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*Between '1918 Influenza Pandemic and '2020 COVID-19': Reflecting Parallels with Religious, Scientific, and Public Policy Interests in the United States*

As the United States faced a series of cataclysmic pandemics, it is revealed how we as humans are accustomed to respond to disease. In 1918, influenza consumed American society but ultimately had corresponding ideas of religious, scientific, and public policy interests with the coronavirus in 2020. Regulations on religious activities created “anti-vaxxers” to argue violations of First Amendment rights. Therefore, the vaccine was perceived by many as deceitful and even dangerous. Without full knowledge of how disease emerged, ideas about sin and God’s punishment was the common belief. As time progressed, scientific advancement was to be the savior in discovering disease curatives and preventatives; however, medical research through human experimentation was harmful to the body. Germ theory prospered, initiating scientific inquiry as a replacement for prior faith-based beliefs. Establishing policies for defense against contagion includes quarantines as a way to isolate. While this strategy was effective for suppressing the infection, it initiated panic throughout the nation. Masking was an additional technique to safeguard public health, while sanitation, or mostly the lack of, conveys the issue of disease spread. The fall of numerous businesses exemplified how government enforcement disrupted normal life and facilitated the struggle. Due to the religious, scientific, and public

policy interests during both pandemics, human responses to the influenza outbreak parallel the reaction to COVID-19 in the United States.

In terms of emerging religious policies during both the influenza and COVID-19 pandemics, active members of faith resisted methods for vaccines while ideas about cause revolve around God's punishment and sin. "Anti-vaxxers" are people who oppose mandatory vaccinations. Even though there was not an influenza vaccine at the time, the prior outbreak of smallpox stirred conflict as vaccinations were enforced to prevent present and future disease. Due to the lack of transparency from authority, people were dubious of vaccination attempts with influenza because of their previous experience with smallpox. The elements making up vaccines were being withheld from the public eye, creating extreme doubt and distrust. The Jacobson versus Massachusetts case exemplifies how smallpox vaccines were required in order to attend school. This case emphasizes an utter invasion of liberty, especially through a violation of the First Amendment right, as "a compulsory vaccination law is unreasonable, arbitrary and oppressive, and, therefore, hostile to the inherent right of every freeman to care for his own body and health in such way as to him seems best." As a result, fear and opposition began to rise tremendously. Not only were people frustrated after smallpox, but they were also terrified of what could happen with future vaccines. In an attempt to resolve this crisis, scientists frantically rushed to find a cure based on trial and error approaches. Human subjects were injected, but the treatments were unsuccessful. Religious individuals began to realize that sacrificing their beliefs for a scientific advancement that had not yet worked is not worth the risk. Therefore, a question is raised: Can vaccine exemptions be possible if Americans' constitutional rights are at stake?

Even a century later during the coronavirus, controversy with faith and vaccines continues to be omnipresent. Widespread refusal was rampant with the COVID-19 as individuals

were concerned with vaccines being artificially manufactured which is strongly associated with the violation of some religious principles. For example, an article titled *Myths and conspiracy theories on vaccines and COVID-19: Potential effect on global vaccine refusals* declares the COVID-19 vaccine to be “made up of gelatin from porcine which is *haram* and therefore forbidden in Islam.” Obviously, a Muslim would oppose this vaccine. Until the full ingredient lists are revealed to the public, vaccines will still cause an infringement of religious traditions. Because of vast religious hesitancy, policies have become more significant; Title VII of the Civil Rights Act of 1964 protects the First Amendment as those who can argue a considerable faith-based claim have the ability to opt out of an employment-required vaccination. Diving into deeper aspects of religion is the cause of disease. A pervasive belief among society declares God to punish sinners through disease. Ancient communities that had suffered from disease point to the wrath of the gods, which in the case of nineteenth century cholera, was named “a divine imposition...a punishment, moreover, coming from God’s own hand” (Rosenberg 43). The sinners were the unhygienic, impoverished, and immigrant groups who appeared to be easy targets for disease and facilitating its spread. These theories were supported for centuries until challenged later by germ theory. Even with the one hundred year time difference, the influenza pandemic correlates directly with modern-day patterns as anti-vaccine movements and divine beings believed to cause disease permeate American society.

In addition to the significant impact on religion, science also had a powerful influence on human response, especially through medical experimentation and a greater understanding of germ theory. Throughout both pandemics, the science behind the cause of disease and how to prevent it was widely questioned. In order for medical advancement to flourish during both of these desperate times, scientific experiments were performed in efforts toward discovering a

cure. Prisons became a hotspot for mass contagion, so scientists took advantage. Influenza invaded San Quentin Prison, opening an opportunity for Doctor Leo Stanley to conduct his infamous tests such as the “medical experiments of dubious ethical value, including attempting to treat older, ‘devitalized men’ by replacing their testicles with transplants from livestock and recently executed convicts” (Arnold 49-50). The ultimate goal of these tests was to save lives; although, these experiments are completely inhumane. Inmates are still human beings no matter what crimes they committed, and this unethical experimentation continues but at what cost? The cost is human life, and it is never worth the risk. Despite Stanley’s callous ways, his work inspired other physicians to search for the true cause of influenza and how it spread.

