignancy.



## **Chapter Three: Church Bells Tolling**

## Chapter Three: Church Bells Tolling Summary and Analysis

Sunday, August 25. An exodus from the city had begun on fears of the spreading illness. The scavengers cleaned up the streets but it took longer than expected because many of these men had fled the city. Every toll of the church bells sent more people scrambling to get out of Philadelphia. Historians estimate that as many as 20,000 people of the city's 51,000 population left town during the plague. It was mainly the poor who didn't have money or options who stayed behind.

One wealthy person who stayed behind was Mayor Matthew Clarkson. The mayor was sixty years old and had nine children he was still raising. His position was mainly honorary and included no real power to enact laws. The yellow fever had taken his wife and youngest child. But Clarkson felt duty-bound to stay in the city. Clarkson asked the College of Physicians to meet in an effort to develop a strategy to combat the dangerous illness. Only sixteen of the twenty-six physicians showed up for the meeting. The College was divided into two camps. Benjamin Rush and his followers declared that the illness was yellow fever which had been caused by the foul-smelling, stagnant air in the city. This group felt that the disease could be somewhat controlled by cleaning up the city.

Dr. William Currie and his camp didn't believe that yellow fever was infecting the city. He spoke with some authority, as he had done extensive research on yellow fever for the two books he had written on the disease. He theorized that the disease had come from the West Indies via a recent shipment from Santo Domingo. The only way the disease could be controlled, in his view, was to quarantine the sick. Rush was miffed that the other doctors didn't defer to him. After all, Currie only studied the disease—Rush had dealt with it firsthand in 1762. As the weeks wore on and more people came down with the illness, the chasm between the doctors widened. The doctors issued a common sense list of ways to avoid the sickness, including cleaning up the city, setting up special hospital facilities for the sick, disposing of the clothing of the sick and limiting activities and alcoholic intake. One recommendation scared everyone—stay away from those inflicted with the disease.

Some citizens ate garlic or smoked cigars (even women and children) to ward off the illness. Schools and stores began to close down. Some citizens shot rifles into the air to "clear the air" with gun powder. People stayed indoors, scrubbing the floors and walls on a daily basis. One family cooked their pet birds for dinner so they didn't have to go to the market. Another man suggested sprinkling a special mixture of vinegar around when venturing outside. Snake oil salesmen had remedies for sale. Despite all efforts, deaths from the illness continued to multiply by the scores. Upon the recommendation of the College of Physicians, the mayor ordered that the church bells no longer be tolled to mark a new death.



# Chapter Four: Confusion, Distress, and Utter Desolation

## Chapter Four: Confusion, Distress, and Utter Desolation Summary and Analysis

Friday, August 30. The city echoed with the blasts of a militia's cannon. On orders of the governor and mayor, the cannon was being rolled through the streets and was fired every several yards to cleanse the air. The fear and panic spread to the state legislature that had assembled to meet. An aid who lived in the state house died there of the infection. The spread of the illness had now struck home to the state's senators and representatives. When asked by the legislature what they could do to protect themselves, Dr. Rush reiterated his stern advice to avoid contact with the ill. The legislature held a hasty meeting and passed a few quick resolutions—a quarantine act and improvements for the public health office—and adjourned. They turned over their powers to the governor.

The governor ordered the mayor to halt all shipments from the West Indies for inspection. He also ordered him to do everything possible to remove the cause of the illness—but he didn't tell him how. The governor headed out of town and the only official left in the state government was the mayor, who showed up every day at city hall to assess the situation. The problems mounted for the mayor. No one was available to inspect incoming ships, and bodies of the dead were dumped off at the potter's field, but no gravediggers were available to bury them.

The majority of people left in the city were the poor, who had no sources of income and could not pay for doctors or medicine if they became ill. Some were jammed into charity homes or hospitals, but most wandered the streets with no one to care for them. Farmers were afraid to come into the city and therefore food was scarce. The mayor feared the wandering poor were spreading the disease and asked for the intervention of the Overseers and Guardians of the Poor to tend to them and get them off the streets. The Overseers took a group of the poor and sick to Ricketts' Circus. The building housed a popular circus but was closed for the summer. The sick people were just dumped off there with no one to care for them. Some crawled out of the hot building and died on the streets—increasing the panic in the city. By the time the dead bodies were taken away, they were crawling with maggots.

The poor were then taken to a mansion commandeered by the Overseers. Conditions were not any better there. The people were jammed into the house and were seldom tended to by physicians busy with other patients. The attempt to help the poor was abandoned when officials who ran the Overseers left town. Forty-two people died on September 8th - whole families were being wiped out. A pregnant woman went into labor in the presence of her dead husband and dead children. A passerby helped her deliver her baby, but both mother and baby died a short while later. Alexander Hamilton,



Secretary of the Treasury, and his wife fell ill with the disease. The US Post Office closed down. Thomas Jefferson resigned his post because of Washington's neutrality stance and left for Virginia. On September 10, George and Martha Washington left for Mount Vernon. Washington kept delaying his return to Philadelphia on more news of the worsening epidemic. By departing from the Capital, Washington had set off the country's first Constitutional crisis. A meteorite struck Third Street two days after Washington left. The people took it for an omen of their impending doom.



