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Biographies of 19th Century Doctors and Scientists

Please choose at least one of the following 19th century Doctors and Scientists to include in your story. Below are short biographies on each person, followed by a link to its source, where you can learn more about his/her history and background.



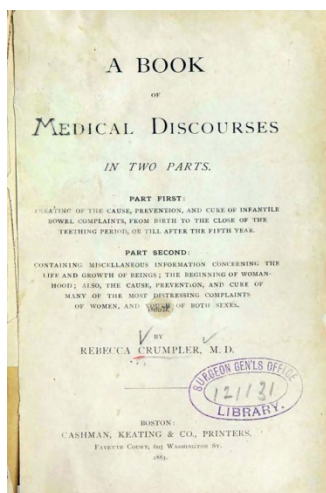
Elizabeth Blackwell

Elizabeth Blackwell was born to a wealthy family in Bristol, England in 1821. Due to financial hardship, the family moved from England to New York, New York, Jersey City, New Jersey, and finally Cincinnati, Ohio in 1838. Elizabeth's father passed away soon after, and she and her sisters opened a private school. Elizabeth studied medicine privately while she was teaching, learning from sympathetic physicians. All the schools she applied to rejected her application, save for Geneva Medical College, what would become Hobart College, in Geneva, New York. Though she was ostracized and sometimes barred from demonstrations, she graduated first of her class in 1849 as a Doctor of Medicine, the first woman in modern history to do so. Dr. Blackwell was also famous for opening the New York Infirmary for Women and Children with her sister, Dr. Emily Blackwell, helping to organize the U.S Sanitary Commission during the Civil War, and opening the Women's Medical College in the Infirmary. <https://www.britannica.com/biography/Elizabeth-Blackwell>



George Washington Carver

George Washington Carver was born into slavery in the 1860s, and his true date of birth was never known. He and his mother were owned by the Carver family in Diamond Grove, Missouri, and when both George and his mother were kidnapped from the Carver Plantation, only George was found. After the total abolition of slavery in 1865, George remained on the plantation until he was 10 to 12 years old, and sought out an education. After a number of odd jobs, he got a High School education in Minneapolis, Kansas, and eventually graduated from Iowa State Agricultural College with a Master's Degree in Agricultural Science. Carver's work was incredibly important to the American South; he developed 300 derivative products of peanuts and 118 from sweet potatoes, and his discoveries helped restore the agriculture of the South. Carver's work at the Tuskegee Institute was known worldwide, and Presidents Calvin Coolidge and Franklin D. Roosevelt visited him. <https://www.britannica.com/biography/George-Washington-Carver>



Rebecca Lee Crumpler: *No photograph or portrait survives of Dr. Crumpler. There are a few images circulating on the internet that “claim” to be of her, but none have been confirmed to date.*

Rebecca Lee Crumpler was born in 1831 in Delaware, and was raised by her aunt in Pennsylvania. Her aunt spent much time helping sick neighbors, and it inspired Rebecca to become a nurse. By 1852, she had moved to Charlestown, Massachusetts, and was admitted to the New England Female Medical College in 1860, the first African-American woman to attend the school. She graduated in 1864, becoming the first African-American woman to earn a M.D. degree in the United States. She practiced in Boston until the end of the Civil War, when she moved to Richmond, Virginia to help care for the recently-freed slaves of the state. She worked extensively with the Freedman’s Bureau and other organizations to provide care to over 30,000 freedmen, and eventually returned to Massachusetts, moving to Hyde Park, in 1880. Dr. Crumpler eventually wrote a book discussing her life and medical discourses, one of the first medical publications from an African-American, and one of the few sources about her remaining. https://cfmedicine.nlm.nih.gov/physicians/biography_73.html



