Analyzing the Factors that Affect Various Pandemic Responses

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Introduction - Amrita Malhotra

The plagues of the past were marked with fear, blame, and immense death. Now, as we are struggling with a pandemic of our own, we can look back at previous plagues to get an idea of how to eradicate the current virus as quickly and effectively as possible. Unfortunately, due to modern technology, changing political and social standpoints, and different access to education, it is difficult to compare our current pandemic with previous plagues. However, there are a few helpful similarities that we can look toward, mainly, the influence that politics and socioeconomic classes had on the spread of the plague. Going back to the Black Death of the 1300s, we can see that humans primarily relied on religion to explain the pestilence surrounding them. We will be studying three of the largest religions at the time: Christianity, Judaism, and Islam, and how each religious belief influenced peoples' explanation for the plague, including whom they blamed for the plague. Moving on, as society developed over the next few centuries, we noticed that each socioeconomic group was affected differently by the plague, and as a result, had different views about where the plague came from. As society advanced even further, however, another explanation for the rise of the plague came into play: science. Science and

religion continued to clash over the years until society had a strong enough understanding of medicine to come up with a definite answer for the origins of the plague. And finally, as governments grew more complex and individual, the politics of each government affected their response and thereby affected the overall spread of the plague. This idea can be extended to the current coronavirus pandemic: as we can clearly see, different world leaders have managed to respond to the pandemic in their own way, leading to a drastic disparity between the number of cases throughout various countries in the world. Religion, science, and socioeconomic factors all greatly affected responses to plagues of the past and how quickly they spread, but as society has advanced, politics has become the primary influencer on pandemic responses.

Religion - Sarah Wu

Religion played a large role in peoples' lives during the Medieval ages. Almost everyone living in that time period believed in a religion, and their beliefs greatly impacted the way they lived and how they reacted to the Black Death. During the Black Death, the majority of the European population and its rulers were Christian, although Muslims from the Islam religion and the Jewish population were competing for control. Each of these three religions interpreted and reacted very differently to the Black Death, ultimately exposing their true outlook on the world and other populations (Mark, Ancient History Encyclopedia).

The Christians, who made up 80-90% of the European population during the Medieval period, viewed the plague as an overwhelming punishment from God for sinning. While many believed the Black Death was a punishment for life choices including piety, other Chrisitians also thought that the plague was a cause of "bad air". Many fourteenth century chronicles

attribute disease to divine retribution for the wickedness of society, just as the Christians did. Christians were encouraged to leave plague-stricken regions for uninfected regions to protect themselves from the disease (Dols, stanford.edu). They believed that the plague was contagious and could be passed between people, but one could be protected through prayer, penitence, charms and amulets (Mark, Ancient History Encyclopedia).

The Christian response to the plague was conviction of personal guilt and need for making amends. They believed shame and embarrassment were suitable self-punishment for sins and wanted to divert/reduce God's punishment. This mindset and response is what led to the Flagellants and the persecution of Jews. Flagellants were groups of zealous Chrisitians, led by a Master, who went from city to city, whipping themselves for sins and leading the persecutions of Jews, gypsies and other minority groups. While the persecution of Jews did not begin or end with the Black Death, Jews and other minority groups were placed as a scapegoat and ruthlessly tortured by the Flagellants. The Flagellant response to the Black Death became so extreme that it became banned by Pope Clement VI as ineffectual, disruptive and upsetting. The second response to the Black Death by Christians was flight from infected areas. Many from the wealthy upper class fled to their villas in the countryside while the poor/farmers left their lands to travel to cities in hope of better medical care and food. However, this constant traveling from one place to another further contributed to spreading the disease (Mark, Ancient History Encyclopedia). Christians also reacted to the plague by looking for redemption. They believed fasting, prayer, mass, and use of amulets and charms could earn God's forgiveness and potentially protect themselves from disease. Most of their cures for the Black Death were religious, including chopping up snakes (representative of Satan) and rubbing the pieces on one's body to draw out

evil with evil. Others drove out the 'bad air' by burning incense and carrying nice smelling flowers/herbs. The Christian explanation and reaction of the plague was based on the European Stereotype of fear, a collective emotion stemming from messianism, anti-Semitism and the punishment of sins (Dols, stanford.edu).

