

Economic, Social, and Geographical Explanations of How Poland Avoided the Black Death

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HIST 694
1 MAY 2015

Introduction:

The Black Death is known as being, “the huge plague epidemic that ravaged Europe, Asia Minor, the Middle East and North Africa in the years 1346-1353.”¹ Believed to have originated in the Tibetan-Qinghai Plateau in Asia, the bubonic plague traveled along trade routes both on land and then eventually over water which led the plague to Europe. "This epidemic marked the start of the second plague pandemic, which lasted in Europe until the early 19th century. This pandemic is generally understood as the consequence of a singular introduction of *Yersinia pestis*, after which the disease established itself in European rodents over four centuries."² Even though we lack precise documentary evidence to trace the movement of plague across Asia, the trade routes of the Mediterranean seem to have increased the speed of the spread and introduced the Black Death to the ports along the coasts.

The Black Death was a pandemic that affected people of all nationalities and ages. The symptoms of this pandemic included pain throughout their bodies, boils, the vomiting of blood, and ultimately death.³ The young, old, male, female, rich, and poor, were impacted by its ruthless invasion. "In the years 1345 to 1350 half of the population (this is in reference to Europe during the Black Death), had succumbed to the plague. Statistics drawn up at the instigation of Pope Clement VI state the number of deaths for the whole world at 42,836,486."⁴ It should be noted that Clement VI's statistics should be understood as including Europe and the Middle East. He would not have had the tools necessary to make a true worldwide assessment. Furthermore, we do not know how this number came to be and how Clement VI found it to be the "correct"

¹Ole J. Benedictow, *The Black Death 1346-1353 The Complete History*, Woodbridge: The Boydell Press, 2004, xi.

² Boris Schmid et al., "Climate-driven Introduction of the Black Death and Successive Plague Reintroductions into Europe," *PNAS* (2015), 1. For a recent historical interpretation, see Monica Green, ed. *Pandemic Disease in the Medieval World: Rethinking the Black Death. The Medieval Globe* 1 (2014).

³ Johannes Nohl. *The Black Death A Chronicle of the Plague*. New York: Harper & Row Publishers, 1969 18

⁴Nohl, *The Black Death*, 17.

number. Regardless of this issue, it is known that there were mass casualties. With such a high number of fatalities one would think that every part of Europe would have been infected. Table 1 gives a brief insight into the number of casualties in major cities, and Germany as a whole, as well as in central and eastern Europe.

City/Country	Year	Number of Deaths
Moscow	1467	127,000
Novgorod	1467	230,602
Smolensk	1386	Only 5 people remained
Germany	1348	1,244,434
Vienna	1579	123,000
Danzic	1709	40,000
Rome	1591	70,000
London	1665	160,000
Lorraine	1637	1% of population remained after the Black Death
Marseilles	1729	50,000

Table 1. Cities Impacted During the Black Death and Number of Casualties. Source: Johannes Nohl, *The Black Death: A Chronicle of the Plague*. New York: Harper & Row Publishers, 1969, 39-40

Although there was no stopping the Black Death's destructive path on land or water, there were some areas within Europe that somehow were able to remain relatively unaffected. These regions include Iceland, Finland, Bohemia, and Poland. Of all these cases, the case of Poland is especially curious. As a landlocked nation with trade coming from various infected cities, two examples being Vienna and Frankfurt, it is hard to believe that Poland would have been able to avoid the Black Death. In the case of Poland, the reasons surrounding why it should

have been greatly impacted by the Black Death can be understood from the following two quotes:

“Frankfurt on the Oder may at this time have been infected from the west but it may even more likely have been infected by Hanseatic goods moving upstream from the Baltic Sea. The city prospered as a commercial centre for exportation of German goods into Polish territory, and further away to Russia, and for the importation of goods from Russia and Poland for sale in its large hinterland or for sale in regions to the west. From this city on the R. Oder’s western band, the Black Death would easily cross into Poland with goods and tradesmen; it could also sail further upstream deep into Polish territory.”⁵

In regards to Vienna, Austria, "the streets and squares, gardens and vineyards teemed with the sick and dying...At Vienna between 500 and 700 died daily. On one day it is reported to have been even 960, and on another 1,200."⁶ According to Map 1 from the University of Oregon shown below, Frankfurt and Vienna both had routes connecting directing to the main routes leading out of Krakow. The possibility of the Black Death traveling along those routes seems quite likely.

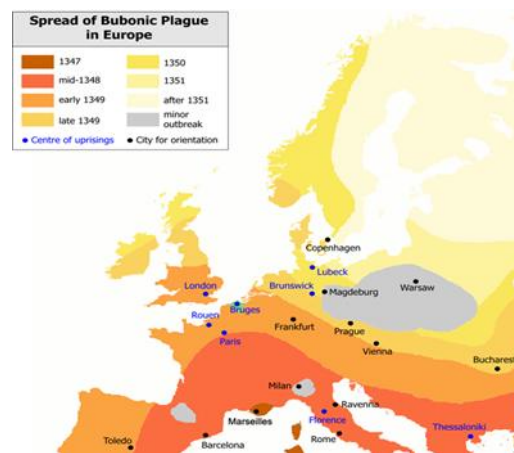
⁵ Benedictow, *The Black Death 1346-1353 The Complete History*, 219.

⁶ Nohl, *The Black Death A Chronicle of the Plague*, 34-39.



Map 1. European Trade Routes. Source: State and the City in the High Middle Ages." http://pages.uoregon.edu/klio/maps/med/med_trade.jpg.