### **Chapter Five: It Was Our Duty**

#### **Chapter Five: It Was Our Duty Summary and Analysis**

Thursday, September 5. The Free African Society met to determine whether they would try to help their struggling white neighbors during the epidemic. The Society was the first American group ever created by blacks for blacks. Dr. Rush had requested that their organization help tend to the sick, reminding them that they were blessed since they seemed to have a special resistance to the disease. That didn't turn out to be true. Some blacks from Africa and the West Indies had contracted yellow fever as children, survived and developed anti-bodies against it. However, most blacks did not have this immunity and suffered right along with the white residents. However, initially it seemed as though blacks were not falling ill with the fever.

Most blacks had been slaves or had suffered from discrimination in some measure. After Absalom Jones helped build the St. George Methodist Church, he was ordered to sit in the back of the church. Jones left the church and he and Richard Allen, a black pastor, established their own church. Now Jones and Allen were elders of The Free African Society and were being asked to help the very people who had mistreated them. It wasn't much of a decision—the men felt compelled to help in any way they could. The two men started visiting houses that very day—finding the dead, dying and sick and abandoned children.

The mayor was grateful for the help of the African Society. Volunteers from the Society were usually the first to arrive at the home of the sick. If the people could pay for their help, the volunteers might receive a dollar for their services. Often, they received nothing and stayed with the sick for hours and days. The demand increased for inhouse care and soon the rate rose to four to five dollars a day—quite a bit in the days when the average yearly income was \$200.

Soon word got around that the black nurses were gouging the sick. The mayor looked into a found the the black nurses were not inflating their costs; rather, the white people were outbidding each other and driving up costs. He issued an announcement in the paper proclaiming his full support of the African Society and asked that the sick people not outbid each other for their services. The African Society continued to provide help for the poor and sick people of Philadelphia. There were at least 300 black workers who were providing services.

Tending to those who were ill was not a pleasant experience. The vomit was black and the consistency of coffee grounds. The body secretions were offensive and emitted a terrible odor. Often the sick were hemorrhaging from different parts of their bodies. Those tending to the ill were putting themselves at risk. The inevitable finally happened —blacks started coming down with the disease and dying. The question loomed before the mayor: Who would take care of the sick now?



## **Chapter Six: The Prince of Bleeders**

## Chapter Six: The Prince of Bleeders Summary and Analysis

Thursday, September 12. Dr. Rush came down with yellow fever. He had become so fatigued from seeing over 100 patients a day that he had become vulnerable to the illness. Even though he was very ill, he continued to see patients. He was one of the last remaining physicians to care for the more than 6,000 yellow fever victims. As word spread of his condition, more fear and panic set in. He had recently announced he had a cure for the disease. If he died, the cure would die with him.

The traditional treatment for the illness included the ingestion of herbal tea to break the fever and a glass a brandy to bring on sleep. In more severe cases, vomiting was induced and bloodletting was practiced. Bloodletting was an ancient practice that involved making a small incision in a vein and withdrawing a small amount of blood. The theory was that the rest of the blood would flow more easily after the procedure was completed. Dr. Rush tried various techniques, including the application of different herbs and chemicals and vinegar wraps. Nothing seemed to be the answer, but Dr. Rush never gave up trying to find a remedy.

In order for the patients to expel the blood that was gathering in their intestines, Dr. Rush began giving them the "Ten-and-Ten", which consisted of giving the patient ten grains of mercury and ten grains of jalap (the poisonous root of a Mexican plant). Both substances were highly toxic and the body was compelled to work hard to expel them. He upped the dosage to "Fifteen-and-Ten" and claimed to be getting positive results. In one day alone, 29 of 30 patients survived after undergoing the treatment. Many doctors questioned Dr. Rush's claims and thought the treatment was dangerous because too much blood was being removed during the bloodletting and the patients were being plied with poison.

When Dr. Rush became very ill, he submitted to his own treatment. He had two associates administer the bloodletting and the vomit-inducing toxins to him. It was months before he regained his full strength, but five days after the treatment, he was back visiting patients. After his recovery, Dr. Rush was deluged with more demands for the cure than he could handle. He trained some of the African society volunteers to administer the treatment and even an eleven-year-old servant boy. Some viewed Dr. Rush's treatment as radical and he was dubbed the "Prince of Bleeders", but to many he was a hero and savior.



## **Chapter Seven: By Twelve Only**

## Chapter Seven: By Twelve Only Summary and Analysis

Saturday, September 14. The city was basically non-functional and near collapse. Most of the newspapers had suspended operations. The College of Physicians had stopped meeting. Taverns and markets were deserted or closed. Even the blacks of the Free Africa Society had been hit hard by the illness. To have some form of government, the mayor formed a committee to run the city. Though the committee began with twenty-six members, due to illness and departures, in the end there were only twelve. One of their first actions was to borrow \$37,647.19 to combat the plague.

Mayor Clarkson presided over the daily meetings of the committee. Each member was given an area of responsibility, which ranged from providing food for the city to carrying the sick away and insuring that the dead were buried. Committee member and tavern keeper Israel Israel stood out among his peers. He was in charge of helping those children orphaned by the plague. But he took on more than just his own responsibilities. He oversaw the harvesting of grain and headed the distribution center that handed out food, clothing and firewood. He also convinced charity houses to take in more of the poor and sick.