Marie Curie

Marie Curie was born Maria Salomea Slodowska in Warsaw, Poland, in 1867. From a young age Curie was known for her incredible memory. After graduating school in Russia, Marie worked as a teacher and funded her sister Bronislawa’s schooling in Paris, who later returned the favor in 1891. Marie studied under famous physicists at the Sorbonne, a prestigious school of science. Marie married her husband Pierre Curie in 1895; the two of them worked together extensively in the lab. The two of them discovered the radioactive element, Polonium, and Marie discovered radioactivity in Thorium as well. Marie, Pierre and a French scientist named Henri Becquerel all won the Nobel Prize for discovering radiation. Marie would outlive Pierre, and would earn a second Nobel Prize for isolating Radium, and worked with X-Rays, creating the process of X-radiography we know today. Marie Curie’s work became essential for the new science of nuclear physics. <https://www.britannica.com/biography/Marie-Curie>



Carlos Juan Finlay

Born in Puerto Principe, Cuba in 1833, Carlos Finlay was an epidemiologist who identified how Yellow Fever was transmitted. Finlay graduated from Jefferson Medical College in Philadelphia in 1855, and returned to Cuba to practice medicine. In 1879, Finlay joined a series of colleagues in a commission from countries across North America to ascertain the origins and spread of Yellow Fever, and two years later he attended the International Sanitary Conference in Washington,

D.C. as Cuba's delegate. Later, with the help of the American doctor Walter Reed, Finlay proved that Yellow Fever was transmitted by mosquitos. Shortly after this proof, Yellow Fever was eradicated in Cuba, and Finlay was appointed Cuba's Chief Sanitation Officer. After his death, the Cuban government founded the Finlay Institute for Investigations in Tropical Medicine, and Dr. Finlay's research into preventing the spread of Yellow Fever saved countless lives.

<https://www.britannica.com/biography/Carlos-J-Finlay>



Alexander Fleming

Sir Alexander Fleming was born in Ayrshire, Scotland in 1881, to a farming family. Fleming studied medicine at St. Mary's Hospital Medical School in 1901, and won a gold medal as a top medical student in 1908. Fleming began work in the Inoculation Department in St. Mary's Hospital, and during the First World War had a commission in the Royal Army Medical Corps, where he studied wound

infections, deployed in Boulogne, France. After the war, Fleming's most famous discovery was made. One of his bacterial cultures had become contaminated with a fungus, *Penicillium Notatum*, and he noticed that the bacteria's growth was inhibited. Fleming worked with a team to try and isolate the chemicals that stopped the bacterial growth, and discovered Penicillin, one of the first commonly-used antibiotics. Penicillin saw much use during World War II, and has saved many lives. Fleming was knighted in 1944, and he and two of his colleagues won the Nobel Peace Prize in 1945. <https://www.britannica.com/biography/Alexander-Fleming>



Sigmund Freud

Sigmund Freud was born in Freiburg, Austria in 1856, and his family moved to Vienna, Austria when he was 4 years old. Sigmund Freud earned a medical degree in 1881 after doing research in neurobiology. Freud worked with a colleague, Joseph Breuer, in treating patients with psychological issues. Freud's main contribution to psychology was the theorizing of the Id, Ego, and Superego. The Id, Ego and Superego were the three parts of a person's psyche, with the Id being primitive and self-centered, the Superego providing a sense of morals, and the Ego balancing the two. Freud's theories suggested that imbalances between these three parts of the mind led to anxieties and other

psychological problems, and the best way to treat a patient was to have them discuss their life and problems. While much of Freud's work has been challenged in recent years, he has been called, by many, the father of modern psychology.

<https://www.britannica.com/biography/Sigmund-Freud>



Percy Lavon Julian

Percy Lavon Julian was born in Montgomery, Alabama in 1899. The grandson of slaves, he grew up in the American South during the Jim Crow era, when the rights and opportunities afforded to African-Americans were heavily restricted. Both of Julian's parents had attended college and pushed their children to seek higher education, and Julian enrolled in De Pauw University, graduating as the valedictorian of his class in 1920. He earned his master's degree at Harvard University and attended the University of Vienna in Austria to attain his PhD in Chemistry. He and an

Austrian colleague synthesized natural chemicals that treated glaucoma, a disease of the eye, and later, Julian was hired to work at Glidden for chemical research. Julian's greatest discovery was that soybean oil could be used to make synthetic hormones and steroids such as cortisone for medical use, which have helped countless people. <https://www.sciencehistory.org/historical-profile/percy-lavon-julian>