The cases of Frankfurt and Vienna are just two of many trade route examples that make the case of Poland's lack of plague questionable. It is difficult to believe that with so many infected areas surrounding the borders of Poland at that time, that Poland was truly able to escape the Black Death. Map 2 shows the spread of the Black Death and its mysterious avoidance of Poland.



Map 2. Spread of Bubonic Plague in Europe. Source: Wikipedia, "Bubonic plague map 2." Last modified 2006-09-28 (first version); 2006-09-28 (last version). Accessed April 30, 2014.

http://en.wikipedia.org/wiki/File:Bubonic_plague_map_2.png.

In comparison to Poland, areas such as Iceland and Finland can easily be explained because of their remote locations. It may be argued that isolation from the infected fleas and rats

would have prevented the disease from reaching their borders. Poland being a landlocked country at the time, did not benefit from the same geographical type of isolation that Iceland and Finland were lucky to have at the time. This further adds to Poland's mystery.

This paper seeks to explore the reasons as to why Poland may or may not have escaped the Black Death. The reasons can be broken down into three categories; lack of spread, lack of deaths, and lack of information. From these reasons three alternative explanations that may address Poland's unique situation include missing or non-existent data, culture and economics, and geography.

Using historian Ole J. Benedictow's, *The Black Death, 1346-1353: The Complete History*, this paper will explore various avenues in order to explain the case of Poland during the Black Death. In addition, data, maps, as well as primary and secondary sources, will be used to supplement the information from Benedictow's book to create a well-rounded possible historical explanation.

To provide greater insight into Benedictow's belief that Poland may not have avoided the Black Death the following three quotes are worth noting because of their significance to the alternative explanations that will be discussed later in this paper;

“Communist authorities and ideological watchdogs prevented serious research on the Black Death and the following plague epidemics, suspecting (correctly) that this study could establish disturbing alternative demographic views to Marxist orthodoxy on important historical developments in the Late Middle Ages.”⁷

⁷ Benedictow, *The Black Death 1346-1353 The Complete History*, 219.

The idea that the Black Death was nature being victorious over man, threatened the idea that man powerful. Marxist orthodoxy believes in a society where, "conflict is finally resolved and this represents the "end of history" since no further form of society can ever develop."⁸ With disease comes conflict as a result of blaming, food shortages, and possible collapse of government and trade. Conflict then threatens the stability of the Communist society.

“When Prussia and commercial centres situated near the river, like Elblag and Malbork, were invaded by the Black Death, it would be surprising if the contagion was not passed on upstream by trade relations with inland Poland.”⁹

Plague had traveled across the Mediterranean after crossing Asia. The idea that plague would have been spread by river is easily plausible. The fact that there is not any substantial evidence to prove that it did spread in this manner in Poland is surprising.

“As the Black Death spread in Russia, it would, of course, also spread westwards, and it is difficult to see how invasions of Polish territory from the east could be avoided, if it had not already been ravaged.”¹⁰

Between Eastern Europe and Western Asia there are no large land barriers, for example mountains, that would have stopped people from travelling to Poland and thus preventing the spread of plague.

In view of Benedictow's critical reading of Poland's plague experience (of it absence thereof), this essay will address the question of how Poland escaped the Black Death. Equally important to answering these questions and solving Poland's plague paradox, is the reason as to

⁸ "Marxism: Basic Principles..." Sociology.org/uk. 2005. Accessed May 6, 2015. <http://www.sociology.org.uk/as4i4c1.pdf>.

⁹ Benedictow, *The Black Death 1346-1353 The Complete History*, 218.

¹⁰ Benedictow, *The Black Death 1346-1353 The Complete History*, 219.

why such a case should be researched in the first place. From the answers this paper will provide about the spread of plague, it should be possible to reassess the significance of other historical and contemporary epidemics.

In other words, if it is possible to explain how and why Poland was able to isolate itself from the Black Death, modern nations might be able to learn from Poland's example. This would ultimately help future efforts of isolation in response to potential outbreaks and spread of plague. Learning from historical examples is one way that scientists and medical experts may be able to save a countless number of lives as a result disease. It is for these reasons that the case of Poland and its surprising lack of plague is worth studying hundreds of years later.

Alternative Explanation One:

To begin, we turn to alternative explanation number one, the issue of missing or non-existent data. Based off of Benedictow's comments, as well as the Malthusian Argument, the first alternative explanation deals with the writings of Malthus, Marx, and Engels. Malthus was a political economist who was concerned about, what he saw as, the decline of living conditions in nineteenth century England.¹¹ The following quote explains the Malthusian Argument;

“Malthus bases his principle of population on a natural law; the tendency of all animated life to increase beyond the means available for its subsistence. The natural law of population growth is checked by another natural law; the law of

¹¹ "Thomas Malthus (1766-1834)." University of California Museum of Paleontology. 1995. Accessed May 6,2015. <http://www.ucmp.berkeley.edu/history/malthus.html>.

necessity which restrains that growth within certain boundaries and keeps it down to the level of the means of subsistence."¹²

To put this simply, the population of humans and animals grows at a faster rate than that of plants and other forms of subsistence. If one were to look at a graph comparing the two, see Figure 1, there would be two lines representing human and animal growth and another representing plant growth. Over time the human and animal line would become higher as the population multiplies. During the same amount of time the plant growth line would increase, but not as dramatically. This is a result of humans and animals increasing their population at a rate beyond what their environment is able to sustain. Once the plant population is at a critical low, the human and animal population dies off, as a result of starvation, which then creates a normalized balance between human and animal growth and plant growth.