The most desperate situation was at the house at Bush Hill, a mansion taken over by the government to house sick people, particularly the poor who had no options. The four doctors assigned to attend to patients rarely showed up. When they did, their time was taken up with autopsies. The Overseers had fled the city and were not overseeing, so there was no one in charge. The black nurses did their best to keep up but they were overwhelmed. The mayor's committee was charged with assessing the needs for Bush Hill. Two committee members, Peter Helm, a barrel maker and Stephen Girard, a wealthy merchant, volunteered to manage the house. Helm was a religious man who, in addition to his spiritualism, brought kindness and a pristine work ethic into Bush Hill. Girard was a successful businessman who was extremely efficient and determined and who did not think the spreading illness was contagious, despite the fact that he contracted a mild case of yellow fever himself. Girard was in charge of inside operations and Helm managed outside chores.

By this time, over 60 people a day were dying in Philadelphia, and some of the very ill were taken to Bush Hill, which was jammed with as many as 140 very sick patients. To handle the increase, new facilities were built on the grounds. Helm and Girard stayed committed but knew they needed a full-time physician on site. They hired Dr. Jean Deveze, who did not ascribe to Dr. Rush's treatment and agreed with Girard that the disease was not contagious. Dr. Deveze's treatments were conservative and cautious in nature. Bush Hill's reputation grew as conditions improved. Patients actually requested being placed there.



The plague raged on. By September 17th, there were eighty burials a day. Cities such as Trenton, New Jersey, issued a resolution barring anyone from Philadelphia to enter their city. Winchester, VA, disallowed any packages or cargo to be delivered from Philadelphia. A woman traveling from Philadelphia to Milford, DE, was tarred and feathered and run out of town. Other cities were more charitable, sending food and donations to Philadelphia.



## **Chapter Eight: this Unmerciful Enemy**

## Chapter Eight: this Unmerciful Enemy Summary and Analysis

Saturday, October 12. Conditions were worsening. Even Dr. Rush understood that Philadelphia was on the verge of total collapse. The week of October 7th saw another 283 deaths from the plague. The Reverend J. Henry C. Helmuth paid daily door-to-door visits to the sick and dying. On one block alone, he counted forty dead. The Reverend Helmuth would respond to the shrieks and calls of the dying. He was convinced that Philadelphia had brought on the plague. God had punished the city for a "merry, sinful summer" (p. 80).

No matter what precautions people took, the infection spread. One man lost his wife and three children and a grandchild. He married again, and lost his second wife to the disease. The man succumbed himself a short while later. Crime was up and rioting broke out. Medications were stolen from apothecary shops and food was stolen from farmers. The committee helped evicted citizens who couldn't pay their rent with small donations to see them through. Dr. Rush was infected for the second time but did not recover as quickly as in his earlier bout. Word came that the epidemic had spread to the suburban areas around the city. Trying to lighten the mood, Philip Freneau of the National Gazette refused to publish obituaries and ran satirical articles about the exodus from the city and the harsh attitude of other cities toward Philadelphia.



## **Chapter Nine: A Delicate Situation**

## Chapter Nine: A Delicate Situation Summary and Analysis

When President Washington left the city, Secretary of War Henry Knox was in charge of the government. But Knox soon fled to Elizabethtown, New Jersey, where he was forced to stay quarantined for several weeks. Other federal heads were struggling to keep their departments functioning. Washington was only getting infrequent and vague updates about the situation in Philadelphia and only a few official documents made their way to him. Government officials could not agree whether or not it was legal for Washington to call Congress to session outside Philadelphia. Thomas Jefferson and James Madison feared the government could devolve into a parliamentary government under a monarch-like figure such as in England. Attorney General Edmund Randolph agreed with Jefferson and Madison.

As the autumn deepened toward winter, the epidemic seemed to be on the decline. The number of deaths had dramatically decreased. But just as quickly, the disease took a deathly grasp on the city again when unexpected warm weather returned late in October. Washington was advised to stay away from the city and to hold off on convening Congress. Washington was disturbed by the news—he had basically been "out of touch" for six weeks. But duty called and on October 28, Washington traveled to Germantown, just outside Philadelphia. Washington had elegant accommodations at a wealthy friend's home. Jefferson, Monroe and Madison all traveled to Germantown as well. But accommodations were difficult to come by and the three future presidents were forced to stay at a tavern with Monroe and Madison reduced to sleeping on wooden benches.

The returning officials did begin to see a steady decline in the spread of the illness. More people were seen on the streets and more shops were opening for business. Residents began to return to the city. The city was cleaner than when they had left and the streets had been cleared of debris and dead animals. A small number of returning residents contracted the fever and died. Those returning were warned to clean their homes thoroughly and whitewash every room. Well into December, people were still contracting the disease and dying from it, although in smaller numbers.

Early in November, Washington rode by horseback the five miles from Germantown to Philadelphia. He wanted to see the condition of the city for himself. After riding up and down the streets, he decided that the city was healthy enough to convene Congress in December. The town began to recover in earnest. After the epidemic, Dr. Rush had suffered a decline in health and was in deep sorrow over the many friends and patients he had lost. Although no official records were kept, it is estimated that between four and five thousand men, women and children perished from the yellow fever in Philadelphia in 1973.



