

Schurz Library Undergraduate Research Prize Essay

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Spring 2008

Research on medieval topics is difficult enough for an undergraduate in any university. Most primary sources are in their original medieval languages, in fonts that are practically illegible to modern readers. Attending a regional campus without a medieval studies program makes medieval research even more problematic, but I found that persistence and knowledge of available resources makes the process much less painful. My research began when I read John Kelly's The Great Mortality, a very colorful history of the Black Death's march through Europe. I became intrigued by the unanswered question of how such a fast-killing disease was carried sixteen-hundred miles from Caffa to Messina, Sicily without exterminating the crew entirely. So, I began searching other secondary sources for explanations of this event.

I visited IUCAT and borrowed several general texts on the Black Death through Interlibrary Loan from Bloomington. When these sources yielded no explanation of my question, the Schurz librarian assisted me to obtain a borrower's card for Notre Dame library. Working with the Medieval Institute's Librarian, we found several obscure journal articles on the city of Caffa. Unfortunately, few English-speaking historians have devoted time to studying Caffa, so there are minimal secondary sources. I found that I needed to consult an enormous number of books and articles, simply to access a paragraph or two from each that I could use in my paper. My journal database searches were the most time-consuming and frustrating part of the research process, but I was thankful that Schurz Library's internet enabled me to do this research from home.

It was in Notre Dame's basement collection that I came across Gabriele di Mussis' *Historia de Morbo* and Michele da Piazza's account of plague's arrival in Messina. These two texts became the foundation for my paper. But, I needed to be certain that the translations I possessed were reputable, so I made an online search of Notre Dame's Medieval Institute faculty and came across Theodore Cachey, a professor of medieval Italian literature, who was kind enough to appraise my sources. I also was

assisted by Professor Roy Schreiber, who retired from IUSB recently. We struck up a useful e-mail correspondence on maritime technology in the medieval Mediterranean.

In developing my thesis, I combed the sources for any theories on how plague spread from Caffa to Messina. I found only two, and some further research revealed problems with both that made them unlikely. It was at this time that I formulated my own theory, and began testing its limits against the factual information and analyses in my sources. At this point, I began an outline of my background information and my major arguments, plugging in my sources where appropriate. Where I found sparse areas in the outline, I did more narrowed research to find any texts that could be used in support or opposition of my argument. To evaluate my sources, I looked at the credentials of the writer, other works they had published, and university affiliations. I also traced my bibliographies to see which works were frequently cited or lauded by academics, and considered book reviews through JSTOR.

As I discovered, research, no matter how methodical one may be, is a haphazard process fraught with setbacks. It is also, however, a rewarding process in its own right, and the finished project is much richer when the researcher is diverted down unforeseen paths. Persistence is absolutely key to good research. For all the frustrating hours spent researching dead ends, I found those golden moments when I located a great source or a compelling argument to be well worth the effort. In retrospect, the project was a challenging one, but the prospect of contributing in some small way to the field of plague research was worth every obstacle.

"Speak, Genoa. What Have You Done?"

Theories on the Spread of the Black Death from Caffa to Messina

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H495 Interdepartmental Colloquium

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January 2008

Sometime between 1347 and 1356, the Piacenzan notary Gabriele de Mussis bent over his writing table to describe one of the greatest catastrophic events in human history.¹ It is not surprising that a man employed in writing out wills would take time to document the most dramatic spike in death rates that he (and Piacenza) had ever seen. But de Mussis wrote about things he had *not* seen, as well – some were told to him, it is believed, by eyewitnesses returning from Crimean ports like Caffa, now Feodosiya, in modern Ukraine. De Mussis’ account of plague’s arrival in Caffa forms the focus of his *Historia de Morbo*. He speaks of the siege of that city, the most powerful Genoese trade port on the Black Sea, by “heathen Tartars”, and of its infection at the hands of the Tartar Khan, Janibeg. The fleeing Genoese, he attests, disseminated the disease to Italian ports during their flight home. “Speak, Genoa. What have you done?” de Mussis asks of these men, who by then lay mute in the churchyards of Messina and Genoa, or beneath the dark waters of the Mediterranean.² They cannot answer his accusations any more than they can tell us the story of that terrible voyage. Historians have largely avoided discussion of the meager and contradictory documentation we have on plague’s spread from Caffa to Messina. De Mussis himself does not attempt to answer the great mystery embedded in his chronicle, and modern plague historians have been hesitant to address the enigma: how did the Black Death travel months by ship from the Crimea to Sicily without killing the entire crew?