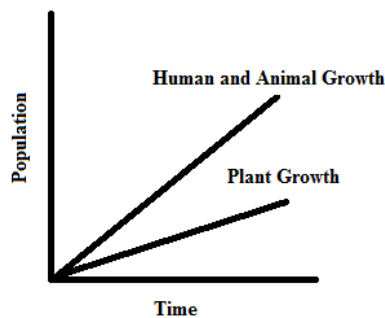


Figure 1. Human, Animal, and Plant Population Growth

Within the human species the natural law of necessity operates through various checks which fall under two main categories: a) preventive checks which control fertility (i.e., moral restraint or marriage postponement, and vice). b) positive checks which increase mortality or the probability of dying (i.e.,

¹² Martha E. Gimenez, University of Colorado, *The Population Issue: Marx vs. Malthus*, Accessed April 30, 2014. <http://www.colorado.edu/Sociology/gimenez/work/popissue.html>, 1.

"unwholesome occupations, ... poverty ...great towns and excesses of all kinds, the whole train of common diseases and epidemics, war, plague and famine:) (Malthus, 1933:14)."¹³

The law of necessity can be seen when comparing the population of Europe before and after the Black Death. "The population of Europe grew from 38 million to 74 million in this time... Cities began to rise with artisans, farmers, and other crafts people specializing in their own field of work."¹⁴ With booming trade and population growth prior to the Black Death, one can apply the Malthusian argument to the years of plague as an explanation. According to Malthus, plague was seen as a solution to the imbalance of population and goods.

Having a population higher than what Europe's land could handle may have led to nature taking the issue of overpopulation into its own hands. The natural law, or at this time plague, controlled both fertility and increased mortality as well as the probability of dying. According to of Malthusian argument, the Black Death did what it was meant to do; reduce the population to a sustainable number.

Centuries after the Black Death, Communism took Europe by storm. Unfortunately for Malthus and his argument, what he had proposed went against the ideas of Communism. In response to claims such as Malthus', communist governments rejected Malthus' ideas. This is a result of the Malthusian theory making people and the communist system seem weak, because of man's apparent inability to control nature. For Communists, such a belief was not possible in order to create the image of a strong people and government. Marx and Engels in particular did not support the Malthusian Argument. In fact,

¹³ Gimenez, *The Population Issue: Marx vs Malthus*, 1.

¹⁴ "The Black Death: Horseman of the Apocalypse in the Fourteenth Century." Marquette University. Accessed April 17, 2015. <http://academic.mu.edu/meissnerd/plague.htm>.

“Marx and Engels reacted very strongly against Malthus' population theory which they saw as an apology for the status quo and all throughout their work they referred to Malthus in a very ironic and disdainful manner.”¹⁵

For any argument or belief to be taken seriously and to be used within the academic world, it needs to be supported by those within the academic world. Without the support of such influential figures like Marx and Engels, the Malthusian theory would not have had the support needed to be seen as a benefit to Communist society. In addition, the influence that the Communists had in Poland led to decades of social control that may have then led to potential plague research never happening. This control was a result of the Polish people's acceptance of the "People's Democracy" model, which "allowed maximum flexibility in formulating policy as political and economic relations evolved, and allowed the Communists gradually to assume even greater control over the entirety of political, economic, and social life."¹⁶

The next quote from Benedictow explains the reasoning for this decision;

“Historical demographic perspectives and Malthusian theory have been disregarded and discarded by almost all Marxists, not only by politicians but also by scholars working on the basis of Marxist theory with various later dogmatic additions and adjustments. For this reason, the study of the Black Death, later plague epidemics and historical demography more generally has been thoroughly neglected in the Communist period, and that was also the case in Poland.”¹⁷

¹⁵ Gimenez, *The Population Issue: Marx vs Malthus*, 1.

¹⁶Krystyna Kersten . "Society." In *The Establishment of Communist Rule in Poland, 1943-1948*, 173. Berkeley, California: University of California Press, 1991.

¹⁷ Benedictow, *The Black Death 1346-1353 The Complete History*, 219.

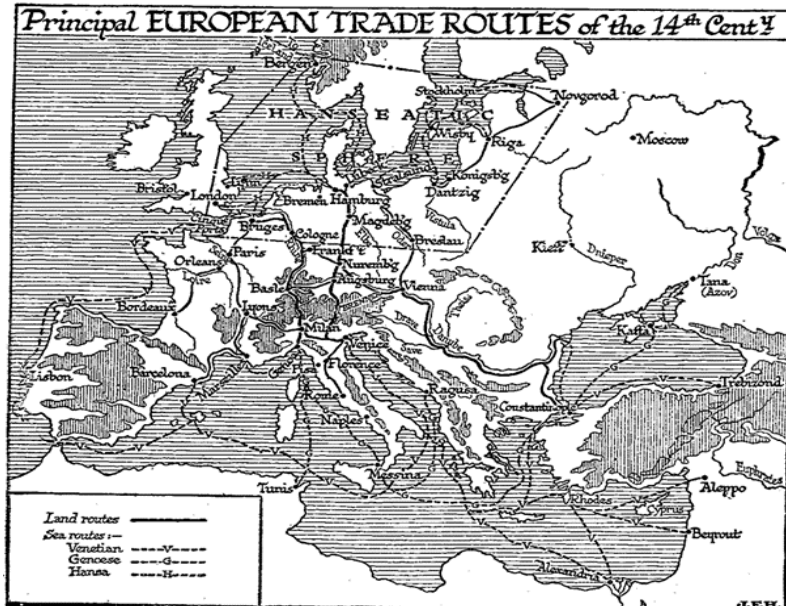
From Benedictow's claim, it seems apparent that there is the possibility that Communists, politicians, and scholars prevented further plague research. Seen as a threat to the communist ideal, plague would have not been a priority for the Communist government in Poland to research. Furthermore, if Poland's academic community did not see, or was not allowed to suggest, a purpose or benefit of researching the Black Death, then the Polish government would not have had the internal need to recognize the importance of the research to begin with.