In contrast, the Muslim population had a completely opposing view of the Black Death compared to Christians. They believed the plague was a gift from God and a martyrdom for faithful Muslims. In martyrdoms, death by plague guarantees the believer in reaching paradise. This idea was comforting to the distressed Muslim and preserved the depiction that God was compassionate and merciful. However, there was a small population of Muslims that believed the plague was a divine punishment due to Christian and Jewish attitudes and unholy lifestyles. While all Muslims believed the plague was divine, there was no unanimity about the specific reason for plague. Unlike the Christian view, Muslims believed they should neither enter nor flee a plague infected land. They also believed that there was no contagion, or spread of disease by close contact, of the plague because it was a disease that came directly from God. The belief that it was God's will whether or not someone would become infected with the plague contributed to the ban of exiting and entering plague-stricken lands. As opposed to Christian Europe, Muslim societies did not declare the plague was God's punishment, did not encourage flight, and did not believe the plague was contagious (Dols, stanford.edu).

The Muslim response to the plague was prayer for the plague to be lifted, mass funerals, and fasting. There was an increased belief in supernatural visions, signs and wonders. Magic, amulets and charms were used as cures against the plague. While some Muslims didn't agree with the idea of prohibited flight from a plague-stricken land and fled from cities, most stayed in

their cities, even if it was infected, which led to a higher death toll in the Muslim population. The Muslims did not participate in persecution of marginalized communities but rather respected Jewish physicians, who they believed were highly educated and could help treat symptoms of the disease (Mark, Ancient History Encyclopedia).

The Black Death served as a rough time for the Jewish community as many died directly and indirectly from the disease. During the Medieval period, Jews were seen as weak, unpopular and easily identifiable scapegoats. They were also enemies of leaders and Christians as many people were in debt to Jews and Jewish property was perceived to belong to royals. The Jewish population was attacked for poisoning wells, and many leaders were empowered to announce how the Jews would be killed and how to split up their land (Dols, stanford.edu). Any debts owed to the Jews were also canceled as a result of punishment for 'poisoning drinking water' and being placed as the blame for the disease. In response, many Jews fled to Poland where King Casimir III displayed a tolerant policy towards the Jews. Some fled to Spain, where they were briefly offered shelter before being attacked again. Historians believe that Jewish halacha mandating practices served as protection for Jews from the plague. Some of these practices include handwashing, quick burial of the dead, ritual purity, mutual responsibility among members of the community, strict rulings on isolation and a command against what people know today as double-dipping. However, the Jewish population faced difficult environmental conditions such as crowded quarters, living far away from city centers, and houses along rivers that were typically located on banks in unsafe areas near forest and wildlife. There is little documentation of Jewish life during the Black Death beyond fear, harsh decrees and persecution.

Surrounded by death both from disease and persecution, being a Jew during the plague was anything but easy (Hatfutsot, Museum of the Jewish People).

Science - Kalyani Srikanth

It is impossible to talk about explanations made by scientists at the time of the plague without discussing religion as it was believed that medicine and astrology worked hand in hand. Religion encompassed almost all aspects of everyday life and as a result, the idea of science and medicine existing as secular fields was unheard of. The Report of the Paris Medical Faculty, October 1348, is one of many great texts used by historians and scientists to understand medicine at the time of the Black Plague (harvard.edu). Being a university faculty existing in an overwhelmingly Catholic country during the Middle Ages, it's no surprise that King Philip VI is cited as the inspiration for the report, since it was believed that monarchs were an extension of God, and that the faculty's intellectual capacity to make their observations was made possible with "God's help." At the time, the dominant theory on what made up the universe was that of the classical elements: water, air, earth, and fire (Aristotle, mit.edu). While many ancient civilizations had their theories on what these basic elements were, the specific set of elements and their consequent characterizations adopted by Europeans comes from the ancient Greeks. The incredible influence of the concept of four basic elements is illustrated by the fact that many reports made by medical professionals and religious scholars at the time of the plague talk of a "corruption of the air," which refers to the miasma theory: the idea that epidemics were caused by "miasma" or "bad air". Aristotle said there are four qualities - wet, dry, hot, and cold - of which two describe a certain element. According to this philosophy, air is "wet and hot." The