Caffa

When the Genoese arrived in Caffa in 1266, it was a backwater – an inauspicious fishing village spattered between the Crimean hills and the Black Sea. Eighty years later, 70 to 80,000 people were crammed inside its ever-widening walls.³ While the medieval West gauged the world’s geography in relation to Jerusalem, which they deemed the center of the world, 14th century Caffa might have argued that distinction.

Seated between Oriental supply and Occidental demand, the Crimea was the Holy Land of trade. Like Jerusalem, Caffa boasted its own curious mix of ethnicities and religions. Though the Genoese had founded the trading colony, and a Genoese proconsul presided from a palace above the harbor, at their zenith the Italians comprised only one-fifth of the population.⁴ They were an elite minority presiding over a medieval melting

pot of Greeks (Orthodox Christians), Muslims, Turks, Armenians and Tartars.⁵ By Marco Polo's day, the Black Sea was the crossroads of trade between East and West.⁶ The Genoese exploited this advantageous position in typical Genoese fashion – by making money.

The divergent principles of the intimate family business and a global economy functioned simultaneously in medieval Italian trade networks. Browsing the hold of a Genoese trade galley en route to Constantinople, it would not be surprising to find Golcondan diamonds beside the spices of India, or Persian brocades and Asian silks among furs from the deep forests of Russia.⁷ Every luxury from the four corners of Eurasia funneled through Black Sea ports, where it changed hands only to be redistributed just as diversely. Charles King notes, “as the commercial houses of the Middle Ages discovered, get your merchandise to the Black Sea and you could get it anywhere in the world.”⁸ Yet, while intersecting trade networks transformed the Black Sea into a medieval *mélange* of cultures, languages and religions, individual merchant enterprises on the Italian peninsula were remarkably non-diverse. King's aforementioned “commercial houses” were precisely that – the cottage industries of individual families. The head of a merchant household of any standing did not entrust his goods, credit and reputation, indeed the very livelihood of his family, to strangers. Prudently, he chose a relative or prospective son-in-law as his junior partner. A complicated cluster of financial and social agreements, including “assumption of inheritance, rearrangements of that inheritance to care for the interest of other heirs, [and] taking over or acquiring a domicile,”⁹ as well as profit-sharing and promotion, promised that when the family did well, the junior would also do well. Merchant operations in medieval Italy were equal parts daring, duty and nepotism.

Another ethnic group loomed over the colorful bazaars and clinking coin of Caffa: the Tartars of the Golden Horde. By the 1340s, they had built the largest empire the world had ever known, and the Genoese held Caffa only by the Tartar Khan's good graces.¹⁰ In their cosmopolitan tent cities, representatives of eastern and western nations wooed the Great Khan with silver tongues and extravagant gifts, elbowing each other for the drippings from his table. But the Genoese, who saw the world as an extension of Genoa and God as a fellow countryman,¹¹ had no interest in bending the knee to the

barbarian horsemen. It was this conflict of hubris, Genoese and Tartar, that ignited an incident that would send deadly aftershocks through the known world.

Caffa in Turmoil

The story of the plague's arrival in Caffa is a dramatic one, certainly worthy of a chronicler's best efforts. This fact was not lost on Gabriele de Mussis, who applied a hearty measure of melodrama to his account of the fateful years between 1343 and 1347. He opens the scene in Tana, a merchant town at the northeast tip of the Sea of Azov, where a market tussle between two men goes badly wrong.¹² After this incident the Christians of Tana feared for their safety and fled to Caffa in an armed ship.¹³ It is surprising that the death of one shopkeeper, not even notable enough to warrant use of his full name, would spark the three year siege that followed at Caffa. Philip Ziegler, however, makes the reasonable inference that the unrest at Tana was simply "the excuse for what was probably a premeditated campaign."¹⁴ The Mongol Khan, Janibeg, saw himself as a protector of the Muslim faith¹⁵, and must have been familiar with the bellicose history between the followers of Islam and the Franks.¹⁶

Whatever the cause for their enmity toward local Christians, the Tartars thundered down from the hills to surround Caffa, investing the city on all sides but seaward. For three years they contended with these Genoese defenders, whose survival was ensured by their hold on the shipping lanes that brought needed supplies.¹⁷ The imbroglio might have withered into a stalemate if another attacker had not arrived unexpectedly outside Caffa's walls: plague. It is certain that the epidemic would have made the slow crawl to Caffa with or without human intervention, having devastated other towns in the region on its march westward. Nevertheless, the contest between Genoese and Tartar gave the plague's arrival a panache that encouraged chroniclers like de Mussis to set quill to parchment.