# Chapter Ten: Improvements and the Public Gratitude

#### Chapter Ten: Improvements and the Public Gratitude Summary and Analysis

Wednesday, January 8, 1774. There was a prevailing sentiment to forget about the epidemic and to get back to business as usual. Those who had abandoned the city were the biggest proponents of putting the past behind them. In their embarrassment for leaving when things got tough, they pushed the message that most of those who died were foreign-born or strangers. Dolley Payne Todd lost her husband to the fever. She survived with her two-year-old son and later married James Madison, a congressman from Virginia, who went on to become President.

To avoid a future Constitutional crisis in the event of another epidemic or natural disaster, Congress passed a law that would allow the President to a convene the Congress at a location other than the capital. Laws also were passed that required shop owners to clear their trash and debris from the streets and that required homeowners to keep their property clean. These laws eventually led to public health codes when the link between filth and disease had become more apparent. Although the officials knew that sewers were important for good public health, the government coffers had been drained and there was not enough money for such an expensive undertaking. In the summers to come, when the fever struck the city again, large tent encampments were erected for the poor along the Schuylkill River.

The biggest improvement after the epidemic waned was the the way in which water was supplied to the city. In 1793, water for drinking and cooking came from backyard wells or directly from the Delaware—neither of which was clean. In 1799, a new water system was designed for the city. It was the first water system in the United States. When the fever returned in subsequent summers, Washington moved his household back to the large house in Germantown. It was considered the first summer white house.

After the epidemic, Washington's "French" problem went away. Genet was no longer idolized by Americans, who had become more concerned with surviving the epidemic than supporting the French Revolution. The governor asked the College of Physicians to write a full report about the epidemic. The doctors bickered, but those who felt the disease had been imported won out because there were more of them. The governor was happy with the report, which concluded that yellow fever did not originate in Philadelphia or naturally exist anywhere in the US. Rush disagreed with the report and, in anger, resigned from the College. The report didn't settle the matter as the debate among doctors carried on. The controversy was renewed when the fever broke out again in 1794, 1796, 1797 and 1798. Rush treated his patients with his cure during the outbreaks. Rush's treatment methods were directly attacked by English journalist William Cobbett. Ultimately Rush filed and won a civil lawsuit against Cobbett.



Some religious figures in the city wanted to keep the plague at the forefront of discourse. They felt it was a warning from God that should serve to humble the people. The committee formed by the mayor was praised for their work during the epidemic. Money the committee spent not covered by donations was repaid by the committee members themselves. Israel Israel ran and won a seat in the state legislature in 1797.

The black nurses were vilified in a book by Matthew Carey that became a bestseller: "A Short Account of the Malignant Fever." Carey claimed that the black nurses extorted high prices from the sick and looted the homes of their patients. He gave them no credit for the care they had given the sick when everyone else had abandoned them. Carey did give praise to Absalom Jones and Richard Allen for their services. Jones and Allen were upset and responded with their own book, in which they described the anger that Carey's book had caused among the black community. Jones and Allen defended the black nurses and described their tireless efforts on behalf of the sick people. They provided examples of how white nurses had gouged patients and stolen from them. Carey added the information about the abuse by some white nurses of patients but did not retract any of his comments about the black nurses.



## Chapter Eleven: A Modern-Day Time Bomb

## Chapter Eleven: A Modern-Day Time Bomb Summary and Analysis

September 1, 1858. Yellow fever epidemics had struck Manhattan and surrounding areas during the early to mid 1700s and then every year from 1791 through 1821. After a gap of thirty-seven years, it struck again. The medical experts in New York knew little more than the doctors did in Philadelphia in 1793. However, New York had established stricter quarantine regulations for the sick. Just as in Philadelphia, most New Yorkers looked at the disease as imported from a foreign country. New Yorkers blamed the Irish for the disease.

The Quarantine Hospital in New York was considered the country's foremost facility for treating yellow fever. It was praised for its attention to hygiene and general cleanliness. A gang of masked vigilantes attacked the hospital on September 1, 1858. The mob pulled the sick from their beds and dragged them out onto the sidewalks then set the hospital on fire. It was fear that had driven the angry people to take such actions—they felt such a facility didn't belong in New York. Yellow fever hit other large cities in the 1800s including Baltimore, Boston, Memphis and New Orleans.

Yellow fever epidemics spread in other countries. In 1801, Napoleon sent soldiers and sailors to take over Haiti. He gave up his plan to establish an empire in the New World when 26,000 of his men died from yellow fever. The disease also struck South America, Europe, Russia and West Africa. Despite its wide spread, the source of the disease remained a mystery. Dr. Josiah Nott in 1848 noticed that when the swamps were drained to kill off mosquitoes, yellow fever breakouts declined. Many felt that the idea of a tiny mosquito being able to kill a human was preposterous. Dr. Carlos Finlay did some experimentation with mosquitoes based on Nott's work, with some positive results.

Louis Pasteur and Robert Koch isolated bacteria that were linked to specific diseases in the 1880s. In the 1890s, Friedrich Loffler and Paul Frosch discovered disease-causing viruses. None of the viruses or bacteria were linked to yellow fever, but the concept that organisms too small for the eye to see could cause disease was established. In 1898, scientists discovered that the mosquito carried the malaria parasite and could infect humans with it. Dr. Jesse Lazear was a member of the 1900 US Army Yellow Fever Commission. He concluded that a mosquito could be a carrier of yellow fever. A colleague testing the theory contracted yellow fever and died. Dr. Lazear himself became infected with yellow fever from a mosquito bite and died on September 25, 1900.