primary cause of the plague, according to the report, is the "conjugation of three planets in Aquarius," which refers to the astrological sign in the zodiac (Paris Medical Faculty). Each zodiac is associated with one of the four elements, and Aquarius is associated with air. To put it simply, the belief was that a number of astrological events, which supposedly signified mortality and famine, caused "evil vapors" to rise from the earth and "corrupt" the air. There is also mention of the planet Mars, which is described as a "malevolent planet," having viewed the planet Jupiter with some sort of evil intent which generated strong winds that dispersed the corrupted air. Evil vapors are also stated to have come from lakes, swamps, the bodies of the dead which haven't been properly buried, and from earthquakes that caused these vapors to be released from the center of the earth.

When inhaled, this air supposedly damages the heart and lungs and thus corrupts the spirit. It was believed that the heart created the spirit, a substance characterized as a vapor that served as the "life force." The rotting of the heart and lungs results in heat that destroys the life force. This is the process by which the report claims a person dies from the plague. In a treatise called "Documents inédits sur la grande peste de 1348" written by a doctor from Montpellier, it is stated specifically that when a sick person dies, the corrupted air exits their body and enters those of bystanders (harvard.edu).

When it comes to the practice of medicine, Christian texts did not provide any insight into the inner workings of the body so European medical professionals used Greek and Arabic medical theories and techniques (Legan, jmu.edu). Several different precautionary measures were recommended to prevent infection including burning scented woods and herbs and carrying pleasant smelling items such as rose water to fend off the corrupted air. It was also recommended

that people carry gemstones since they were believed to have healing properties. Bathing in gold or rose water was believed to have purifying powers. Some put a powder containing sulfur, arsenic, and antimony into a fire in hopes of preventing infection. This method proved to be effective as sulfur is harmful to bacteria, fleas, and rats. People were told to avoid things relating to heat and moisture such as hot baths, excessive exercise, and sexual activity. With regards to diet, moderation and abstaining from eating moist foods were advised. There was lots of variation in what physicians recommended for diet which resulted in much contradiction. When treating the sick, physicians utilized bloodletting. The Greek physician Galen is particularly known for this method. At the time, the humoral theory was adopted in medicine. In this theory, four bodily fluids are linked to one of the classical elements described above. Blood, one of these bodily fluids, is associated with the air element. It was believed that the buboes held the Plague's poison so various treatment methods involved them. Piercing, drawing blood from around them, and a method called "cupping" (a heated cup was placed over the bubo and was believed to extract the poison) were used. Another treatment was theriac, a paste created from a mixture of up to eighty ingredients including opium, cinnamon, saffron, rhubarb, pepper, and ginger, which was taken orally. Uroscopy, in which the urine of the sick was compared with various other samples, as well as pulse-taking was utilized. It is important to note that none of these treatments proved effective. The lack of proper medical knowledge and reliance on religion to explain that which was unknown resulted in many of those infected dying after receiving ultimately pointless treatment.

Socioeconomic Class - Cathy Kenderski

During the era of the Black Plague, socioeconomic class played an enormous role in determining the quality of education that individuals received. This education went on to influence the various explanations for plague.

Education was all but unattainable for serf or peasant families. In fact, if a serf or peasant family attempted to obtain an education without permission from the lord of their manor, they would be fined. As a result, less than 1% of the peasant population was literate.

Education was rare even for those of average socioeconomic status. Despite the fact that 15% of individuals were not peasants and were thus of relatively high socioeconomic status, only 5% of the European populations had received any sort of formal education by 1330.

