



Impact Statement

Grace Zhang, Grade 9

Fierce Science, 2026

Gouache on paper, 17 x 14 inches

Jericho High School, Jericho, NY

Unsung Hero: Maurice Hilleman

Vaccines are creations which we do not value enough for their incredible usage and life-saving properties. Dr. Maurice Hilleman developed over 40 vaccines during his lifetime, earning titles such as the “father of modern vaccines” and “the most successful vaccinologist in history,” saving millions of lives while doing so. Although he was well known in the realm of medicine, little people knew of him outside of it. As a fellow biologist and science enthusiast, I felt a deep connection towards his story and strive to finally bring him the honor and recognition he deserves for transforming vaccinology.

Maurice Hilleman was born on a farm and worked with chickens, which greatly helped him later on in life, as fertile chicken eggs were often used to grow viruses for vaccines. At a young age, he immersed himself in the world of science, once even being caught reading “On the Origin of Species” during church. His scientific career nearly ended before it even began when he found himself unable to produce enough funding for a college education. However, with financial aid from his brother, he graduated from Montana State University at the top of his class, going on to later receive his doctoral degree in microbiology.

Soon after, he began producing vaccines such as one against Japanese B encephalitis, a disease which threatened American troops during World War II. Others included vaccines against mumps (which he created by taking a sample from his daughter when she was ill and went on to add to a trivalent (measles, mumps and rubella) MMR vaccine, the first of its kind) and hepatitis B. Outside of directly creating vaccines, he also was one of the first to recognize the severity of a 1957 outbreak of influenza in Hong Kong, preventing a massive pandemic, discovered antigenic shift, and warned about simian viruses contaminating vaccines. Each and every discovery he made saved thousands, if not millions, of lives and greatly impacted the scientific and medical communities.

The incredible dedication to his work throughout his life undoubtedly impacted people around the globe in the millions, and indirectly led to or inspired hundreds of later discoveries. Although his name and face may not be known widely, the influence he had on the improvements within the scientific realm and the overall health and wellbeing of people worldwide are clear as day.

Finding a way to properly tell Maurice Hilleman’s story through a painting alone was incredibly difficult, and I used many forms of symbolism and design choices to best communicate the main points I wished to get across to the viewer. One of my main

symbols which I find encapsulates Maurice Hilleman's spirit is my depiction of a phoenix, spreading its fiery wings in a display of resilience and virtue. Not only are the scientific capabilities of vaccines to be incredibly fascinating, but the concept itself is incredibly poetic. They are created from the disease they are designed to protect from, and they work by inserting this disease into a person to train their immunity against it. The idea of a protector being formed from the disease itself reminded me of the constant rebirth cycle of a phoenix, a bird who renews itself better than before from its very own ashes, which I decided to incorporate into my painting. Maurice Hilleman himself was known for being a fierce, strong-willed person, which I felt further fit the fiery resilience of phoenixes.

In my painting, there is a clear shift from the blue hues I mainly used to depict the scientific side of his work to the warmer hues he looks towards, representing kindness and compassion. Maurice Hilleman connects the two worlds, showing how he used his passion for science for the benefit of others, constantly demonstrating his everlasting altruism. His life's work was dedicated towards helping others, a goal which he met time and time again, which I felt was incredibly important to highlight within my piece. He proved the consistent, unbreakable link between the realm of science and humanitarianism, inspiring me greatly during the process of creating this piece. I also included many details, such as specific awards Maurice Hilleman was given within my painting, each visually accurate to the medal or trophy awarded to him, and vaccines labelled accurately to reflect ones he developed.

When I first began selecting an Unsung Hero for this competition, Maurice Hilleman's story stood out to me, not only due to my own passion for biology, but also because of his incredibly large impact. I began on a digital canvas, sketching out and producing a layout which I transferred to a physical sheet of paper. I used gouache, one of my favorite mediums, to paint this piece. It is consistently easy to layer, blend, and create a beautifully stylized piece which always makes communicating my message easier and clearer to the viewer. I made sure to use bright colors to highlight all the good my Unsung Hero has done for the world, and painstakingly painted details which truly bring the painting together in a cohesive storyline.

My research on Maurice Hilleman taught me how science can be used as a way to spread compassion and love, which I now strive to do in my own fields of science research. I plan to spread more awareness about my Unsung Hero's story by spreading information both by word of mouth and on social media, where I will teach others about how large his impact was on our modern-day sciences. Dr. Maurice Hilleman's life tells a tale of passion, humanitarianism, science, and an overall incredibly positive impact on our world, and I hope to inspire others using my artwork to follow in his footsteps.

References:

"Maurice Hilleman." Wikipedia, Wikimedia Foundation, 4 Apr. 2026, en.wikipedia.org/wiki/Maurice_Hilleman.

Newman, Laura. "Maurice Hilleman." *BMJ: British Medical Journal* vol. 330,7498 (2005): 1028.