Experimentative tendencies continue into the twenty-first century coronavirus. According to the article, *COVID-19 vaccine research and development: ethical issues*, Controlled Human Infection (CHI) was assumed to be a successful method for finding a cure, but it raised panic as it deliberately exposed human subjects to a virus which once again puts lives at stake. These mechanisms of experimentation were utilized in order to discover both curatives and preventatives for disease. These experiments led to germ theory being universally accepted. However, shielding human life from harm should always be the first priority. That being said, germ theory threatened older ways of thinking: a rough transition from associating sin and mortality with questions about disease and God’s punishment. Germ theory proclaims that disease is caused by the invasion of microorganisms but its weakness by the article *Is Molecular Epidemiology a Germ Theory for the End of the Twentieth Century?* includes the “failure to recognize that the action of interdependent parts (agents, aspects of the environment, and individuals) is not an immutable, ahistorical characteristic of those parts, but is, instead, dependent on the properties of the whole system in which they operate.” This revolutionized

medicine allowing for knowledge in disease identification and new treatments. All beginning with experimentation for medical inquiry, germ theory enabled research to successfully develop remedies for disease and introduce more scientific policy interests into society.

In both influenza and the coronavirus, mandatory quarantines along with promoting adequate sanitation and the use of masks created tension between the public and government policies. Beginning with quarantines, *The 1918 Influenza Epidemic in New York City: A Review of the Public Health Response* opens discussion of isolation during the influenza incident in New York as “under typical public health protocols, a person would either be bound to their home for the duration of their illness and a placard placed on their door, or they would be removed from their home and isolated in a hospital or sanitarium.” Quarantines are significant strategies to control both the spread as well as to limit exposure, which shows the massive effect and sense of urgency both pandemics had on American society. A similar reaction takes place during COVID-19; although more recently, the public became increasingly resistant as the quarantine was prolonged. Isolation paused normal daily life, resulting in businesses struggling to keep their doors open and long-term, damaging effects on mental health. Quarantines caused the nation to rapidly plummet into chaos; moreover, in current times the number of those who objected to these new policies increased. Many Americans citizens have begun to realize the possible dangers of quarantines which has been demonstrated in *COVID-19 Pandemic: Impact of Quarantine on Medical Students’ Mental Wellbeing and Learning Behaviors* through studies showing “both female and male medical students have identified that quarantine has caused them to feel emotionally detached from family, fellows, and friends and decrease their overall work performance and study period.” Through quarantines and authority bilaterally altering the rules, governments have caused more confusion and even permanent damage on human health.

Furthermore, sanitation became another major problem in these pandemics. An example refers back to the lack of sanitation in San Quentin as overcrowding was the source of contagion along with other factors such as poor ventilation, limited airspace, and unhygienic habits. These conditions made the prisoners easy targets for influenza. Today, while most are aware of the importance of sanitation, nonstop shortages of cleaning supplies during COVID-19 only fueled the spread. It is inevitable for human response to parallel throughout time. Masking is another powerful tool from the past that is used in the present to maintain proper hygiene in society. Compared to influenza in San Quentin, “inmates in at least one Pennsylvania prison went on a hunger strike to protest guards not wearing required masks” (Fabian Witt, 125). As shown, influenza and coronavirus times include both troubles with ample sanitation and following proper masking mandates in order to contain the speed of contagion. This compulsory routine of forced cleanliness and sanitation through quarantines and masks has left numerous Americans baffled and their responses throughout time have not gone unnoticed.

The human response to disease has not been ideal to authority, but rather it has been indistinguishable from previous reactions to pandemics seen earlier in history. In the early twentieth century, an influenza pandemic pervaded America. Ideas reflecting policy interests in religion, science, and the public correspond to the coronavirus outbreak in the twenty-first century United States. In terms of regulations on religious activities, so-called “anti-vaxxers” advocate against vaccines as it violates their beliefs. Religious controversies with medical advances were often distrusted and even appeared to be hazardous. The panic induced by the lack of knowledge with disease causation played a tremendous role in creating a constant reaction. Thus, it was believed God caused disease as a way of punishment. Sinners were blamed for deadly illnesses that devastated the nation. Experimentation in order to accomplish a

successful vaccine completely disregards a true consequence: risking human life. The emergence of germ theory posed scientific thinking as a threat to replace older beliefs associated with sin and morality. As policies were established for the public interest, quarantines were a mechanism to isolate individuals from one another. The prolonged closure of businesses stirred chaos and disrupted other daily life tasks. Masks were and still are methods to block disease, and the lack of sanitation in prisons exemplify the facilitation of contagion. Although influenza and COVID-19 shared a one hundred year difference, it has been proven that humans have conditioned responses to disease.

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