The Tartars were first to fall, victims of a disease that "killed thousands upon thousands every day."¹⁸ The tell-tale bubo rose in the groin or under the arm, and there was no escaping death. Khan Janibeg, not content that the self-righteous Genoese might call it God's intervention on their behalf, loaded his catapults with the most plentiful and destructive ammunition he could find: plague corpses.¹⁹ These he had "lobbed into the

city in the hope that the intolerable stench would kill everyone inside.”²⁰ Caffa, that white city of international fame, began to resemble Peter Brueghel the Elder’s *Triumph of Death*.

Spring was not a welcome arrival that year. The epidemic erupted with the warmer air, and escape became the only option for those Caffans with destinations and means. The Genoese merchants had both. Arriving supply ships, fresh from the glittering city of Constantinople, would have posed a desirable alternative to corpse-laden Caffa. And so they crowded the harbor – “surging crowds and sword-wielding guards, children wailing for lost or dead parents, shouting and cursing, everyone pushing toward teeming ships. . .”²¹ What the anxious crowds did not know was that they would share their berths with a tiny passenger. Plague was leaving the Eurasian steppe, bound for Europe.

The Plague Fleet

Refugees crowded the creaking gangplanks of at least a dozen Genoese trade galleys that swayed in the harbor. Each one twelve to thirty meters long, they held from 100 to 300 crewmembers.²² These were mostly oarsmen, although the galley relied on a combination of oars and sails to reach its destination. The remaining space was taken up by cargo, which could range from grain and wax to spices and luxury goods. The plague fleet’s cargo is unknown except for the offhand reference of an anonymous Flemish chronicler, who mentions “a variety of spices and other valuable goods.”²³

Without manifests, their human cargo is as uncertain, though assumptions can be made. Refugees certainly boarded, though a prudent merchant would have ensured they met certain criteria. While microbiology was unknown in the 14th century, medieval men understood that disease spread by proximity. The infected (at least, those who appeared symptomatic) would have been barred from passage. Although ship merchants were safe and segregated in the forecastle cabins, they were not oblivious to the fact that their voyage depended on healthy sailors and oarsmen who could carry them home.

They accomplished the voyage by a system called *costeggiare*. Since open sea sailing was dangerous in the Middle Ages, ships would “inch along the coastline like rock climbers on a ledge, stopping every third or fourth day” to buy and sell.²⁴ Thus, the

1600 miles between Caffa and Messina could be covered in four to twelve weeks, depending on hospitality and the winds.²⁵ A medieval ship's first major port of call out of Caffa would have been Constantinople and then, sailing through the Dardanelles, she would coast-hop along the northern Mediterranean to Messina. It was a familiar course for the Genoese seamen, but in the summer of 1347 it would be complicated by disease. As James Kelly puts it, "getting caught on an open sea with *Yersinia pestis* [the Black Death] would have been akin to getting caught in a revolving door with a rattlesnake."²⁶

We are told by Michele da Piazza, a contemporary Franciscan friar, that three Genoese ships carrying plague did arrive in Messina in October of 1347²⁷ -- some three to five months after the departure from Caffa. De Mussis' *Historia* confirms that the Caffans found their way to Genoa, Venice and other Christian cities.²⁸ We know they arrived, but no mention is made in either chronicle of the mode of their survival. At this point, it will be helpful to investigate the epidemiology of the disease they carried, to see if it was indeed possible for plague to travel months in close quarters with several hundred men and strangely spare their lives.