Robert Koch

Robert Koch was born in Clausthal-Zellerfeld, Saxony, Germany in 1843, and attended the University of Göttingen, graduating there in 1866. Koch served as a physician in towns nearby and as an Army surgeon during the Franco-Prussian War in 1870-1871. After Koch's wartime service, he set up a small practice in Wollstein, and began to look into disease-causing organisms. Koch began to build off the research of a French doctor, Casimir Devaine, who had studied the life cycle of the Anthrax bacterium, and Koch discovered the existence of Anthrax's bacterial spores in 1876 at Breslau (today Warsaw, Poland). Koch eventually was given a lab in Berlin for the Imperial Health Office, and his most famous

work is discovering the cause of both Tuberculosis and Cholera, linking both diseases to bacteria. Koch's methods and techniques formed the backbone of modern bacteriology, and he had students from across the world learn from him in Berlin.

<https://www.britannica.com/biography/Robert-Koch>



Matilde Montoya

Matilde Montoya was born in Mexico City, Mexico in 1859, and was considered a bright and intelligent child at a young age. With good education from a young age, Montoya passed the exam to be an elementary school teacher at 13 years old, and began working in a hospital as a teenager. At 16 years old she was awarded a degree to work as a midwife, and worked at a specialized center that helped women give birth. Montoya applied to the Escuela de Medicina de Mexico, but her application was denied, as the school only accepted male students. Montoya wrote to the Mexican President urging him to approve her enrollment, and even after she was accepted, she went before the Mexican House

of Representatives to petition that the rules of the school change to admit female students.

Montoya was awarded her doctorate in 1887, and was the first woman in Mexico to become a doctor. She practiced for many years, and helped found the Mexican Medical Association.

Sources on Montoya are primarily in Spanish, however, she was the subject of a Google Doodle on March 14th, 2019, the 160th anniversary of her birthday: <https://www.google.com/doodles/dr-matilde-montoyas-160th-birthday>



Louis Pasteur

Louis Pasteur was born in Dole, France in 1822, and grew up in the town of Arbois. He graduated from the Ecole Normale in Paris with a doctorate in 1847, and worked at the Dijon Lycee for some time before being appointed the professor of chemistry at the University of Lille in 1854. Pasteur discovered that bacteria spoiled wine, beer and milk, and developed a process of boiling called Pasteurization to kill off bad bacteria in food and drinks in 1862. Pasteur is credited with disproving the old theory of “spontaneous germination” and proving that microbes caused spoilage in many foods and products, ultimately saving the silk industry by identifying the disease that killed silkworms and creating a process to prevent the spread of disease. Pasteur also developed the first modern

vaccines, most famously to protect against Rabies. Louis Pasteur’s magnificent discoveries have been applied in many different industries and in medical practices around the globe.

<https://www.britannica.com/biography/Louis-Pasteur>



Susan Smith McKinney Steward

Susan Smith McKinney Steward was born in 1847 to an African-American father and a French and Native-American mother, who lived in the neighborhood of Weeksville in Brooklyn, New York. Steward and her siblings were well-educated, and she attended the New York Medical College for Women, and graduated Valedictorian in 1870, and was the third African-American woman awarded a doctorate in the United States. Dr. McKinney Steward founded the Women’s

Hospital and Dispensary in Brooklyn, which later became known as the Memorial Hospital for Women and Children. Dr. Smith McKinney Steward was highly involved in many medical institutions in her area, including the Brooklyn Home for Aged Colored People, New York Medical College and the Hospital for Women in Manhattan. Dr. Smith McKinney Steward was known for her care for the members of her community, and she was also known for her expertise in treating malnutrition. <https://www.nymc.edu/school-of-medicine-som/som-alumni-profiles/alumni-in-memorium/new-york-medical-college-for-women/susan-smith-mckinney-steward/> and <https://www.bklynlibrary.org/blog/2018/01/25/susan-smith-mckinney>