Walter Reed, who headed the Army's Commission, was at first skeptical about the yellow fever/mosquito connection. But after conducting some experiments himself, he



was convinced that mosquitoes were indeed the carriers of yellow fever. Other scientists around the world began to confirm the findings of the US Army Yellow Fever Commission. The sources of yellow fever (tree dwelling monkeys in African and American rain forests) were identified in 1929. An effective vaccine was developed in 1937. It took twelve days for the yellow fever virus to travel through the mosquito's blood system to its salivary glands, after which it could infect humans with the disease.

Anti-breeding campaigns were launched in many countries, including the US. Along with destroying breeding areas, especially wells and cisterns containing still water, adult mosquito populations were killed off with the pesticide DDT. By 1962, twenty-one countries were declared free of the mosquitoes that carried yellow fever. In the US, there was concern about the health risk to humans from the DDT. Ultimately, the DDT caused a "supermosquito" to evolve—one that was resistant to the pesticide and could infect people with yellow fever.

Yellow fever exists anywhere the tree-monkeys live, and so do the mosquitoes that are resistant to the pesticides and can carry it and infect people. In the US, no yellow fever vaccine has been produced in recent years. If there was an outbreak in a US city, it would take months to produce an adequate supply of vaccine and thousands would perish. Once an epidemic struck in the US, it would just be a matter of time before it spread to other countries. There is no cure for yellow fever, but modern doctors can control its spread by taking precautions and issuing warnings. Scientists are still working on an effective cure.





#### Dr. Benjamin Rush

At the time of the 1793 yellow fever epidemic in Philadelphia, Dr. Benjamin Rush was one of the city's most respected physicians. Before the spreading disease was identified, Dr. Rush was consulted on the case of thirty-three-year-old Catherine LeMaigre, who was very ill and fading rapidly. Dr. Benjamin Rush became suspicious when he noted the young woman's slightly yellow skin, extremely high fever and black vomit. He had battled another yellow fever epidemic in the city in the 1760s.

As more patients came to him exhibiting the same symptoms, Dr. Rush grew more convinced the epidemic facing the city was indeed yellow fever. Although others were reluctant to voice that opinion because it would cause sheer panic, Dr. Rush faced it head-on and told officials and newspaper editors his opinion. He wanted to save people by educating them in ways they could prevent contracting the disease.

Dr. Rush developed what many other experts viewed as a radical treatment process, which included bloodletting and the "10-to-10" cure, which involved giving patients mercury and the root of a poisonous plant. These "medications" were given to the patients to induce vomiting but they were both highly toxic substances. When Dr. Rush met with other doctors at the College of Physicians to try to develop a strategy to fight the plague, half the doctors lined up with him and the other half against his theories and methods. He wound up resigning from the College and carrying on his treatment methods independently. Dr. Rush contracted yellow fever twice during the epidemic but recovered by submitting to his own treatment process. In both instances, he was soon out helping the sick and dying again. Dr. Benjamin Rush was a controversial figure but was idolized by many Philadelphians.

#### **Mayor Matthew Clarkson**

Matthew Clarkson was Mayor of Philadelphia when the city was stricken with the yellow fever epidemic of 1793. Philadelphia was the capital of the new country and its first President, George Washington, was headquartered there. When the epidemic began to grow and seemed an unbeatable menace, many government officials abandoned the city—including the President and many federal officials, including the Secretary of State and Pennsylvania's governor.

Mayor Clarkson, who had lost his wife and youngest child to the spreading disease, was wealthy, sixty years old, and still had nine other children to raise. Instead of following the example of other civic leaders, the mayor, feeling duty-bound, stayed on and dutifully went into his office every day to assess the growing crisis. Although his position as mayor did not give him much power, he none-the-less was quick to take action. He quickly placed a warning in the newspaper about the spreading menace and the ways in



which people could prevent contracting it. He ordered the city streets to be cleared of all dead animals and decaying garbage and saw to it that dead bodies were properly buried. Clarkson asked the College of Physicians, a body of the leading physicians in the city, to meet in an effort to develop a strategy to combat the dangerous illness.

Virtually alone in his battle to save the city, Mayor Clarkson was faced with one crisis after the other. He had ordered that incoming boats be inspected but the inspectors fled from the town. He asked the Overseers and Guardians of the Poor to help the poor people who were sick. But the Overseers merely dumped the sick poor off in unattended facilities and abandoned them. Mayor Clarkson recruited help from the Free African Society and defended the black nurses who were later accused of exploiting the tragedy and stealing from the sick.

The epidemic took an estimated 6,000 lives; however, without the efforts of Mayor Clarkson, the number would probably have been much higher. He is one of the true heroes of the 1793 yellow fever epidemic.

#### **President George Washington**

George Washington was America's first president in 1793 when the yellow fever plague hit Philadelphia, the country's capital. Washington was preoccupied with foreign affairs when the epidemic hit. He was "out of touch" for six weeks when he left town to avoid contracting the plague.

#### **Thomas Jefferson**

Thomas Jefferson was the Secretary of State when the yellow fever plague hit Philadelphia. He had a huge disagreement with Washington over the President's Proclamation of Neutrality. He left the plague-ridden city and returned to Virginia.

#### **Edmond Charles Genet**

Edmond Charles Genet was the French minister who came to America to halt British ships from coming ashore. He was a hero among many Americans who disagreed with Washington's refusal to get involved in the French Revolution.