Plague's Three Faces

Thanks to the work of plague scientists in Victorian era India, the plague bacteria *Yersinia pestis* was first visualized and investigated.²⁹ Their seminal work during the Third Pandemic of bubonic plague was invaluable to understanding the dynamics of plague as a disease of rodents, fleas and Man. Endemic in rodents, plague is usually held in check by their reclusive lifestyle and speedy reproductive process. Pockets of endemic plague, called *foci*, exist in rodent populations scattered across the globe, including a focus among tarabagan species on the Central Asian steppe, near Caffa.³⁰ This species holds the dubious distinction of harboring "the only form of the plague in rodents that is pneumotropic. . ."³¹ That is, the tarabagan plague bacterium prefers to infect the lungs and present as pneumonic plague.

Y. pestis infects the rat flea *Xenopsylla cheopis* when it bites an infected host. Bacteria in the host's blood cause coagulation of undigested blood and bacterial elements in the foregut of the infected flea. As this blockage enlarges, it prevents the flea's digestive tract from moving a blood meal through its body. Essentially, *X. cheopis* is

forced to regurgitate its food into the bite site of its host, along with the accompanying bacterial load. A blocked flea thus begins to starve and will bite voraciously, trying to stay alive. When its rat host succumbs to the infection and dies, the infected flea will abandon it before its body temperature drops, in search of another host. By this means the disease can be spread by one flea to multiple rats in the colony.³²

Man enters the cycle of infection when the rat colony is overly depleted. *X. cheopis* prefers rats, but will make do with other hosts, including humans, if the need arises. When the blocked flea bites a human, large bacterial loads are delivered into the lymphatic system and the human develops a bubo, or boil, at a lymph node closest to the bite, hence the name ‘bubonic’ plague. Once infected, symptoms follow in three to five days including fever, severe headache, and the bubo. Approximately 20% of those infected will survive the disease and recover spontaneously. For the other 80% of cases, unless treatment is given death occurs in three to five days from the onset of symptoms.³³

What is less well-known is that plague has three forms: bubonic, pneumonic, and septicemic. Pneumonic plague may be primary or secondary; that is, it may be caused by a migration of bubonic plague to the lungs (secondary), or may be contracted independent of the presence of rats, through inhaling the infected droplets from a pneumonic plague victim (primary). Symptoms include bloody cough and a faster death rate; victims of pneumonic plague generally die within three days of onset. Septicemic plague, the most virulent of the three, can kill in hours by invading the bloodstream directly. Both of these forms are almost exclusively fatal.³⁴

In the case of Messina, Friar Michele da Piazza describes both buboes and “vomiting of blood” in the afflicted.³⁵ He appears, according to Kelly, to describe secondary pneumonic plague: “Messina’s rapid infection suggests that if the disease was not pneumonic when it arrived, it rapidly became so. . .”³⁶ Why should this be significant in understanding how the plague fleet survived their tragic voyage?

Firstly, because the time frame of the epidemic described by de Mussis and da Piazza requires person-to-person spread. Bubonic plague epidemics in humans require a rat colony to be wiped out in an enzootic (an animal epidemic) and subsequently transmit its fleas to human hosts. But this process takes nearly a month to produce the first human victims. De Mussis and da Piazza describe the death toll after the ships dropped anchor

with an immediacy that makes the long hiatus between rat infection and human epidemic improbable.³⁷

Secondly, the pneumonic nature of the Messina epidemic is important because pneumonic plague accomplishes a more complete kill than bubonic. It may be less contagious than the bubonic form, but when conditions are favorable for its spread, death is quick and thorough. In Manchuria in 1910, a primary pneumonic plague epidemic carried off 60,000 people, mostly migrant workers living in cramped, poorly-ventilated underground housing.³⁸ The environment that contributed to its rapid spread could hardly be recreated anywhere as accurately as in the claustrophobic hold of a medieval trade vessel. While the greater part of the Black Death was bubonic in nature, the chronicles suggest that it traveled from Caffa to Messina in pneumonic form.