Surprisingly, education in and of itself played a minimal role in determining the various ways that individuals attempted to explain plague. Due to obvious lack of medical knowledge, even scholars did not correctly discover the cause of plague, so it is difficult to compare the explanations created by scholars and peasants. In other words, since explanations offered by academic institutions did not differ from public opinion, it becomes clear that socioeconomic status did not play a role in the root cause analysis that people performed to explain the black plague. There is, however, a strong correlation between socioeconomic status and religion.

Peasants were far more likely to practice Christianity than any other socioeconomic class. (substantiate). As a result, those of lower socioeconomic status were more likely to view plague as a punishment and thus felt that shame and embarrassment were suitable practices to ward off plague.

However, the link between low socioeconomic status and Christianity is not a perfect one. For example, while Christians as a whole were more likely to flee plague stricken regions

for uninfected regions, those of low socioeconomic status often did not have the resources to leave their places of residence for other areas; doing so would often leave them without a home. When and if they did leave, peasants were far more likely to flee the infected region and travel to a city in hopes of medical care. The rich, on the other hand, were more likely to leave an infected region to travel to countryside villas that they owned.

Available healthcare affected the quality of life between the rich and the poor. While the Black Plague is often referred to as an "equalizer" by historians, in that it affected the rich and the poor indiscriminately, it can be assumed that the quality of life of the rich who had access to better or more experienced doctors was significantly higher than that of peasants who could not afford any sort of medical attention. Additionally, the aforementioned disparity between the places that the rich and the poor fled increased the death rate of the poor; higher population density in cities increased the spread of the disease. In other words, since the poor were forced to flee to cities, they were slightly more likely to contract the disease. The rich were able to flee to secluded areas, which decreased their likelihood of obtaining the disease, thus affecting the death rates between the two classes.

Politics - Daylin Atwood

Before we can discern how politics changed the course of disease in the 1300s, we must understand what "government" meant in the first and second plague pandemics. In the years leading up to the Black Death, Church and State held fairly equal power. This changed when Philip IV, the King of France, did away with the fairs of Champagne in the early 1300s. (Rothbard, Mises Institute) These were important trade markets that served merchants from all

over Europe. He then proceeded to impart a heavy tax on his people and the Church. This was an unprecedented act that caused a great deal of dissent. Royalty did not typically extend taxation or power beyond its set reach. In the following century, monarchs from surrounding countries took after Philip IV, implementing taxes of their own. The immediate effect of these policies was a great economic decline, thus lowering the people's living standards. By the time the Black Death hit, taxed populations were in poor condition to fight off disease, with less money to allocate to rent, food, and proper hygiene. Despite the governments' role in worsening the people's condition, politics became a leading force in deciding the outcomes of disease. After all, the greater the government's power, the more people tend to rely on political leaders for information and as a source of trust.

In order to understand how politics shaped public health, it is critical to look at the legislation passed in an attempt to control plague. Early on, small councils were set up to create rules for smaller provinces, one of these being Pistoia, a city just outside of Florence. Various regulations included the proper way to handle bodies of the deceased, and what belongings would and would not be allowed to enter the city for fear of spreading contagion (Virginia.edu). The benefit of the councils was their ability to tailor rules to the needs of their communities, ensuring each area was as safe and peaceful as possible. People did not respect governments exercising great power over them, so councils composed of respected citizens were favored alternatives. Another noteworthy form of leadership can be seen in the Ottoman Empire. Over the course of 600 years beginning in 1347 with the rise of the Black Plague, the Ottoman Empire experienced regular outbreaks of plague. They were forced to develop effective systems to handle them. Their policies ranged from providing tax relief to families that had been severely

impacted by plague to ensuring that streets remained free of rodent infestation (Gjevori, TRT World). However, there is one significant measure that the Ottoman state can not take credit for, and that is the idea of imposing a quarantine period. Quarantine was a preventative measure first introduced by Venetians in Ragusa, the city that would later become Dubrovnik, Croatia. The government ruled that all incoming ships and trade caravans would have to wait 30 days in isolation before entering the city (Roos, History.com). Even in 1377, officials valued that people take proper precautions, especially because their research was not advanced enough to fully comprehend how disease spreads. This is an example of state and medicine working together in a way that is conducive to progress. That being said, not every government handled disease the same way, and misinformation, private agendas, and general misunderstanding seeped its way into the politics of plague.