#### The Reverend J. Henry C. Helmuth

The Reverend J. Henry C. Helmuth of the Lutheran church chose to believe that Philadelphia was being punished by God. He felt the epidemic was God's response to the increase of drinking and gambling by Philadelphians.



#### **Absalom Jones**

After black leader Absalom Jones helped build the St. George Methodist Church, he was ordered by white church leaders to sit in the back of the church. Jones left the church, and he and Richard Allen, a black pastor, established The Free African Society, which provided 300 volunteers to tend to the sick and poor during the epidemic.

#### **Catherine LeMaigre**

Dr. Benjamin Rush was convinced that yellow fever was the deadly disease spreading in Philadelphia in 1793 after the death of Catherine LeMaigre, a thirty-three old wife and mother.

#### **Matthew Carey**

After the epidemic subsided, Matthew Carey wrote a best-selling book titled, "A Short Account of the Malignant Fever". He created a controversy and anger among the black community by claiming that black nurses had stolen from white patients.

#### **Dr. William Currie**

Dr. William Currie opposed Dr. Rush's theory that yellow fever was the deadly disease that was spreading in Philadelphia. He had done extensive research on yellow fever for the two books he wrote on the disease. He theorized that the disease had come from a recent shipment from the West Indies.



## **Objects/Places**

#### Philadelphia

Philadelphia, Pennsylvania, was the nation's capital when a devastating yellow fever epidemic hit the city in 1793. It is estimated that some 6,000 men, women and children perished from the rapidly spreading plague.

#### The Delaware and Schuylkill Rivers

Philadelphia was located on the the Delaware and Schuylkill Rivers, which were receding from the oppressive heat of the summer of 1793. The river exposed rotting plant life and dead animals that drew thousands of mosquitoes.

#### **Mount Vernon**

When it became obvious that Philadelphia was facing an epidemic of epic proportions, President George Washington and other national leaders were advised to leave the city to preserve the leadership of the nation. George and Martha Washington moved temporarily to Mount Vernon to wait out the devastating disease.

#### **The West Indies**

Many Philadelphians felt that a rancid cargo of coffee dumped on the wharf was responsible for the illness that became an epidemic in the city in 1793.

#### **Ricketts' Circus**

Overseers and Guardians of the Poor took a group of the poor who were infected with the disease to Ricketts' Circus. The building housed a popular circus that was closed for the summer. The sick people were just dumped off there with no one to care for them. Some crawled out of the hot building and died on the streets.

#### The New African Society

Elders of the New African Society were asked by Mayor Clarkson to recruit volunteers to tend to the sick, most of whom were white. When the disease first hit the city, blacks seemed to be immune to the infection. However, their immunity was short-lived and blacks soon came down with the fever and died right along with the whites.



#### The Overseers and Guardians of the Poor

The Overseers and Guardians of the Poor were asked to tend to poor people who fell ill from the epidemic. The Overseers did haul some of the poor over to the Ricketts' Circus building. However, leaders of the Overseers fled the city for their own safety and provided no care for the poor.

#### **Bush Hill House**

Philadelphia's temporary government run by a committee appointed by the mayor, took over an abandoned mansion on Bush Hill. The residence was used to house patients, particularly the poor, who were stricken with yellow fever.

#### The US Constitution

The US Constitution had its first test during the 1793 yellow fever epidemic. Since the Constitution declared that the government could only operate from Philadelphia, the country was virtually leaderless during the six weeks that the yellow fever epidemic was at its peak.

#### **New York City**

When an epidemic hit New York in the early 1800s, the physicians in New York knew little more than the doctors did in Philadelphia in 1793. However, New York established stricter quarantine regulations and constructed a facility devoted to dangerous epidemics. The Quarantine Hospital in New York was considered the nation's most effective facility for treating yellow fever.



### Themes

#### **Panic and Fear**

Another thing that hit the city of Philadelphia during the devastating 1793 yellow fever epidemic in addition to the illness was panic and fear—emotions that reached into all levels of the community. Dr. Benjamin Rush was the first physician to suspect that the rapidly spreading illness was the dreaded yellow fever. Other doctors were reluctant to agree with him, or if they did concur in his conclusion, to voice it openly. The reason for the doctors' hesitation in declaring the possibility that the epidemic was yellow fever was that the mere mention of the words would bring about sheer panic and fear in the streets of the city. However, had the doctors reacted more quickly to the yellow fever epidemic, perhaps more lives would have been saved.

Yellow fever was known to kill fifty percent of its victims. Many in the medical field felt that spreading the word that the menace attacking the city was yellow fever would bring undue stress to the residents who would then understand that half of those with the disease would die. To lessen the stress of the ill and their loved ones, the mayor stopped tolling the bells to announce deaths from the epidemic. With eighty a day dying at the peak of the plague, the bells would have virtually rung all day, an aggravating reminder to those lying ill that the bell may soon be tolling for them.

The poor were hit particularly hard by the epidemic. They had no money to leave town and, in reality, no summer home or wealthy friends to visit. The mayor requested the Overseers and Guardians of the Poor take action. The Overseers managed to collect some of the poor and drop them off at Ricketts' Circus, a facility that was shut down for the season. However, the Overseers and Guardians of the Poor neither oversaw nor guarded them. They high-tailed it out of town to save themselves and left the poor to fend for themselves. Even though the leaders of the organization were not sick and were wealthy enough to obtain good care, the fear of perhaps contracting the disease was enough for them to take off and leave their responsibilities behind.

