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## Latin Heritage Month. Carlos Juan Finlay: Outrageous, Courageous and Correct

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# ~ LATIN HERITAGE MONTH ~

## CARLOS JUAN FINLAY: Outrageous, Courageous and Correct



In 1855, a modest Cuban physician named Carlos Juan Finlay graduated from Jefferson Medical College. He was among JMC's first dozen Hispanic graduates, initially signing the registrar's log as "Charles". He left Philadelphia at the age of 22 to begin private practice. Preceptor and close friend S. Weir Mitchell, among others, urged Finlay to work among the burgeoning Spanish-speaking population in New York City, but he returned to Cuba and set up practice in Matanzas, a town near Havana. He took a binocular microscope with him, similar to one used by Mitchell, which would serve him well for many years.

During his years of medical practice, Finlay developed a keen interest in urban communicable disease. He rejected the common assumption that "miasma", or fumes producing contagious disease, were the source of infection, and conducted meticulous studies to confirm his theories. While he is best known for his research showing that mosquitoes transmit yellow fever, he also correctly deduced that cholera was water-borne, and that the cotton used to tie the umbilical cord on newborns carried infantile tetanus. His views on cholera and yellow fever earned him the title of "crank" and he was largely ignored.

During the 1867-68 cholera epidemic in Havana, he tried to publish his findings in the local paper and was rebuffed by censors. He quietly boiled the water in his home to prevent cholera in his family.

For many years, Finlay collected extensive data on yellow fever in Cuba, noting dates and locations of outbreaks. By 1881 he had determined that the disease was carried by one specific type of mosquito, and he published his findings in *The Annals of the Academy of Medical, Physical and Natural Sciences of Havana*. The medical community scoffed. For the next 20 years, he continued his unfunded research on yellow fever, publishing his findings in both English and Spanish in a variety of scholarly medical journals.

The U.S. Army assembled a Yellow Fever Commission in 1900, prompted by the deaths of over 2,000 American soldiers during the Spanish-American war. They set up an experimental station just outside of Havana. A single member of the commission, Dr. Jesse Lazear, found merit in Finlay's work and was permitted to conduct his own mosquito research. Lazear was bitten by one of his own insects and subsequently died, and commission leader Dr. Walter Reed determined to test the theory once and for all. Finlay supplied mosquitoes and ova. With controlled experimentation methods, Reed confirmed the role of the mosquito and then developed effective insect eradication and quarantine practices.

From 1901-1909, Carlos Juan Finlay served as the Chief Health and Sanitation Officer of Cuba. It was during this time that he implemented an aseptic technique for ligating newborns' umbilical cords, reducing the death rate from infantile tetanus three-fold. Finlay retired from practice in 1909, and in 1915 this champion of public health died at the age of 81.

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