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Theodore B. VanItallie



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REVIEW ESSAY

Yellow Fever, the Doctors, and their Victims in the 19th Century South

by THEODORE B. VANITALLIE¹

The Saffron Scourge: A History of Yellow Fever in Louisiana, 1796-1905.
By Jo Ann Carrigan. (Lafayette, LA: Center for Louisiana Studies, 1994. 487 pp. Preface, acknowledgments, bibliography, index. \$27.50 cloth.)

The year is 1853; the month July. Imagine that you are a 30-year old bank clerk from New York who has traveled to New Orleans to visit your younger sister, recently married to an assistant editor of the *Picayune*. Six days after your return to your native city, you suddenly develop chills and fever. Your head aches and you feel weak and nauseated. You collapse on the guest-room bed but, instead of experiencing relief from lying down, the muscles of your neck, back and legs start to ache severely and, over the next two days, you become so irritable and restless that you can only sleep in fits and starts.

Because a yellow-fever epidemic is raging in the city, your sister fears the worst. She calls in a local physician who quickly diagnoses the "yellow jack." Now you begin to cough and choke as your room is fumigated with burning sulfur.

After the noxious smoke clears, the doctor returns and attempts to "subdue" the disease by employing a lancet to bleed you so rapidly that you faint. (This heroic treatment is known as "syncopeal bleeding.") To "arrest" the fever, the doctor then persuades you to take massive doses of calomel— a toxic agent that causes you to salivate profusely and have uncontrollable diarrhea. You are also given cinchona bark (an antimalarial) which irritates your stomach sufficiently to induce vomiting. To control the vomiting, the doctor applies poultices made of powerful irritants to blister the skin over your stomach.

1. Theodore B. VanItallie is professor emeritus of medicine, Columbia University College of Physicians and Surgeons. He lives at Boca Grande.

Although you now feel quite miserable, the doctor is encouraged by the results of his aggressive treatment. For a day and a half your temperature hovers near normal. Then, to everybody's dismay, the fever recurs and your condition worsens. Your skin and the whites of your eyes turn yellow and soon you begin vomiting a material resembling coffee grounds. Blood starts to ooze from your mouth, nose and eyes.

As you become delirious and then sink into a coma, with your sister at the bedside, the last sound you hear is a booming noise from the street outside. (The firing of cannon was believed by some to create sufficient air turbulence to destroy the unknown agent responsible for yellow fever.)

In New Orleans (and indeed, in other North American cities including St. Augustine and Jacksonville) the drama of living with, and dying from, yellow fever was re-enacted many thousands of times during the 19th century. In her history of the "saffron scourge" (one of at least 152 names and sobriquets given to yellow fever), Jo Ann Carrigan has carefully and eloquently documented the more than 100 years (1796-1905) of recurrent, yellow-fever-induced misery experienced by the populace of Louisiana. In this endeavor, she has drawn on a multitude of sources to provide an authentic and often disquieting account of the impact of the disease on the city's infrastructure and on the everyday lives of its inhabitants. In her words, "Personal and business correspondence, diaries and medical essays revealed individual reactions to epidemics. Newspapers, medical journals, travel accounts, board of health reports, and other state and national documents provided information about medical and lay opinion, social conditions and institutional responses to the recurring pestilence."

Clearly, the mass of information that had accumulated about yellow fever in Louisiana badly needed to be culled, evaluated, and then put into some logical order. Carrigan has done this job with painstaking thoroughness, assembling an authentic scholarly treatise on many aspects of the disease including detailed accounts of each major epidemic, an informed discussion of competing theories of causation and transmission (all of them were tragically mistaken until the end of the 19th century), the competing modes of treatment (ranging from the harmless and ineffective to the irrational and injurious), and particularly the social and cultural impact of the disease.

Carrigan's description of the behaviors exhibited a century or more ago by the masses of people who were confronted by this terrifying disease is familiar to us because precisely the same behaviors continue to be displayed in today's world. A recent report in the *Wall Street Journal* is a case in point: "The deadly Ebola Virus has spread to villages around the Zairian city of Kikwit . . . Meanwhile thousands of people were massed at a road-block near Kinshasa, voicing anger at quarantine measures . . ." In describing the yellow fever panic of 1897, Carrigan cites a *New York Times* reporter in New Orleans concerning the antiquarantine state of mind of the inhabitants. "The masses of the people for the time being are in a revolutionary mood because of the enforcement of the house quarantine, and are resorting to every means in their power to put obstacles in the way of constituted authorities."