Alternative Explanation Two:

Studying the factors of culture and economics, it can be seen that there are a few explanations for Poland's absence of plague.

Historically, there was an abundance of trade routes throughout all of western and southern Europe, on both land and water. Yet with the great things brought along these trade routes, plague came as well. In terms of trade, one would think that these routes would have caused plague to spread into Poland, but that does not seem to be the case.

Turning to Map 3, it can be seen that the area of Poland throughout the fourteenth century severely lacked land and water trade routes. This was a consequence of the nation being landlocked in addition to the Golden Horde's decision to no longer continue the trade routes in the East. As seen in the map, there are no major trade routes from Moscow, Kiev, Tana, or Danzig. Had there been routes from these cities, especially Moscow and Danzig which were shown as having large number of casualties in this paper's introduction, plague would have most likely spread from the East towards Western Europe.



Map 3. Principle European Trade Routes of the 14th Century. Source: The Outline of History, "The New Growth of European Towns." Accessed April 30, 2014. <http://outline-of-history.mindvessel.net/340-renascence-of-western-civilization/347-new-growth-of-european-towns.html>.

As discussed earlier, there were no geographical barriers surrounding all sides of Poland.

The Carpathian Mountains were not long enough to provide a substantial barrier between infected and non-infected cities. Therefore, there were no great mountains to prevent the creation of trade routes, but there may have been a cultural one.

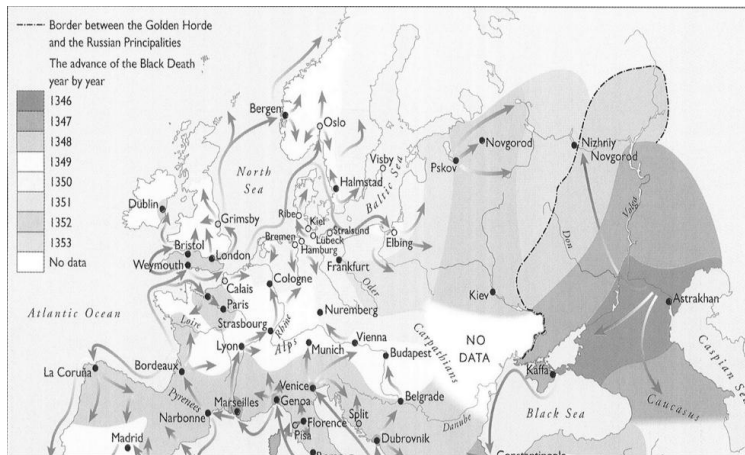
Perhaps luckily for Poland, in the east, cultural issues between Europeans and the Golden Horde led to the Horde no longer taking part in trade with Christians. One example is the great economic trade city of Tana, shown on the Eastern portion of the map. As a result of "the falling apart of Mongol rule from Persia to China, and the fragmentation of power in the Golden Horde and Central Asia,"¹⁸ the connection of cities like Tana were discontinued. In addition the issue of religion may have also played a role in dissolving trade between Asia and Europe. The impact of this decision is described by the following quote from Benedictow where he discusses the river Volga on the Caspian Sea;

¹⁸ Nicola Di Cosmo, "Black Sea Emporia and the Mongol Empire: A Reassessment of the Pax Mongolica," *Journal of the Economic and Social History of the Orient* 53, no. 1-2 (2010): 83-108.

“At the time, this area was under the rule of the Mongol khanate of the Golden Horde. Some decades earlier the Mongol khanate had converted to Islam and the presence of Christians, or trade with them, was no longer tolerated. As a result the Silk Road caravan routes between China and Europe were cut off. For the same reason the Black Death did not spread from the east through Russian towards Western Europe, but stopped abruptly on the Mongol border with the Russian principalities.”¹⁹

This break of trade on the Silk Road could be seen as not only a cultural explanation, but an economic explanation as well. Without trade coming from the east, Poland would not have had the trade routes coming from Asia that would have brought plague. This is not to say that plague could not have come from Northern or Southern trade routes or from enzootic foci within Europe. Yet, with no natural land barrier between eastern Poland and the rest of Europe, it is feasible that a lack of trade because of cultural beliefs could be to blame for the lack of spread and deaths of plague in the Eastern portion of Poland. Map 4 shows the dividing border between the Golden Horde and the Russian Principalities.

¹⁹ Benedictow, *The Black Death 1346-1353 The Complete History*, 44-45.



Map 4. Spread of Plague and

Borders of Europe and Asia. Source: Wikipedia, "Golden Horde." Last modified 2014. Accessed April 30, 2014. http://en.wikipedia.org/wiki/Golden_horde.

The map shows that in 1346 the Black Death was close to the borders of Asia and Europe by 1348, this is shown by the dotted line separating Europe from the Golden Horde and the Russian Principalities. If there had been trade routes between the Eastern Europe and Asia, the Black Death would have most likely been able to spread at a faster rate east. The Black Death may have existed in central Europe earlier than 1348, according to the progression of plague shown by the map. Instead, according to the map, central Europe was impacted by the Plague around 1348-1350. By the time that the plague was near the Baltic Sea, the worst of the Black Death's spread was over.