We are left to wonder, then, how a group of several hundred men could sustain an epidemic of bubonic and pneumonic plague in close quarters for the duration of their voyage. We know that at least one other vessel succumbed under similar conditions in the 1340s. Barbara Tuchman recounts in “A Distant Mirror” how an English wool ship ran aground in Bergen, Norway during the Black Death. There was not a single survivor inside – all were dead from plague.³⁹

Never, Late and Lucky -- Theories of Spread

In considering all the theories on the manner of plague’s spread from Caffa to Messina, three main hypotheses can be used as catch-alls. I call them ‘Never’, ‘Late’ and ‘Lucky’. The Never Hypothesis supposes that the sailors of the plague fleet never contracted plague themselves, and the disease arrived in European ports by some alternate vector. Generally this is considered to be cargo, such as grain or cloth, infested with blocked fleas.⁴⁰ It is a documented fact that some rat fleas have evolved the ability to live off of grain chaff for periods of months, and only require a blood meal in order to lay eggs.⁴¹ Proponents of this theory believe that once the infested cargo was disturbed during offloading, its fleas sought out available hosts and began the cycle of infection. The Never Hypothesis adequately explains plague’s metastatic leaps from port to port between Caffa or Constantinople and Messina. These leaps suggest that an infected source skipped along the Mediterranean coastline toward Messina, killing as it went.

What it does not explain, however, is how the crew themselves were not infected during offloading of this infected material. Since it has been established that plague was introduced in Constantinople by these Genoese ships, the Never Hypothesis must allow that infected cargo was, early on, delivered there. It is a stretch to believe that hungry blocked fleas would pass up the men unloading goods in which they were hidden, in favor of residence in a drafty warehouse or a granary. Multiply this improbability by the dozens of identical stops made between Caffa and Messina, and the hypothesis becomes even more incredible.

We must also consider the words of Gabriele de Mussis on this point. His religious invective pauses to “discuss all the things which we ourselves have seen, or known, or consider likely on the basis of the evidence. . .”⁴² Among the refugees from Caffa who disembarked on Genoese galleys he notes “a few sailors who had been infected with the poisonous disease. . .”, and puts the number of Genoese arriving at “scarcely ten survivors from a thousand sailors. . .”⁴³ If the crew was infected, as he says, when they set out from Caffa, then the most probable explanation for the small number of Genoese survivors arriving in Italy is that they had died of plague en route to Messina.

What if de Mussis’ statement that the crew was infectious at Caffa is only an assumption – one of the events he considers “likely on the basis of evidence. . .”?⁴⁴ In that case, other theories open themselves to discussion. The Late Hypothesis assumes that the Caffan fleet contracted the plague late enough in the voyage that they were infectious, but not yet dead, by the time they reached Messina. We will use here the general timeline given by Benedictow, of 3-5 days from infection to symptoms and 3-5 days from symptoms to death.⁴⁵ This means that the plague fleet would have to have been infected at a port less than ten days journey from Messina. No specific data could be found on sailing times for each leg of the sea route from Constantinople to Messina, so it is unknown what locations this ten-day radius represents on the map. The whole of Greece was infected in late summer or autumn of 1347, suggesting spread by land and sea routes from the east.⁴⁶ If some part of Greece is less than ten days’ sail from Messina, it is possible that the Caffans, while passing Greece, were infected. If Greece lays outside the ten day travel infection timeline, then the theory falls apart, because the next nearest site to Messina that was infected in 1347 is the toe of Italy’s boot.⁴⁷ Plague could

not have spread this far overland from the east within a span of a few short months. This isolated pocket of infection, then, represents a metastatic ship-borne leap of the plague contagion, which was more likely *introduced* by the plague fleet than having infected them.

In addition de Mussis' account, while adamant in its description of friends and family falling to the disease, does not mention the Genoese sailors as having any symptoms on arrival. It is unlikely that the notary would forego mentioning their infection and death, when he spoke in detail of the deaths of their family members.⁴⁸ So if the arriving Genoese were infected late and still showed no symptoms when they reached Messina, the moment of infection would have been mere days before their arrival. In other words, the infection would have occurred somewhere along Italy's southern coast, an area we have already identified as unlikely, if not impossible. When one adds the established fact that Constantinople was infected by the plague fleet –which means the fleet were themselves infected sometime *before* Constantinople – the Late Hypothesis does not mesh with known dynamics of plague's spread.