Now the focus will shift to the result that the politicisation of plague, specifically economy-wise, has had on quality of treatment. Government involvement in public health is necessary to a certain extent, because without the political platform reinforcing scientific research, it is hard to make health advice heard. On the other hand, there are numerous situations in which the government becomes corrupt, and people die unnecessarily. Throughout the course of history, governments have been wary of negatively impacting the economy. This justified government involvement in changing records of numbers of plague cases to make it appear that quarantine would be unnecessary in their cities (De Witte, Stanford). Isolation means business can not operate as usual, and in the 1300s this would still impact the state as it would today. The AIDS crisis is another, more recent example of the state acting with their own interests in mind. The leader of South Africa during the beginning of the AIDS pandemic, President Thabo Mbeki,

claimed that HIV was not the cause of AIDS, and further, that the antiretroviral drugs were "poison". The Health Minister of South Africa took the same stance as Mbeki, promoting a diet with more potatoes and garlic to make oneself more immune to AIDS. (Nattrass, Oxford) For a period of time, Mbeki's actions denied pregnant mothers and adults across the country drugs that had been proven to slow the progress of HIV. There are contradictory theories of why Mbeki would take such a disproven position, but it is known that he was communicating with people labeled "AIDS denialists." Whether by instinct or by influence, he thought it was necessary to prevent the government from spending on HAART, the HIV treatments, even though there were organizations that had been founded for the purpose of making antiretroviral medicine affordable to the state. By 2007, one-in-five South African adults had contracted HIV.(Nattrass, Oxford). Additionally, a Harvard study stated that 35,000 cases of infant HIV by mother-child transmission could have been prevented with government action (Roeder, Harvard).

These statistics reflect numerous societal and political factors, but it leaves one to question what portion of the effect was due to the government being in charge of public health.

Connection with Coronavirus and Conclusion - Amrita Malhotra

The same factors discussed above are evident in our struggle with the coronavirus pandemic today. Although religion isn't a major role in our beliefs about the origins of the pandemic today, we can still see rampant discrimination as to *who* to blame for the plague. As the Jews were blamed for poisoning wells during the Black Plague, currently, Asians are being blamed for spreading the coronavirus around the world. The use of the term "China virus" has caused hate crimes against Asian-Americans to skyrocket in the recent months. There have been

over 800 incidents over the span of the last three months in California alone (Staff, phys.org). The pandemic has caused sickness, but also more hate and condemnation all around.

Additionally, we can see the effects of politics and belief in science on the spread of COVID-19 today. It has been scientifically proven that wearing masks can drastically reduce the spread of the airborne virus. However, in the United States for example, the act of wearing or not wearing a mask has unfortunately become a political statement. There is "overwhelming support among Democrats for mask wearing, but a little more than one-third of Republicans feel the same" (Smith, NPR). This division has led other countries, who have enforced distancing and mask-wearing from the start, to fare much better with the coronavirus. On top of the political factors, because society has advanced so much since the beginnings of recorded plague from the 1300s, we have yet another issue to deal with: the economic crisis. Fear of catching and spreading the virus by going to work (a necessity for many parents to support their families) has caused many small businesses to close down or lay off workers. The stock market, unemployment levels, hiring rates, risk of recession, travel rates, oil prices, and more have all been negatively affected by the pandemic (bbc.org).

As we discussed how plagues have impacted various social classes differently, nowadays, we can see that the lower-class populations have been disproportionately affected by the coronavirus: "the lower ends of society are about 10 percent likelier to have a chronic health condition [that] can make the coronavirus up to 10 times more deadly" (Fisher, New York Times). This creates a loop where lower-income families are more likely to have a health condition, but do not have the money to pay for treatment. And, without the money to pay for treatment, the virus ends up spreading quicker among that end of the population.

Again, as society has advanced, politics has become the primary influencer on pandemic responses, although religion, science, and socioeconomic factors also all greatly affected the spread of plagues of the past.

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