Hypothetically speaking, if the Golden Horde had continued trade, perhaps there would have been a switch in the areas that would have been more affected than others. Instead of southern Europe on the Mediterranean being ravaged by plague, Eastern Europe may have been the epicenter of plague. The timeline of the Black Death could have been very different if the Golden Horde had maintained its trade with the Christian community and the trade had then spread North from cities like Tana to Poland.

Alternative Explanation Three:

Another theory as to why culture may have played a role in saving Poland from the Black Death deals with the Jewish people. At the time of the Black Death Poland had a large Jewish population. This was a recent occurrence in Poland because of the expulsion of the Jews from Western Europe.

"But much more significant migration of Jews to Poland occurred during the fifteenth and sixteenth centuries, again from the West. The majority of the Jews who arrived in this period established or strengthened already existing communities in western territories of the Polish Crown. It was at this time that two major centers of Jewish life emerged in Poland, Poznań and Cracow. Jews had also lived in less significant numbers in the Grand Duchy of Lithuania as early as the fifteenth century. By the sixteenth century, the total number of Jewish communities in eastern Europe had reached about 60."²⁰

With an influx of Jewish people from other areas of Europe when, "the monarchs of England, France, Spain, and Portugal expelled the Jews residing in their lands, as did some of the local and territorial leaders in Italy"²¹, with them came their laws of hygiene. These laws not only promoted cleanliness, but were required according to the Jewish faith. This is explained in David L. Freeman and Judith Z. Abrams' book, *Illness and Health in the Jewish Tradition: Writings from the Bible to Today*.

²⁰ Magna Teter, "Jews in the Polish-Lithuanian Commonwealth." EARLY MODERN JEWISH HISTORY: Overview. January 1, 2008. Accessed April 16, 2015. <http://jewishhistory.research.wesleyan.edu/i-jewish-population/3-jews-in-the-polish-lithuanian-commonwealth/>.

²¹ Debra Kaplan. "Introduction." In *Beyond Expulsion: Jews, Christians, and Reformation Strasbourg*. Stanford, California: Stanford University Press, 2011, 2.

"In the twelfth century, Maimonides introduced into Jewish law another approach to illness- the science of prevention, known as hygiene...Maimonides stressed the importance of living healthfully, and he detailed proper practices of diet, sexuality, bowel function. and bathing...Following Maimonides' example, the Shulhan Arukh made hygienic practices obligatory in Jewish religious law...Such customs are said to have saved Jews in the Middle Ages from the worst ravages of the bubonic plagues."²²

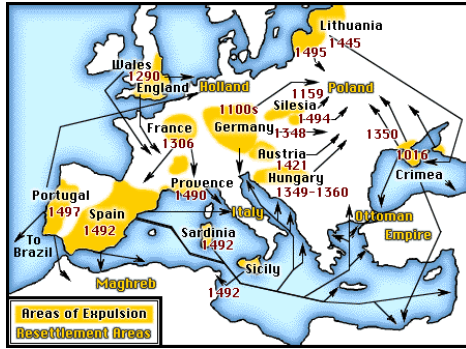
Maimonides was a Jewish scholar and physician. Born as Rabbi Moshe ben Maimon, he is known for having, "codified the laws of Shabbat, holidays, prayer, dietary laws, and the laws that regulate the Jew's daily life. He also wrote a section on eating healthy, fitness, and mental health."²³ Maimonides work on the Mishneh Torah is still recognized by Jewish scholars today and has continued to influence decisions made in accordance with Jewish law.²⁴

For two hundred years prior to the Black Death in Europe the Jewish people had, at their disposal, rules of hygiene to follow. Map 5 shows the areas of expulsion and areas of resettlement of Jews in Europe prior to, and during the Black Death. It can be seen that many of the arrows point towards Poland.

²² David L. Freeman, and Judith Abrams. *Illness and Health in the Jewish Tradition: Writings from the Bible to Today*. Philadelphia, Pennsylvania: Jewish Publication Society, 1999, xxv.

²³ Dovid Zaklikowski, "Maimonides: His Life and Works Rabbi Moses Ben Maimon, 1135-1204 ("Rambam")." Chabad.org. 2015. Accessed May 6, 2015.
http://www.chabad.org/library/article_cdo/aid/75991/jewish/Maimonides-His-Life-and-Works.htm.

²⁴ Dovid Zaklikowski, "Maimonides: His Life and Works Rabbi Moses Ben Maimon, 1135-1204 ("Rambam")."



Map 5. Areas of Jewish Expulsion in Europe. Source:

"Summary Of Geographical Movement Of European Jews in the Past 2,000 Years." A Teacher's Guide to the Holocaust Produced by the Florida Center for Instructional Technology, College of Education, University of South Florida. Accessed April 15, 2015. <http://fcit.coedu.usf.edu/holocaust/people/displace.htm>.

"The rabbis ordained that one must wash one's face, hands, and feet daily in honor of one's Maker (Shab. 50b). The hands must also be washed on certain occasions: after rising from bed in the morning, after urination and/or defecation, bathing, clipping of the fingernails, removal of shoes, touching the naked foot, washing the hair, visiting a cemetery, touching a corpse, undressing, sexual intercourse, touching a louse, or touching any part of the body generally clothed (Sh. Ar., OH 4:18)."²⁵

In comparison to Judaism, Christianity severely lacked rules and laws concerning proper hygiene. Christian communities, as well as nations with low Jewish populations, would have lacked the sanitation and religious hygiene laws needed to prevent the spread of disease while nations with higher Jewish populations would have had greater sanitation and religious hygiene laws. It seems to be worth noting that England, France and Spain had more cases of plague and fewer Jewish citizens in comparison to their Eastern European neighbors.

