

Identifying Hidden Talent: How Max Lauffer Brought Jonas Salk to Pittsburgh

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Dr. Max A. Lauffer is not a household name but perhaps it should be. His work on the physical characteristics of viruses helped provide the first pictures of their structures, paving the way for vaccines that prevent and cure viral infection. His efforts in creating a virology program at the University of Pittsburgh led to his founding of the school's Department of Biophysics in 1949 and he would later serve as the school's first Dean of Natural Sciences. Perhaps most notably, though, his research and subsequent reputation put him in a position to woo and hire an up and coming virus researcher who would put Lauffer's young program on the map - Dr. Jonas E. Salk.

Much is known about Salk's research on poliomyelitis, more commonly known as polio, and his development of a vaccine that would go on to eradicate the disease. He was an ambitious, hard-driving scientist who pushed boundaries to further his research, eventually gaining the support of the National Foundation on Infantile Paralysis, now known as the March of Dimes, to focus solely on the virus. His work was directly responsible for ending a public menace that in 1952



Illustration 1. Dr. Max A. Lauffer. Courtesy of University Archives, University of Pittsburgh.

afflicted about 57,000 Americans, was fatal in over 21,000 of those cases, and was responsible for the deaths of more children than any other communicable disease in the country.¹

The part of the story that is the subject of some debate, and often overlooked altogether, is the chain of events that led Salk to the University of Pittsburgh. The Dean of the Medical School Dr. William McEllroy, Dean of the Graduate School Dr. Herbert Longenecker, and Lauffer as Director of the Virus Research Program comprised the 1947 committee tasked to

fill the vacancy of the head of the animal virology laboratory. After narrowing the field to a few candidates, it was decided that Salk was to be offered the position, which he formally accepted in a July 21 letter.

The debate arises in who was responsible for bringing Salk to Pittsburgh. While Lauffer was the chairman of the search committee, Dean McEllroy held both the status and reputation that would allow him to serve as the figurehead of the committee. Furthermore, his continuing relationship with Salk in lobbying for more space to conduct polio research after Lauffer left to chair the new Biophysics department has managed to link the two men in the vaccine's lore. Lauffer was well aware of the discrepancies, which he alluded to long after the initial triumph of the polio vaccine in a 1984 letter to Salk, when he noted that "it always amused me that others . . . managed so successfully to claim the credit for bringing you here."² Lauffer knew he could back up his claim that he persuaded Salk to come to Pittsburgh and his correspondence, recently donated to the University of Pittsburgh archives and displayed at the May 2014 annual meeting of the Manuscript Society in Pittsburgh, shows that the task of persuading Salk to come to the University fell squarely on his shoulders.

Max Lauffer earned his Bachelor and Master of Science degrees from Pennsylvania State University in 1933 and 1934, respectively, before completing his Ph.D. in biochemistry at the University of Minnesota in 1937. He began his professional career at the Rockefeller Institute for Medical Research where he studied the physical properties of the tobacco mosaic virus, which was one of the first descriptions of a virus' appearance. He also studied the biophysical characteristics of the influenza virus for the U.S. Army, which led to the creation of a flu vaccine.

Lauffer came to the University of Pittsburgh in 1944 as part of a group of faculty charged with developing a new program on viral research. Given his past experience working with the tobacco mosaic virus, Lauffer focused on plant virology. He quickly rose to the position of Director of the Virus Research Program and in 1949 became the first chair of the Biophysics department. He remained in that position until August 1956 when he was named Dean of the newly created Division of Natural Sciences within the university's College of Arts and Sciences. He returned to the chairmanship of the Biophysics department and was named the Andrew W. Mellon Professor of Biophysics in 1963, a title he held until his retirement in 1984.³ After retirement, Lauffer spent the next two years as a consultant to the University of Pittsburgh's Provost Office as they investigated the best means of fully incorporating biological science research into the mission and structure of the rest of the university community.⁴

With the exception of his time as Dean of the Division of Natural Sciences Lauffer was constantly working on research and was extremely active in his field of study. In addition to his work on the biophysical attributes of the influenza and tobacco mosaic viruses, Lauffer's later work at the University of Pittsburgh was concerned with biological entropy-driven processes, such as the polymerization of proteins. His expertise was sought in a variety of roles, serving as editor of several biophysics journals and traveling Europe as a visiting lecturer. Any scientist would be thrilled to make the kind of contribution Lauffer has to the field of viral research and biophysics, but it is the result of his role on the search committee to find a new head of the animal virology laboratory that has received the most publicity.

