

Easing Disease:

The Communication of Louis Pasteur's Revolutionary Discoveries that Facilitated the Understanding of Germ Theory

Breanne Acoba, Brielle Acoba

Senior Division

Group Website

Student-Composed Words: 1197

Multimedia Time: 2:55 minutes

Process Paper Words: 500

For this year's theme, our interest in this topic was sparked when we remembered that our health science class had learned about healthcare advancements, notably Louis Pasteur's impact on medicine. In the midst of a global pandemic, we also considered current events, becoming intrigued by this foreign *coronavirus* that was constantly making headlines, day after day, week after week. Considering both of these, we felt it would be fitting to conduct research on Pasteur's discoveries.

Our topic relates to the annual theme because Pasteur's stance on Germ Theory was in direct opposition from scientists of the 19th century. This sparked disputes and controversy as society had widely believed that disease was caused by miasmas. In publishing journals and delivering speeches, Pasteur utilized communication to justify the validity of Germ Theory to the scientific community. Not only that, but Pasteur and his opponents had inconsistent experimentation methods from each other— a factor that introduced miscommunication into their debates. Nevertheless, Pasteur's communication facilitated the understanding that germs were caused by microorganisms. Society transformed to reflect these findings.

We began our research process by using articles to gather information on Germ Theory. We, then, obtained primary sources, relying primarily on databases like *JSTOR*, *EBSCO*, and the *Library of Congress* to access numerous academic journals, photographs, and textbooks. In doing so, we acquired comprehensive information on Pasteur's discoveries, especially concerning the methods that he used to communicate them.

To create our project, we selected a specific color theme (blue, red, white) to symbolize that Pasteur's discoveries strongly influenced modern medical practices. Though, there were a few challenges that we encountered in the creation of our project. Due to COVID-19 restrictions, we were unable to meet in-person with our teacher; as an alternative, we conducted all NHD meetings through virtual video conferencing. With regards to our project, the 1800s lacked primary multimedia sources. So, instead, we incorporated secondary videos. Furthermore, Louis Pasteur and most scientists involved in these debates communicated in French, a language that we did not have the ability to understand. Hence, we focused on English translations of these scientific works.

Our historical argument is that Pasteur communicated with scientists and the public through using experiments to support Germ Theory. He intercommunicated with professionals in the scientific community, published journals, and gave informed speeches to discuss his findings. Pasteur even conducted live, public trials and examined the results of them before the general public. With his communications reaching a broad spectrum of individuals—both educated and uneducated—we are arguing that Pasteur was able to gain

support, and the eventual understanding, of Germ Theory and its importance in preventing epidemics and controlling the spread of disease.

Pasteur's discoveries supporting Germ Theory are significant to history as it laid the foundation for the concept that disease is caused by microorganisms. Shortly after his discoveries, society's living conditions improved and medical professionals developed safer, more sanitary methods to care for patients. Today, scientists continue to apply Pasteur's principles to develop disease-preventing vaccines, most recently, with COVID-19 vaccines.