²⁵ "Hygiene." Jewish Virtual Library. January 1, 2013. Accessed April 15, 2015. https://www.jewishvirtuallibrary.org/jsource/judaica/ejud_0002_0009_0_09360.html.

The very beginning of germ theory in the sixteenth century,²⁶ in conjunction with Jewish law may have resulted in greater preparedness against disease. Although two hundred years after the initial outbreak of the Black Death, Fracastorius' Theory of Contagion²⁷ is an important development in medical history. "Disease infection can be caused by minute bodies ("germs") capable of self-replication, transmitted from infector to infected."²⁸ By the late 1600's, Leeuwenhoek's improved microscope was able to view bacteria.²⁹ Medical advances in conjunction with proper hygiene would have had a profound impact on limiting the spread of a disease. This profound impact would have been a result of the understanding that disease came from microorganisms and were not caused by things such as miasma, or bad air. Knowing that microorganisms were the cause of disease paves the way for research, development, and treatment of different disease causing microorganisms.

The third and final alternative explanation deals with the issue of geography. During the time of the Black Death, the borders of Poland were noticeably different from today's borders. The northern border was not on the Baltic Sea as it is today. Instead the border was further inland. The southern border stretched down towards the Black Sea. Hungary and the Carpathian Mountain Range were to the south-west of Poland.

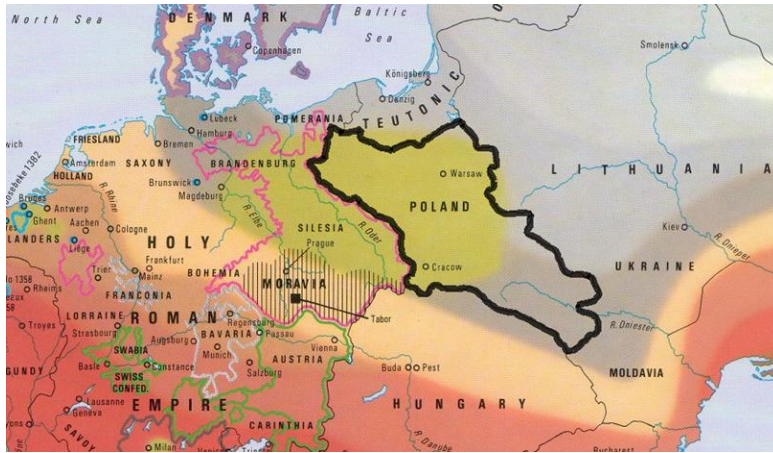
The first map on the next page shows the borders of Poland during the Black Death. The second map shows the location of the Carpathian Mountains to the south-west of Poland as well as Poland's current borders as of the 21st century.

²⁶ L. Fabian Hirst, *The Conquest of Plague A Study of the Evolution of Epidemiology*. Orford: Clarendon Press, 1953.78.

²⁷ "History of the Germ Theory of Disease." [Http://biology.clc.uc.edu](http://biology.clc.uc.edu). July 20, 1992. Accessed April 16, 2015. http://biology.clc.uc.edu/fankhauser/Labs/Microbiology/History_Micro/Germ_Theory_History_Table.html.

²⁸ " History of the Germ Theory of Disease."

²⁹ " History of the Germ Theory of Disease."



Map 6: Borders of Poland During the

Black Death. Source: 1000 Jahre Deutsche Literatur, "Spätes Mittelalter 1300 - 1500 Raubritter, Städte, Handwerk und Zünfte, Volkslieder und Meistersang, Buchdruckkunst, Pest, Hanse." Accessed April 30, 2014.

<http://muskingum.edu/~modern/german/1000Jahre/spaetesMittelalter/spaetesmittelalter.html>.

Map 6 proves the fact that Poland was a land locked country that was surrounded to the west and south by plague infected areas. The bold line represents the Poland's borders during the time of the Black Death.



Map 7. Borders of Poland During the

21st Century. Source: Jay Man's Blog, "How Inbred are Europeans?." Last modified September 7, 2013. Accessed April 30, 2014. <http://jaymans.wordpress.com/2013/09/07/how-inbred-are-europeans/>.

One hypothesis that has been discussed to explain Poland's lack of plague during the Black Death, focuses on the significance of the Carpathian mountain range. It has been argued that mountain ranges were able to prevent the spread of plague because of climate and terrain,

especially in the case of India. For example, Sussman stated the following about the importance of the Himalayas in preventing the spread of plague to northern India;

“A possible explanation for the absence of plague from fourteenth-century India is that sheer distance or physical barriers such as the cold temperature in the mountain passes separating India from central Asia might have blocked the transmission of the infected host or vector.”³⁰

Similarly, it is possible that the Carpathian Mountain Range was responsible for stopping the spread of plague from the south-west. West of Poland at this time was the Holy Roman Empire, which was heavily affected by plague. The disease could have easily penetrated Poland if it were not for the Carpathian Mountains. However the Carpathian Mountains did not stretch along the entire border along of Poland and the Holy Roman Empire. This poses as a problem to the first alternative explanation. Plague was prominent in northern Germany, which was not blocked by mountains from Poland. Though a recent article by Schmid claims, " The black rat, (*Rattus rattus*), likely played a role in maintaining plague outbreaks on ships, as well as importing plague into harbors, but its role as a potential plague reservoir in Europe is rather questionable."³¹ This claim supports the idea that plague was on the coasts, but does not give enough support to question the existence of rats in mainland Europe. For this reason, Schmid's claims about mainland Europe cannot be entirely believed.