The first mention of Dr. Salk's name in association with

the position at the University of Pittsburgh is a May 23, 1947, handwritten letter to Lauffer from Dr. Martin Hanig of the University of Michigan's Virus Laboratory (see illustration 2). Hanig, who worked with Salk in Ann Arbor, encouraged Lauffer to contact Salk about the possibilities in Pittsburgh and warned him to do so quickly "as [Salk] seems to have something else underfoot."⁵ Lauffer heeded Hanig's advice and wrote to Salk on May 27, making the first formal contact with him about the opening for the head of the animal virology laboratory. In the letter, he described the burgeoning viral

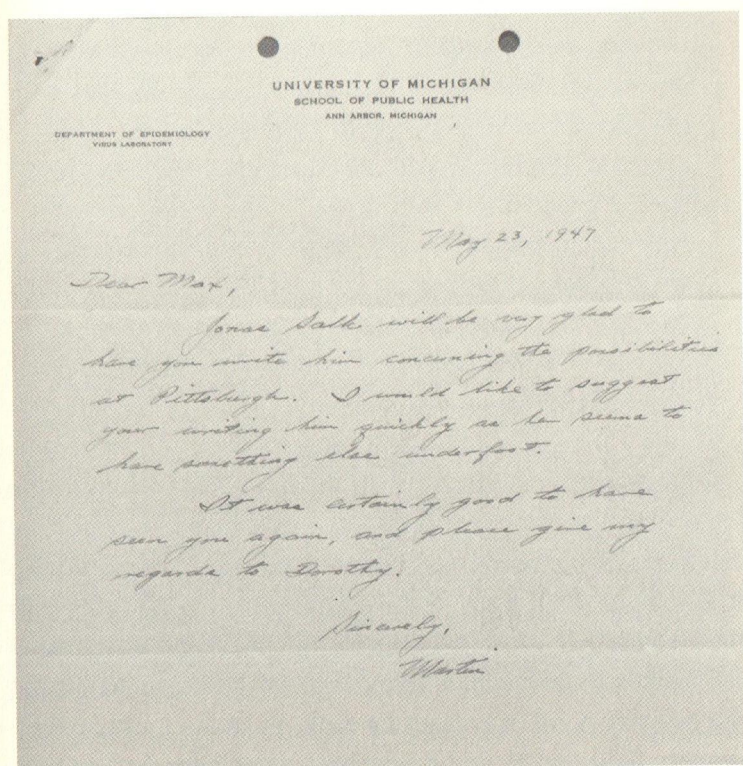


Illustration 2. Martin Hanig to Max A. Lauffer, May 23, 1947. Courtesy of Max A. Lauffer Papers, University Archives, University of Pittsburgh.

research program and the independence for researchers to set their own course, an aspect that was important to Salk, as follows:

We have organized a program of virus research at the University of Pittsburgh whose purpose is the investigation of the nature of viruses in general. To achieve this end, we have organized laboratories in animal virology, plant virology, and biophysics and biochemistry. It is our purpose to investigate fundamental problems of viruses from the biological, chemical and physical points of view. Our policy is to encourage the major investigators to take the types of research which appeal to them personally. It is expected, of course, that numerous problems will be encountered which will involve active collaboration between various members of the program. Accordingly, we are looking for the sort of man who has his own interests and who will want to pursue those interests, but who will also be willing to enter into cooperative arrangements from time to time.⁶

Salk expressed interest in the job in a June 2 letter and the two began the work of scheduling a visit to the University of Pittsburgh, which occurred on June 20 and 21. After returning to Michigan, Salk wrote to Lauffer confirming his interest in the position and asks him to thank Longenecker and McEllroy for their hospitality, thus indicating that Lauffer was indeed the primary point of contact for Salk. Soon after, at Lauffer's request, Salk sent an additional three-page letter that outlined his plans for lab expansion and equipment, staffing, and his academic rank and department affiliation should he be hired.

