Spencer Pergande

April 29, 2021

STS 4600

Sociotechnical Synthesis: Past and Present Pandemics

My technical and STS research relate to each other because they both deal with infectious diseases. My technical project is centered around the novel coronavirus, a virus that has changed the world drastically over the past year and a half. The product we created for the project is a highly protective, highly wearable mask, designed to physically limit the spread of the novel coronavirus by preventing virus-containing droplets and aerosols from entering or escaping the wearer's mouth. My STS research, however, centers on the poliovirus. Specifically, it focuses on the accidental release of unsafe polio vaccine to the American public. Although the two projects deal with different infectious diseases and with different methods of prevention, they still both deal with infectious disease.

As a preventative measure against the spread of the novel coronavirus, people are often required to wear masks. These masks come in many different shapes, sizes, and levels of effectiveness. The aim of my technical work was to create a mask that combined comfortable fit, stylish aesthetic, effective filtration, and facial visibility. In conjunction, these factors should contribute to a safe, effective, popular mask. In turn, this mask should help limit the spread of the novel coronavirus.

My STS research explores the failure of the poliovirus vaccine in the United States in 1955. This failure is now known as the Cutter Incident because the contaminated vaccine was produced by Cutter Laboratory. Building from the STS framework called Actor Network Theory,

I argue that the Cutter Incident was a result of the failure of many actors comprising the polio vaccine network. If we continue to believe that the Cutter Incident was solely caused by the speed of the project or the neglect of the Cutter Laboratory, we risk misunderstanding how other influential actors like regulatory legislation and monetary influence contributed to the vaccine's failure. The goal of my research is to clarify the nature of this failure.

Working on these projects during the same academic year added some value to the research process. Although I completed my technical project in the fall semester and my STS project in the Spring semester, it was still valuable to learn about our current understanding of viral spread before diving into the medical understanding of the 1950s. It was also interesting to compare and contrast the two viruses in question. The novel coronavirus infects all people without bias, but more seriously affects older people and those with underlying health conditions. The poliovirus, however, was significantly biased toward the younger population. It is interesting how two similar particles could affect the population so differently. Although I completed these projects at different times, their proximity enhanced the research experience.