The North and Baltic Seas were also affected, as stated by Benedictow as well as Schmid. Though not within Poland's borders, the proximity of the Baltic Sea to Polish lands was far too

³⁰ George D. Sussman, "Was the Black Death in India and China?" *Bulletin of the History of Medicine*, 85. 3. (2011), 340-341.

³¹ Schmid, "*Climate-driven Introduction of the Black Death and Successive Plague Reintroductions into Europe*," 1.

significant to avoid the spread of plague. Benedictow had the following to say about the spread of plague throughout northern Europe;

“The Black Death leapt, for instance, along the R. Rhine from the Swiss border city of Basle via Mainz to Cologne in north-west Germany in 7.5 months, according to the dating of the outbreaks, corresponding to an average daily pace of 2.2 km along this stretch of 500 km, about three times as fast as the pace spread over land. Plague contagion was also spread by metastatic leaps from the Hanseatic towns and cities on the North Sea and the Baltic Sea up the many large navigable rivers and tributaries in northern Germany in the late autumn of 1349 and the following winter.”³²

Going further, Schmid's research also further supports the existence and abundance of plague along the coasts. Schmid's results further question the likeliness of geography being responsible for the lack of plague. He states,

"Our search resulted in 61 potential maritime introductions, occurring in 17 of the 46 main trade harbors of Europe in 60 distinct years between 1346 and 1859. The large majority of these 17 harbors were located along the eastern and southern Mediterranean coast, and along the Black Sea coast. They were part of the maritime networks that connected Europe to the overland trading routes to Asia."³³

From Benedictow and Schmid's research it is apparent that geography was important in terms of the spread of plague, but may not be the answer to Poland's mystery. The Black Death's ability to spread with such ease across both land and water, and with no mountains separating

³² Benedictow, *The Black Death 1346-1353 The Complete History*, 219.

³³ Schmid, *Climate-driven Introduction of the Black Death and Successive Plague Reintroductions into Europe*, 1.

northern Poland and the Holy Roman Empire, does not support the geography explanation.

Additionally, with an absence of mountain ranges to the east, the theory is less probable.

Ultimately there were only mountains preventing spread in one direction while in the other three, plague ran rampant along Poland's borders.

Conclusion:

The three alternative explanations presented throughout this paper, missing or non-existent data, culture and economics, and geography, it is possible to answer the research question posed at the beginning. How was Poland able to escape the Black Death in comparison to its other European neighbors?

Table 2 breaks down which of the three alternative explanations either explain or do not explain the three different aspects surrounding Poland's apparent avoidance of the Black Death. The three aspects include a lack of spread of the plague, lack of deaths as a result of plague, and lack of information about the plague as a result of communism.

	Explanation #1 Missing or Non- Existent Data	Explanation #2 Culture and Economics	Explanation #3 Geography
Lack of Spread	No	Yes	No
Lack of Deaths	No	Yes	Yes
Lack of Information	Yes	No	No

Table 2. Alternative Explanation Chart

The first alternative explanation, missing of non-existent data, is shown as explaining only one of the three mysteries. It is unable to explain the lack of spread and the lack of deaths during the centuries of the Black Death. Although the Communists of the nineteenth and

twentieth centuries saw the Malthusian Argument as a weakness to the Communist Party and did not research the Black Death for this reason, the last twenty years of a Communist free Europe should have led to new findings.

After the collapse of the Soviet Union, there were no longer Communist officials and scholars in power to prevent the study of the Black Death. If plague had been an important field of study, perhaps after the fall of Communism in Eastern Europe some research would have begun. Without further insight into this matter it is not possible for the third alternative explanation to be accepted. In addition there is also not a large amount of information to prove that the Communists would have actually prevented plague research. The discussion of the Malthusian Argument from the research of this paper is quite limited. In other words, this alternative explanation is difficult to prove or disprove making it hard to use as a viable answer to this paper's main question.

The second alternative explanation, culture and economics, is able to explain both the lack of spread and the lack of deaths. With minimal trade routes throughout Eastern Europe, except for the Vienna and Frankfurt examples, it would have been difficult for the Black Death to spread over land routes. Interaction between neighboring cities and countries was crucial to the spread of plague because of the need for person to person contact as well the transport of rats and fleas. With the knowledge that there were in fact black rats (*Rattus rattus*) in North Western Russia and that their spread is the result of a development of trade, if trade routes had existed between Russia and Poland plague would have had the opportunity to spread.³⁴ Without interaction between humans and vectors, there would have been no spread of the plague.

³⁴ A. B. Savinetsky and O. A. Krylovich, "On the History of the Spread of the Black Rat (*Rattus Rattus* L., 1758) in Northwestern Russia," *Biology Bulletin* 38, no. 2 (April 1, 2011): 203–7.

During the Black Death, as seen in the map presented earlier, there was only one major trade route that cut through the Polish countryside. This route was linked to Novgorod and to the rest of Northern Europe, but was not linked to the east towards Asia as a result of the Golden Horde's decision to no longer trade with Christians along the Mediterranean; most notably from Italy. Perhaps if a trade route had connected western Asia and eastern Europe plague would have had the opportunity to spread eastwards into Europe instead of taking routes through southern Europe.