#### **Constitutional Crisis**

When there is an illness that sweeps a community—like the 1793 yellow fever epidemic —one first thinks of the devastation that it renders to people's health, and in the case of this plague, the estimated 6,000 deaths of men, women and children it caused. However, the epidemic that struck Philadelphia in 1793 caused far more damage than that done to the public at large. The plague threatened to bring the entire country to its knees.

This diabolic menace hit America when it was merely a fledgling nation that was recovering from its revolution and just getting its bearings in understanding the responsibilities attached to its newly found liberty from the British. At the time, the



nation's capital was located in Philadelphia. Headquartered there were the leaders of the nation, including the country's first President, George Washington, the first Secretary of State, Thomas Jefferson, the first Secretary of the Army, Henry Knox, the first Secretary of the Treasury, Alexander Hamilton, and the first US Attorney General Edmund Randolph - to name a few.

The foundation of the country and the government was the United States Constitution. When the city of Philadelphia became too dangerous for the heads of the federal government to stay, Washington and the other national leaders were advised to flee the city in order to maintain the health of the nation's leaders. Washington went to Mount Vernon, Jefferson back to Virginia and the other leaders to various locations. It was the opinion of both Jefferson and James Madison that it was constitutionally impossible for Washington to convene Congress in any city but Philadelphia. US Attorney General Randolph issued a legal opinion that agreed with the illegality of governing from a location other than Philadelphia.

President Washington's hands were tied. He and the other leaders were "out of touch" for at least six weeks. The country was being led by a president, who only received update letters now and then and official documents even less often. Fortunately, nothing other than the epidemic occurred during this time frame that was of an emergency nature, and the country survived. The country could have been attacked by foreign forces and occupied without the knowledge of the President.

After the epidemic waned and the nation's leaders and Congress returned to governing, Congress passed a law allowing the President to convene Congress at a location other than in the capital in order to avoid a future Constitutional crisis in the event of another epidemic or natural disaster. The Constitution was tested early on, and although things were rocky for a few weeks, it survived long enough to be slightly amended.

#### An Unknown Menace

When the first known person died of the disease that would later become a crushing epidemic in Philadelphia in 1793, little attention was given to his passing. Even when people living in the same building with the man contracted the disease and died, there was no fear that a plague was on the city's horizon. But as doctors began to see an uptick in the number of patients who had markedly high fevers, coarse black vomit and a slight yellowing to their skin did they begin to realize that there was a budding epidemic. But no one in the medical field had any idea what it was!

There was no way to confirm through lab analysis, available in modern times, what exactly the disease was. It was truly an unknown menace. The physicians could not agree the source of the epidemic. One leading physician, Dr. Benjamin Rush, voiced the opinion that it was yellow fever. Most other physicians were reluctant to agree with him. For one, word of yellow fever would plunge the city into panic; and, secondly, most doctors initially did not believe that the spreading disease was that threatening much less the vicious yellow fever.



In 1793, doctors and medical experts were unaware of organisms now known to be viruses and bacteria. Although there was disagreement about the identity of the disease, the physicians had varying theories about what caused it. Some though foul smells generated from a rancid cargo of coffee dumped on the wharf was causing the illness. Most physicians of that time, including Dr. Rush, still ascribed to the ancient Greek humoral concept, which theorized that good health depended on the balance of body elements. Thus, the doctors concluded, a foul smell could cause an imbalance in a healthy person and make him vulnerable to disease.

The true identity and nature of yellow fever and confirmation of its carriers and sources were not known until well into the twentieth century. Experts looking back at the 1793 plague can confirm with authority that the unknown menace was indeed yellow fever.



## Style

#### Perspective

An American Plague - The True and Terrifying Story of the Yellow Fever Epidemic of 1793 by Jim Murphy is written in the third person narrative. Murphy is a prolific writer who has written over twenty-five books for young people. With that in mind, it is obvious that Murphy approached the writing of this book with the clarity and details that would be appropriate for, as well as understandable by, his target audience of readers. Murphy is a proven success in writing for children having won the Newbery Honor for The Great Fire, and many other awards, including the Robert F. Sibert Information Book Award and the Golden Kite Award.

By reviewing the the volume of resources that Murphy used in writing this book, it is apparent that he went to great lengths to provide an accurate historical work and to provide both sides of the controversies that arose from the yellow fever epidemic. By providing a solid historical account of this American tragedy, he is able to showcase the differences and debates that were sparked by the event.

For example, he provides both points of view of the two camps of physicians who had strong disagreements about the source of the epidemic and the best treatments for those who were stricken. There was also controversy surrounding the actions of government officials, including President George Washington, during the epidemic. Murphy provides a vivid, interesting and educational account of the yellow fever plague of 1793 by providing various points of view in a fundamentally unbiased manner.

#### Tone

An American Plague - The True and Terrifying Story of the Yellow Fever Epidemic of 1793 is laid out in a clear and concise manner. The author, Jim Murphy, provides many rich descriptions but does not weigh down the story with an overabundance of details. He provides enough information about the devastating disease and the deaths it caused for the reader to understand the dire conditions that the city faced and the suffering of the sick without overwhelming the reader with accounts that merely repeat more of the same. Murphy gives the reader enough credit to understand that a sampling of the devastation was sufficient for the reader to grasp the tragedy. There were some 6,000 deaths from the plague and Murphy, by his selective accounts, provides an appropriate representation of this American tragedy.