The Lucky Theory states that some means prevented enough of the Genoese from dying of plague that they were able to pilot their galleys to Europe. Analysis of plague epidemics in the 19th and 20th centuries has given us useful data on the survivability rate of plague in the absence of treatment. While plague cases with pneumonic or septicemic complications are invariably fatal, about 20% of bubonic cases will survive.⁴⁹ "It was by no means unheard of," writes Ziegler, "for the buboes to discharge and the patient to recover."⁵⁰ While the exact number of oarsmen and crew required to pilot a medieval galley is not known, simple logic should suffice for the purposes of this study. Medieval merchants, like their modern counterparts, were in the business of making money. Medieval ships had a finite carrying capacity, and their high-ticket cargoes were in insatiable demand in European markets. A galley's valuable space would not be wasted on extraneous crew, their berths and supplies, when it could be used for profit-generating cargo. It follows, then, that all on board would have a necessary and irreplaceable function, be it administrative, military, or maritime. A loss of 80% of a crew to plague could not likely be overcome. Also, we must consider Kelly's earlier statement that the

on-ship epidemic was most likely *not* bubonic but pneumonic plague, in which the 20% survivability rate does not apply.

But what if the losses were not so high? A recent discovery has begun to address this question, though it came from an unlikely source: AIDS researchers. They came across an interesting allele known as CCR5- Δ 32, which protects against HIV and, according to some, plague. An argument was raised that this mutation's frequency among Europeans could be due to natural selection during the Black Death.⁵¹ If this is true, then the survival percentage of the on-ship epidemic could be higher than 20%.

There are several glaring problems with the Δ 32 theory of plague immunity. Presently Δ 32 is only found in 5-14% of people with European ancestry⁵², so its frequency in 1347 (before natural selection weeded out those without the mutation) would be far less. The effect on death rates would have been negligible among a crew of several hundred unless, by some freak occurrence, fate put a large number of CCR5- Δ 32 carriers on each ship of the plague fleet. This does not seem likely. Doubts are further raised because the families of these sailors were cut down in large numbers by plague according to de Mussis. CCR5- Δ 32 is genetically inherited, so their families should have survived in disproportionate numbers.

With the current dearth of information on plague's spread between Caffa and Messina, it is difficult to make a definitive statement on how the plague fleet carried its deadly cargo to Messina. Plague-embattled Europe was so shocked and perplexed by its own extermination that the characteristically subjective chronicles of the period crumbled into outright expressions of panic. Scientific research is problematic when based on these emotive works, although their authors can hardly be blamed for them. Contemporaries of the plague truly believed they were witnessing the extinction of Mankind. Notably, few chronicles were actually composed during the years plague raged through Europe, as its inhabitants had more pressing concerns. Therefore, in addition to being emotionally charged accounts, the chroniclers' factual recall may be impaired.

The Silent Replenishment Hypothesis

One final hypothesis does arise from the study of primary and secondary sources on plague's spread between Caffa and Messina. It depends on a curious characteristic of

the Genoese merchant found in de Mussis' and others' writings: he was an intractable salesman. Speaking of those who fled Genoa after it had been infected in 1347, de Mussis writes: "Some Genoese, whom the disease had forced to flee, crossed the Alps in search of a safe place to live and so came to Lombardy. Some had merchandise with them and sold it while they were staying in Bobbio. . ." ⁵³ Even in the most horrifying of circumstances, with plague stripping Tuscany of its citizens, the Genoese continued in the occupation that was their birthright, buying and selling to stay alive. This instinct was not limited to the Genoese who fled across the Alps, but appears to have been inherited by the Genoese en masse, including those who had staked their claim in Caffa.

There was more than simple profit at stake for the Genoese who led long-distance trade expeditions. As previously discussed, the gulf between business and family was as murky for medieval Italians as it was for the *cosa nostra* of the twentieth century. While the head of the merchant family was not generally risking life and limb in these lengthy voyages, the junior whose life and limb *was* being risked was usually a family member. ⁵⁴ To what lengths would these family businessmen, these future heads of the merchant class, go to 'deliver the herd,' so to speak?

Let us put ourselves in the shoes of these men to imagine their response. Much has been invested in them: money, trust, and the welfare of the family. A good deal hinges on getting their cargo home – promotion, respect of the head merchant, perhaps even a marriage contract with the head merchant's daughter, or the promise of a villa of their own. As smoking Caffa passes below the horizon, they breathe a sigh of relief and turn their thoughts to these matters. Lying apart from the crew in comfortable fore-cabin cabins, they consider how they must get home at any cost. Then the dying begins.