Although the stress of the yellow-fever epidemics frequently generated cowardly, selfish or simply ignorant behavior, there were also many acts of sustained courage and selflessness. For example, in the 1853 epidemic during which more than 3,000 cases of yellow fever occurred in New Orleans, members of the Howard Association— a group of local volunteers— "took responsibility for locating destitute yellow fever patients and calling on them daily; arranging for home medical and nursing care . . . and, when necessary, transporting patients to hospitals and orphans to asylums, and arranging for the burial of the dead." (Some 1800 deaths occurred during the four-month epidemic.)

Although the individual chapters of Carrigan's book are highly readable, it suffers from a degree of avoidable repetitiousness. For example, some chapters start by recapitulating familiar material covered in earlier portions of the book. As the author points out in her acknowledgments, the book is an outgrowth of her dissertation, and several revised chapters or parts of chapters have appeared as articles in various historical journals. This dual use of the material may explain the sense of discontinuity I sometimes experienced while progressing from chapter to chapter. As Carrigan herself candidly says, "In retrospect, retaining the structure of the dissertation may not have been the best strategy for organizing the century-long story."

Although "The Saffron Scourge" is and will remain a valuable source of information for scholars about Louisiana's prolonged struggle with yellow fever, it is regrettable that a condensed and more focused version of this fascinating saga is not available for a

wider audience. Clearly, there is a substantial public appetite for books about viral epidemics, as exemplified by the current best-seller *Hot Zone* by Richard Preston, which describes the effects of an exotic virus outbreak in a Reston, Virginia science laboratory. Others of this genre are *The Coming Plague* by Laurie Garrett, and *Ebola: A Documentary Novel of Its First Explosion* by William T. Close.

Inasmuch as *The Saffron Scourge* is a publication of the Center for Louisiana Studies, a component of the University of Southwestern Louisiana, it is not surprising that the book's focus is almost entirely on events occurring in New Orleans and surrounding Louisiana areas. But it must not be forgotten that yellow fever epidemics also occurred in many North American regions and particularly in those port cities where climatic conditions (sultry hot weather) were favorable to mosquito activity.

Dr. William M. Straight of Miami has vividly described yellow fever epidemics that occurred in St. Augustine (1821) and Jacksonville (1888). As he pointed out in the *Journal of the Florida Medical Association* in 1971, there were outbreaks of yellow fever in Florida almost every two years for about 141 years. During this time there were "... over 25,000 cases with more than 5,000 deaths; retardation of Florida's growth; and untold economic damage" (p. 43).

As described in *The Saffron Scourge*, there was a therapeutic divergence between French and British physicians in the West Indies during the epidemics of the 1790s. "While the French relied on nursing and nature, the British military physicians assaulted their patients' disease with such powerful weapons as bleeding, blistering, showering with buckets of cold water, and generous dosing with calomel, opium, camphor, cinchona bark, wine, and brandy." Carrigan goes on to say that "... Anglo-American physicians in Louisiana and throughout the South until the mid-nineteenth century pursued a course even more 'heroic' than the British doctors in the Caribbean."

Unfortunately, such harsh therapies did more harm than good and by the end of the 19th century they were for the most part discredited and replaced by "gentle" remedies such as hot mustard foot baths, bed rest, crushed ice and lemonade, cool sponging and good nursing care.

In 1900-1901, clinical investigations conducted in Cuba by a U.S. Army Medical Commission headed by Walter Reed gave rise to a definitive solution to the mystery of yellow fever transmission. Reed and his team clearly demonstrated that yellow fever is caused

by a “filterable virus” transmitted by the *Aedes aegypti* mosquito. Once this finding was established (in confirmation of the mosquito theory announced in 1881 by a Cuban physician, Carlos J. Finlay), practical application of the mosquito doctrine resulted in aborting yellow fever epidemics in Panama in 1904 and in New Orleans in 1905.

Among the many lessons to be derived from Louisiana’s (and the South’s) devastating experience with yellow fever is the striking contrast between the impotence of American medicine before it was grounded in science (rather than anecdote), and its growing effectiveness once its approach to disease prevention and management became more firmly based on the scientific method. This contrast is vividly portrayed in *The Saffron Scourge*, with its graphic descriptions of the futile efforts of 19th century physicians in Louisiana to cope with yellow fever, and its more concise account of how the Reed Commission finally solved the problem of the causation of the disease. After 1905, once the role of the mosquito vector in transmission of the disease was widely understood, yellow fever epidemics in the United States became history.

Although yellow fever is no longer a problem in this country, new plagues, of which AIDS is the most notable example, have arisen to challenge medical science. But human nature remains pretty much unchanged.

In *The Saffron Scourge*, we learn (p. 240) that, after the 1853 epidemic, a New Orleans physician, J. S. McFarlane, felt it was high time that New Orleanians “fix the charge of vice and insalubrity where it properly belongs— on those who, coming temporarily among us . . . indulge . . . in every evil propensity and poison, until they are overtaken by those retributive diseases . . . ordained as the punishment of vice and immorality.” Sound familiar?