The book has a academic feel as the author rarely takes sides in the controversies that emerged both in the medical field and among government officials over the epidemic. For example, he describes the good work of the black nurses during the the epidemic from New African Society accounts. He also includes criticisms of the work of the nurses in a book written after the epidemic ended. In another example, President Washington is



portrayed as somewhat out of touch after abandoning the city. The other side of that story is provided as well. He was advised to leave town and was confounded and confused, as were his advisers, as to whether the Constitution allowed him to govern from a city other than the capital which, at the time, was Philadelphia.

The update that Murphy includes in the last chapter of the book is relative and educational. The reader learns how yellow fever is carried and what the source of the disease is and that, although there is a vaccine against yellow fever, there still is no cure.

#### Structure

An American Plague - The True and Terrifying Story of the Yellow Fever Epidemic of 1793 is divided into eleven chapters, the first nine of which cover the autumn months of 1793, the height of the devastating yellow fever epidemic that struck Philadelphia. The last two chapters are devoted to the aftermath of the deathly outbreak and what modern science and research has discovered about the disease. Each chapter begins with a specific date that provides a helpful timeline for the reader in understanding the swift attack of the deadly diseased.

Following the book proper is a lengthy section devoted to the many sources and references that author Jim Murphy used in compiling his book. Following the sources section are the author's acknowledgment of those individuals who helped and inspired him with his work. The author devotes a small section that provides information about the illustrations he used in the book. He acknowledges the works of several noted authors and engravers who lived during the 1793 plague and who contributed to the history of the epidemic through their talents. There is also an index for the reader's easy reference.

At the beginning of the book is a map of 1793 Philadelphia that illustrates the areas referred to in the book. As noted, there are many artistic renderings of key figures during the epidemic, including President George Washington and Dr. Benjamin Rush, as well as drawings of locations that played an instrumental part in the epidemic. There are also reproductions of some of the newspaper articles and pamphlets that were part of the story.



## Quotes

"About this time, this destroying scourge, the malignant fever, crept in among us." Chap. 1, p. 1

"No one knew that a killer was already moving through their streets with them, an invisible stalker that would go house to house until it had touched everyone, rich or poor, in some terrible way."

Chap. 1, p. 9

"Putting the name yellow fever to the illness was not to be done lightly. Yellow fever was one of the most vicious diseases in the world and could create panic anywhere." Chap. 2, p. 15

"Historians now estimate that as many as 20,000 people abandoned the city during the fever."

Chap. 3, p. 23

"Every morning found bodies lying in the streets. Every day a new horror story surfaced."

Chap. 4, p. 41

"The Lord was pleased to strengthen us, and remove all fear from us, and disposed our hearts to be as useful as possible." Chap. 5, p. 47

"From the moment the fever first began to claim victims, Dr. Rush had been a tower of energy and care, an ever-present good Samaritan." Chap. 6, p. 58

"You can recollect how much the loss of a single patient in a month used to affect me. Judge then how I must feel, in hearing every morning of the death of three or four!" Chap. 6, p. 61

"For the needy shall not always be forgotten; the expectation of the poor shall not perish for ever." ~ Psalm 9:18 Chap. 7, p. 71

"Those returning found their city a changed place. The streets were remarkably clean, for one thing. The trash and garbage had been swept away; dead animals—cats, dogs, birds, and pigs—had been removed. Gone, too, were the beggars and homeless children."

Chap. 9, p. 97

"The national government learned something because of the yellow fever epidemic. The states had worried so much about a future autocratic president that the federal government had inadvertently created a constitutional crisis for the one currently in



office." Chap. 10, p. 105

"Yellow fever is a modern-day time bomb. We're just sitting here waiting for it to happen." Chap. 11, p. 139



## **Topics for Discussion**

What were the first signs of the devastating yellow fever epidemic that hit Philadelphia in 1793? What did some people, even experts, attribute the illness from? Who did many blame for bringing the disease into Philadelphia?

What was President Washington preoccupied with when the yellow fever epidemic first struck Philadelphia? Where did the President eventually move to during the worst days of the epidemic? What Constitutional crisis occurred during the yellow fever epidemic? What individual was basically left in charge of the city and, by extension, the whole nation?

Who was the first doctor to declare that the illness that was rapidly spreading in Philadelphia was yellow fever? Why were some experts reluctant to call the disease "yellow fever?" What controversies arose when the College of Physicians met to decide how to combat the epidemic?

What treatment did Dr. Rush prescribe for those ill with yellow fever? What was involved in the process known as "bloodletting"? What substances were used in Dr. Rush's cure that he referred to as the "Ten-and-Ten" cure?

How did the The Free African Society help those stricken with with yellow fever? Why were they called on to help? What were the black nurses who tended to the sick later accused of? How did the black community respond?

What was the population of Philadelphia in 1793? How many people abandoned Philadelphia in 1793 due to the yellow fever epidemic? How many people are estimated to have died during the yellow fever epidemic that hit Philadelphia in 1793?

What was determined to be the carrier of yellow fever? What was eventually found to be the source of yellow fever? What steps were taken to eradicate the virus? What is the cure for yellow fever?