"On the second or third day at sea a mariner awakes feeling feverish; after he falls asleep again, a shipmate steals his flea-infested jacket; a few days later, the thief is ill. . . panicky crew members gather in the horse stalls on the lower deck to share rumors and conspire. That night there is a splash off the aft side of the ship, then a second. . ." ⁵⁵

Soon there are more, many more. Delirious men are lashed to the mast, to the helm. Mysterious splashes in the night phase into multiple splashes in broad daylight. Perhaps some of these are not even dead men; but the tell-tale bubo has risen, and the crew will do anything to staunch the outbreak. There are barely enough backs to man the oars, and perhaps Caffan refugees fill the gaps for the sake of self-preservation. A port appears on the horizon, and from the cabin the junior of the expedition considers what must be done. Without rations they will die on the open sea. They need a port – where they can trade, take on supplies and shore up the dwindling crew with new men – and they need it quickly, before there are not enough oarsmen to bring them into harbor. Quietly, unobtrusively, they make their way toward harbor and a party of uninfected (or at least asymptomatic) men disembarks to transact business and sign on new crew to replace those missing. In a reeking seaside tavern, as prospective sailors line up to make their mark on the list, one of the party covers his bloody cough with a sleeve. Their comrade stands outside, watching his ship bob in the harbor and wiping his feverish brow. Duplicity has become the Caffans' only recourse to stay alive and return to their families. While they are anchored, there may well be further splashes in the night: whatever is required to lurch toward the next port, one step closer to home. And as they leave that port behind, they have no idea that in days its citizens will grow feverish and begin to cough blood.

This is a dramatization, of course, but one based on existing evidence. Aside from the story of the infected merchants crossing the Alps, we have another statement from de Mussis that implies this sort of survival-at-all-costs behavior did occur. He recounts that one of the Genoese “who was already suffering from the illness, managed to reach Piacenza.”⁵⁶ He survived the trip with his last ounce of strength, and came into his friend's house only hours before his death. Unwittingly, he took his friend's entire household with him not long after. Humans may have few instincts, but we will migrate home to die. So it may have been for the fleeing Genoese.

The lack of documentary evidence to support the theory of silent replenishment of crews can not be seen as proving it false. The entire argument hinges on the concealment of plague infestation from the port's authorities and population, so it would be foolish to search for documents to confirm it. If it succeeded, then it was the very secrecy of the

events that brought that success. Neither is it impossible that these crews were taken on through the process of impressment, or “crimping,” which was rampant before the 19th century. If sailors were shanghaied onto these Genoese galleys, there would certainly be no documentation of it. In any event, the Genoese who knew the truth about the plague’s spread either died at its hands or lived on with silent guilt. De Mussis himself seems to voice this grief in his *Historia* when he laments, “We Genoese and Venetians bear the responsibility for revealing the judgments of God.”⁵⁷

Admittedly, there is little evidence to support any opinion on how the plague fleet limped home from Caffa. We can surmise as we please in modern times, safely disconnected from the orgy of horrors that was 1347 Europe. Perhaps somewhere, wedged between dusty bookshelves or packed into an old portrait frame, is a document that will shed light on what happened to the plague fleet in open waters. Or it may be that a more careful reading of an extant manuscript will shed light. If not, then we must accept that the truth was just one of many casualties on the long sail to Messina.

Endnotes

¹ John Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time* (New York: Harper Collins, 2005). 11. The rating system is called the Foster Scale, after creator Harold D. Foster. Kelly describes it as “a kind of Richter scale of human disaster.” World War II is ranked number one by Foster’s reckoning. On dates: the Black Death came to Messina in 1347, and de Mussis died in 1356, so the chronicle is written sometime between.

² Gabriele de Mussis, "Historia De Morbo," in *The Black Death*, ed. Rosemary Horrox, *Manchester Medieval Sources Series* (Manchester, UK: Manchester U Press, 1994).

³ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 1-2.

⁴ Charles King, *The Black Sea: A History* (Oxford: Oxford University Press, 2004). 91.

⁵ Michel Balard, "The Greeks of Crimea under Genoese Rule in the Xivth and Xvth Centuries," *Dumbarton Oaks Papers* 49, no. Symposium on Byzantium and the Italians, 13th-15th Centuries (1995).

⁶ King, *The Black Sea: A History*. 82.

⁷ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 2.

