John Franklin Enders and Modern Vaccines

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We often turn to the past for answers to problems we are facing in the present. While science does not move backwards, it can still be interesting, perhaps even useful to look back and remember the lessons we have learned before. With that in mind, the John Franklin Enders Papers (MS 1478) [1] seem more relevant now than ever. Today, Enders is known to many as the “Father of Modern Vaccines” due to his integral role in developing both the polio and measles vaccines.

John Franklin Enders was a Yale graduate whose life work was in bacteriology and immunology, although it took time to find this ultimate vocation. He received an Bachelor of Arts in English from Yale in 1919, after spending several years away from his studies to be a flight instructor in the U. S. Naval Reserve Flying Corps during World War I. While pursuing a PhD in literature at Harvard University, Enders was introduced to Hans Zinsser, the head of the department of bacteriology and immunology at Harvard. Shortly thereafter, in 1927, he transitioned to studying bacteriology and immunology, and received his PhD from Harvard Medical School in 1930.

During Enders’ lengthy career, he was a very active author, publishing countless articles and papers for over 40 years. Specifically, his work on measles can be tracked through the numerous publications he contributed to during the 1940s and 1950s, before a vaccine was successfully developed in the early 1960s. These writings include Etiology of Measles published in 1940, Recent Advances in Knowledge of the Measles Virus published in 1958, and Vaccination Against Measles published in 1961. Of course, he wrote papers on dozens of other research subjects including mumps, polio, and influenza, all of which can be found in Series II of the Enders papers.
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Measles lab notebook entry for January 25, 1954. John Franklin Enders Papers (MS 1478), Series III, Box 102, Folder 5.

Enders’ lab notebooks provide a more granular depiction of his research on measles, as well as many other experiments. As shown in this image, the very first page in volume 1 of his measles laboratory notebooks, dated January 25, 1954, details an attempt to isolate measles using four types of tissues. In total, four measles notebooks span nearly two decades of Enders’ lab work on the virus, from 1954 to 1970.

The picture of Enders’ work is rounded out by the extensive correspondence held in the 88 boxes of Series I from MS 1478. There are more than four boxes of materials completely dedicated to the subject of measles, including correspondence with the Communicable Disease Center (CDC), the National Institutes of Health (NIH), and correspondence about a measles vaccine study in New Haven, Connecticut.
On a more personal side, letters exchanged with friends and colleagues offer a slightly more intimate portrait of Enders. Although there are only a small handful of letters between him and his colleague and mentor, Hans Zinsser, the notes serve to humanize Enders. In this December 12, 1938, letter to Zinsser, Enders wrote “I have been flattened out myself with what you would probably call grippe…”. Enders seems to get no amusement from the irony that his work in infectious diseases does not stop him from suffering a case of the flu.

Through his hard work in the field, Enders received many honors, most notably the Presidential Medal of Freedom in 1963 and the Nobel Prize in Physiology or Medicine in 1954. In addition to the research detailed above, Enders also studied cancer, AIDS, and countless other diseases during his illustrious career. The John Franklin Enders papers are housed at Manuscripts and Archives, and they are a scientific treasure trove waiting to be explored.