

# CITY

Journal



## Thanks for the Immunity

*Maurice Hilleman was one of the twentieth century's unsung heroes.*

**Theodore Dalrymple**

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*Vaccinated: One Man's Quest to Defeat the World's Deadliest Diseases*, by Paul A. Offit (Collins, 272 pp., \$26.95)

Considering the practical effect they have upon our lives, great scientists are seldom as famous as people of equivalent stature in other fields. Apart from a few iconic figures, such as Newton, Darwin, and Einstein, most are completely unrecognizable to us; you could walk a long way before finding anyone who could tell you who invented the transistor or discovered the insect transmission of disease.

There are no doubt many reasons for this. First, we take technical advancement for granted the moment it happens, forgetting the effort that went into achieving it. Second, it is difficult to make heroes of people who discover things that we do not, or even cannot, understand. Third, though a scientist may be the first to discover something, we regard it as inevitable that someone would have discovered it, in a way that it was not inevitable that someone would write the works of Shakespeare. (This, incidentally, is an argument in favor of the objectivity of scientific endeavor, and against that of postmodernist critics of science, who hold instead that scientific truth is relative.)

In his new book, Paul Offit, professor of pediatrics at Pennsylvania University and author of a brilliant account of the 1955 Cutter incident-in which thousands of people received live polio virus while being vaccinated-recounts the life and achievements of Maurice Hilleman, a microbiologist who worked for much of his life at Merck and was responsible for the development of many vaccines against common communicable diseases. Hilleman made the first usable vaccine against mumps; he developed a vaccine against measles that was almost free of side effects; he developed the first vaccine against hepatitis B, which causes chronic liver disease and cancer worldwide; and he did pioneering research into interferon, a substance now widely used in the treatment of various cancers. Any one of these achievements (and there were others) should have been sufficient to achieve lasting fame.

Hilleman, who died at 85 in 2005, was hardly a household name, however; and Offit seeks to correct what he sees as an historical injustice. He suggests that Hilleman did not win the Nobel Prize, though he was several times proposed for it, largely because he worked for a commercial company, Merck; however, it's worth noting that Godfrey Hounsfield, who developed the first CAT scanners, worked for a British commercial company, EMI, and did win the Nobel.

In fact, the parallels between Hilleman and Hounsfield are intriguing. Both were born in 1919, on isolated and relatively impoverished farms, where, lacking more usual distractions, they amused themselves by repairing and

constructing mechanical appliances. Both were driven men, possibly on account of their unprivileged backgrounds. They died within a year of one another (Hounsfield in 2004). Neither had a medical degree; indeed, Hounsfield had no formal university education whatsoever. Their biographies suggest that a background of minor hardship, in conditions in which opportunity is available, is far from incompatible with great success. I suspect Hilleman was not awarded the Nobel Prize because his work, while enormously important to public health, consisted largely of an extremely intelligent, practical application of other people's ideas, rather than path breaking ideas of his own.

As presented in this book, Hilleman was not in every respect an attractive figure. According to Offit, he was extremely foul-mouthed, and could be a bully. While he demanded nothing of others that he did not demand of himself—that is to say, utter devotion to the work at hand—his failure to recognize that some people were different, without being lazy or incompetent, is not an attractive characteristic. And it is perfectly possible to be plain-speaking without being foul-mouthed; indeed, the foul-mouthed often do not like it when others turn this habit against them.

Still, Hilleman was a very good family man and his staff were devoted to him. He insisted on working after the retirement age of 65, and Merck, which was usually inflexible about retirement at that age, acquiesced.

Toward the end of his life, Hilleman met with irrational opposition to some of his vaccines, which had helped in nearly eliminating diseases such as measles from the Western world. This must have been a bitter experience. A British doctor, Andrew Wakefield, published a paper in *The Lancet* suggesting that Hilleman's combined measles, mumps, and rubella vaccine was responsible for the development of childhood autism. The paper was very bad science, even had it been honestly reported; but Wakefield neglected to mention that the majority of his cases were sent to him by a litigation lawyer who hoped for a legal bonanza. The paper, however, had its effect, both in Britain and the United States; immunization rates declined.

It is hardly surprising that parents who have an autistic child should seek an explanation for it; and it is a natural human tendency to suppose that if event B followed hard upon event A, then event A caused event B. A number of parents observed the first signs of autism in their children soon after immunization with **MMR** vaccine, and therefore proved only too receptive to Wakefield's ill-founded hypothesis.

Not long after the hypothesis was laid to rest by research in several countries, which showed no connection between immunization with **MMR** vaccine and autism, another, similar hypothesis sprouted: that the mercury-containing thimerosal, included in vaccines to prevent bacterial contamination, was responsible for the development of autism. This hypothesis likewise wound up disproved; but on the principle that there is no smoke without fire, many people are now skeptical about childhood immunization, even with epidemiological evidence in its favor. And medically unproblematic childhood survival is now so normal that we forget what part immunization against common and often deadly diseases has played in bringing it about. Such factors help to explain why Hilleman is not more celebrated.

*Vaccinated* is not as gripping as Offit's previous book, because it is more diffuse. Nevertheless, it tells an inspiring story well. I hope one day Offit will tackle the social and intellectual history of the opposition to immunization, which has a long and mostly continuous history dating back to Edward Jenner, and which tells us a great deal about ourselves.