The second part of the culture and economics explanation dealt with the large population of Jewish people in Poland during the medieval period. As mentioned previously, the cities of Frankfurt and Vienna had trade routes that connected to Cracow. Is it possible that the large population of Jews in Cracow, in view of their hygiene laws, prevented the Black Death from overtaking the city and spreading further into Poland? Evidence seems to point to this as a possible answer, but further research is needed to determine whether or not the Jewish population of Cracow made a significant difference throughout the Black Death.

A final point to note is that many Jewish people took part in banking, which is connected to the trade industry. The hygiene of the Jewish bankers may have stopped the possibly infected traders from spreading the Black Death further east. Though this is just speculation, the sources used throughout this paper do seem to point in this direction, though further research is needed.

From the Alternative Explanation Chart, it can be seen that alternative explanation three does not explain the lack of spread or information. This is a result of there not being more than one physical barrier separating Poland from its neighbors. In order for alternative explanation three to answer this paper's question, it would have to prove that there were numerous geographical structures that would have been able to prevent the spread of plague via trade. Only

one structure, the Carpathian Mountains, can be seen as a potential barrier between plague infected areas and non plague infected areas.

Thinking in terms of the transportation of information during the medieval period, one could argue that mountain ranges prevented records of plague traveling to other areas of Europe, yet this can neither be proven or disproven. Additionally, the lack of information cannot be explained the existence of a single mountain range. Communication, especially to the west with the Holy Roman Empire, was not cut off during the Black Death. If communication had been cut off, the Black Death would not have been able to spread as quickly, it is known that the plague had an average daily speed of 2km,³⁵ because of a lack of contact via trade.

Despite the inability to explain the missing or non-existent information, geography can be used to explain the lack of deaths in the southern portion of Poland as a result of the Carpathian Mountains, but this does not explain the case for the rest of the country and the surrounding area. Only the southern part of Poland would have been saved by mountains, but plague could have easily come from the north-west in Germany. As shown earlier in this paper, Germany lost 1,244,434 people in 1348 alone. The existence of trade routes from Frankfurt to Cracow was not blocked by any large geographical structures making spread very much possible.

In summary it can be seen that the first and third alternative explanations do not answer the question of this paper, “How was Poland able to escape the Black Death in comparison to its other European neighbors?” Only the second of the three alternative explanations, culture and economics, can provide two solid and researchable examples to explain more than one of the three mysterious of Poland’s plague paradox; lack of information, lack of deaths, and lack of

³⁵ Benedictow, 230.

spread. Culture and economics are able to provide the information need to explain why there was a lack of spread as well as a lack of deaths.

Without trade and communication, which is a possible result of cultural differences and practices, there were few trade routes coming from Western Asia into Eastern Europe. This may have ultimately stopped the spread of the plague from the Silk Road west into Eastern Europe. It is for this reason that it can be determined that Poland was able to escape the Black Death because of the cultural and economic circumstances that took place prior to the plague outbreak.

The discontinuation of trade between the Golden Horde and the Christians along the Mediterranean, in addition to large a Jewish population of Poland are the primary evidence that supports how Poland was able to "escape" the Black Death in comparison to its other European neighbors. Further research into this matter is needed, but as of May 2015 this paper shows that there is a correlation between European-Asian relations and Jewish population in regards to possibly explaining why Poland was not ravaged by the plague as much as its neighbors.

Yet, this answer creates another question; what are the larger implications of historical studies such as this one in reassessing the significance of contemporary and past epidemics? What can be taken away from Poland's plague paradox is that complete isolation from trade is the key to preventing the spread of disease? Trade can transfer germs on both living and non-living things.

Therefore, even if the merchants do not come in contact with each other, the goods they equally touch can transfer disease. As far as zoonotic diseases are concerned, vectors and hosts can also find their way onto cargo, thus furthering the spread of disease. In order for the modern

world to survive through future outbreaks much like the current Ebola outbreak in Africa, it is crucial that trade is either stopped or done in such a way that disinfection can take place.

Additionally, proper hygiene practices must be taught and performed on a daily basis. According to the World Health Organization, "Provision of water and sanitation plays an essential role in protecting human health during all disease outbreaks, including the current Ebola Virus Disease (EVD) outbreak."³⁶ The understanding of proper sanitation, access to and use of clean water, and following basic practices of hygiene are important to limit the spread of infectious diseases. To curb today's diseases proper hygiene and sanitation must take place, only then can the isolation and the stop of germs spreading occur. The promotion of cultural issues to stop trade is not an answer. Instead, different cultures should work together to stop and prevent disease.

Overall, this paper suggests that the cultural and religious practices of the Jewish people in Medieval Poland can be seen as a possible reason as to why the country was able to avoid the full force of the Black Death. The ability of the Jewish culture to prevent the spread of disease and additional deaths although was not on purpose, but their religious hygiene laws must be taken into consideration when discussing the spread of the Black Death in Poland. In addition the economic situation between Southern Europeans and Western Asia, especially the sudden end of trade between them, as well as issues between Christians of Europe and non-Christians of Asia may have also played an important role in preventing the spread of the Black Death in some parts of Europe.

³⁶ "Q&A on Ebola and Water, Sanitation and Hygiene; Health Care Waste." World Health Organization. January 1, 2015. Accessed April 19, 2015. http://www.who.int/water_sanitation_health/WASH_and_Ebola/en/.

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