The search process included checking references. Lauffer reached out to other scientists who had spent time with Salk in the laboratory or research setting, including Dr. Hanig of the University of Michigan. In his letter of recommendation, Hanig notes: “. . . [Salk] is completely impatient of incompetence. His only difficulty, here, is lack of room to beat his wings. If you can give him that room and freedom, he will really soar as he is loaded with scientific ambition. If you cannot give him that scope, keep away from him as he will find it elsewhere.”⁷

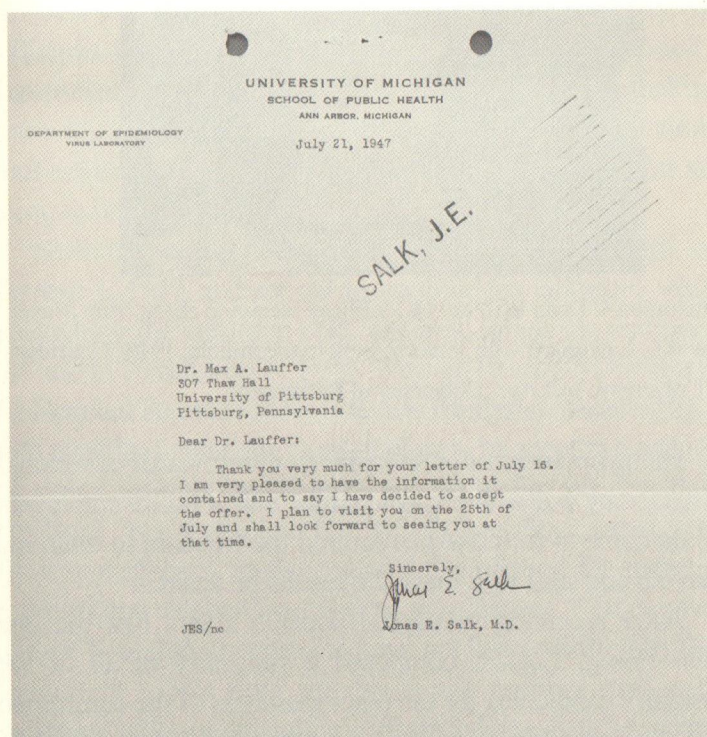


Illustration 3. Jonas E. Salk to Max A. Lauffer, July 21, 1947. Courtesy of Max A. Lauffer Papers, University Archives, University of Pittsburgh.

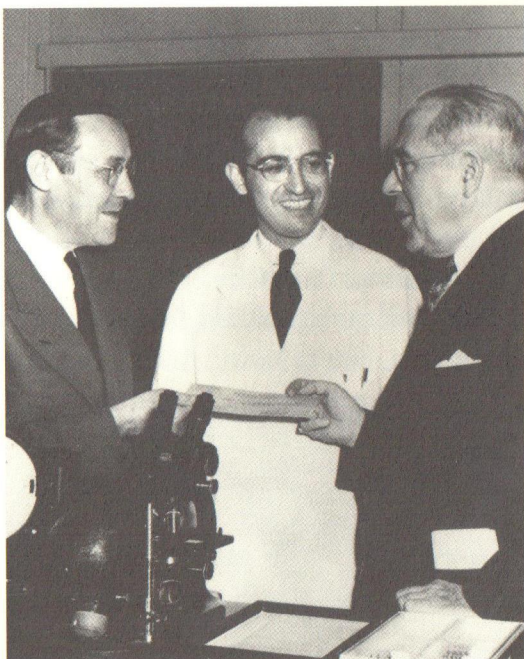


Illustration 4. Dean William D. McEllroy receiving check from Mayor David L. Lawrence, with Jonas E. Salk in the middle, 1949. Courtesy of University Archives, University of Pittsburgh.

Hanig's perception of Salk's frustration toward institutional bureaucracy was astute and accurate. Salk's future employers would come to find that he required the freedom to build his own lab and staff to achieve the results he desired.

After receiving numerous positive letters like the one from Hanig, Lauffer composed a summary of all of the position's candidates for the other members of the committee and, at a July 11 meeting, the committee decided to offer Salk the job. On July 16 Lauffer notified Salk of the committee's recommendation to hire him, an appointment that was approved by Chancellor R.H. Fitzgerald and the Board of Trustees without reservation. Salk informed Lauffer of his

intention to accept the offer on July 21 (see illustration 3) and mentioned that he planned to visit Pittsburgh on July 25 to complete the final details of his appointment as associate research professor in the virology department of internal medicine.

Salk was eager to get to work and placed an ad in the *Pittsburgh Press* for a house or apartment to rent in Pittsburgh, with plans to start at the University at the beginning of October. In the meantime Salk suggested to Lauffer that they should pursue a War Department contract to continue his research on influenza. His ambition and enthusiasm was contagious and a September 12 statement by Lauffer hinted at the earthshaking discoveries that were to come: "We are all anxiously awaiting your arrival in Pittsburgh. I believe that the next few years are going to be very exciting."⁸

Salk began work at the University of Pittsburgh on October 1, 1947, and set out to improve his lab space while researching the common cold, measles, influenza, and polio viruses. In December Dr. H. M. Weaver, Research Director of the National Foundation for Infantile Paralysis, contacted Salk with questions about the amount of time he spent researching the polio virus. In an unsent response to Dr. Weaver, Salk explained "my time is divided evenly between carrying out my responsibilities to the National Foundation for Infantile Paralysis and to The Commission on Influenza."⁹ Dr. Weaver and the Foundation appear to have not been satisfied by this division of Salk's time and his initial probing marks the beginning of the organization's efforts to focus Salk's research solely on the polio virus.

The rest, as they say, is history. Salk went on to develop a vaccine to prevent and cure polio by using dead strains of all three types of the virus. In 1952 he began testing his vaccine

on western Pennsylvania children who had polio and then those who did not, seeing a successful development of polio antibodies in all cases. The following year witnessed the first large-scale field trial, which began at Arsenal Elementary School in Pittsburgh's Lawrenceville neighborhood and grew to include over 6,500 area schoolchildren (see illustration 5), as well as Salk, his family, and officers of the National Foundation for Infantile Paralysis. A national double-blind field test was organized in 1954 and 1.8 million children, dubbed Polio Pioneers (see illustration 6), were inoculated with Salk's vaccine. The results of the study were disclosed on April 12, 1955 – Salk's research produced the first safe vaccine to successfully prevent polio.¹⁰

Salk left the University of Pittsburgh in 1962 to build his own independent research facility in California, but his first major accomplishments are forever tied to the university. Without Lauffer's advocating for the enthusiastic young researcher, it is possible that Salk would never have been selected to fill the vacancy in the animal virology lab, not to mention go on to develop a solution that would eradicate an epidemic. The early correspondence with Salk is evidence that we can all thank Lauffer for his pursuit of the scientist that changed the world.



Illustration 5. Dr. Jonas E. Salk vaccinates a schoolgirl, 1955. Courtesy of University Archives, University of Pittsburgh.

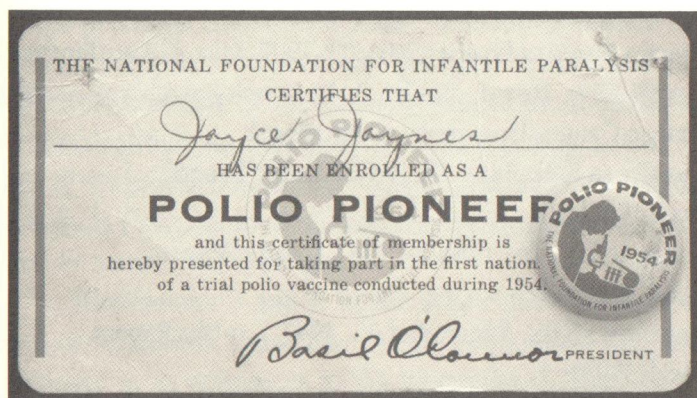


Illustration 6. Card and button given to children who participated in the first national trial of the polio vaccine, 1954. Courtesy of Jonas E. Salk Polio Vaccine Collection, University Archives, University of Pittsburgh.

Notes

Zachary L. Brodt is University Archivist at the University of Pittsburgh. The Lauffer collection was received in March 2014. The thick file of Salk-Lauffer correspondence was on display when the Manuscript Society met in Pittsburgh in May 2014, marking the first time that the letters were viewed by the public. Zach may be reached at zlb2@pitt.edu

¹Alberts, Robert C. *Pitt: the Story of the University of Pittsburgh, 1787-1987* (Pittsburgh: University of Pittsburgh Press, 1986), 211.

²Max A. Lauffer to Jonas E. Salk, April 30, 1984. Max A. Lauffer Papers Case File.

³Obituary of Max A. Lauffer, *University Times*, September 13, 2012.

⁴University of Pittsburgh, "University Of Pittsburgh Board Adopts FY85 Budget; Chancellor Announces Administrative Changes," news release, May 15, 1984.

⁵Martin Hanig to Lauffer, May 23, 1947. Max A. Lauffer Papers (UA.90.F99), Box 1, Folder 2, University Archives, Archives Service Center, University of Pittsburgh.

⁶Lauffer to Salk, May 27, 1947. Lauffer Papers, Box 1, Folder 1.

⁷Hanig to Lauffer, June 25, 1947. Lauffer Papers, Box 1, Folder 2.

⁸Lauffer to Salk, September 12, 1947. Lauffer Papers, Box 1, Folder 1.

⁹Salk to H.M. Weaver, December 21, 1947. Lauffer Papers, Box 1, Folder 3.

¹⁰Alberts, 212-217.