⁸ King, *The Black Sea: A History*. 82.

⁹ Robert L. Reynolds, "Origins of Modern Business Enterprise: Medieval Italy," *The Journal of Economic History* 12, no. 4 (Autumn 1952). 352.

¹⁰ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*.

¹¹ *Ibid.* 8.

¹² It is noteworthy that de Mussis does not give specifics on this disturbance, merely referring to it as “an incident.” This may be because the Italians did not figure heroically in these events. According to Charles King in his work, *The Black Sea: A History*, (Oxford: Oxford University Press, 2004), 91-2, a Venetian named Andreolo Civrano argued with a local Muslim identified only as ‘Omar’, who did not survive the altercation. For further discussion of the incident at Tana, see John Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*, (New York: Harper Collins, 2005), 5.

¹³ de Mussis, "Historia De Morbo."

¹⁴ Philip Ziegler, *The Black Death* (New York: John Day Company, 1969). 15.

¹⁵ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 5.

¹⁶ “Franks” was the term commonly used by Oriental populations to identify Christian Europeans of any ethnicity, not merely the Frankish peoples of France. See King, *The Black Sea: A History*. 91.

¹⁷ Michael W. Dols, *The Black Death in the Middle East* (Princeton: Princeton U Press, 1977). 52-53.

¹⁸ de Mussis, "Historia De Morbo."

¹⁹ *Ibid.*

²⁰ *Ibid.*

²¹ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 10.

²² David E. Davis, "The Scarcity of Rats and the Black Death: An Ecological History," *Journal of Interdisciplinary History* 16, no. 3 (1986).

²³ Anonymous, "Breve Chronicon Clerici Anonymi," in *Recueil Des Chroniques De Flandre*, ed. Jean-Jacques de Smet (Brussels: 1856). 14-18

²⁴ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 85.

²⁵ Graham Twigg, *The Black Death: A Biological Reappraisal* (New York: Schocken, 1984).

²⁶ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 23.

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- ²⁷ Michele da Piazza, "Bibliotheca Scriptorum Qui Res in Sicilia Getas Sub Aragonum Imperio Retulere," The ORB: On-line Reference Book for Medieval Studies, <http://www.the-orb.net/textbooks/westciv/blackdeath.html>. It is important to acknowledge that Ole Benedictow, plague historian at the University of Oslo, marks the entry of plague into Messina as occurring in September 1347. The discrepancy arises from a problem of medieval chronicles dating infestation at the point that epidemics are noted, not the date where contamination occurs (discernment of which would require science beyond the level of the era). For further, see Ole Benedictow, *The Black Death 1346-1353: The Complete History* (Woodbridge, Suffolk, UK: The Boydell Press, 2004).
- ²⁸ de Mussis, "Historia De Morbo."
- ²⁹ Benedictow, *The Black Death 1346-1353: The Complete History*. 11-21. The bacterium was named for the Frenchman Alexandre Yersin, who was not necessarily the first to identify it, but was first to publish his findings.
- ³⁰ Ibid. 13, 51.
- ³¹ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 34.
- ³² Benedictow, *The Black Death 1346-1353: The Complete History*. 11-21.
- ³³ Ibid.
- ³⁴ Ibid.
- ³⁵ Michele da Piazza, "Bibliotheca Scriptorum Qui Res in Sicilia Getas Sub Aragonum Imperio Retulere," The ORB: On-line Reference Book for Medieval Studies, <http://www.the-orb.net/textbooks/westciv/blackdeath.html>.
- ³⁶ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*.
- ³⁷ de Mussis, "Historia De Morbo." And Piazza, "Bibliotheca Scriptorum Qui Res in Sicilia Getas Sub Aragonum Imperio Retulere."
- ³⁸ Benedictow, *The Black Death 1346-1353: The Complete History*. 29.
- ³⁹ Barbara W. Tuchman, "'This Is the End of the World': The Black Death," in *A Distant Mirror: The Calamitous 14th Century* (New York: Random House, 1978).
- ⁴⁰ Davis, "The Scarcity of Rats and the Black Death: An Ecological History." 460.
- ⁴¹ Benedictow, *The Black Death 1346-1353: The Complete History*. 20.
- ⁴² de Mussis, "Historia De Morbo."
- ⁴³ Ibid.
- ⁴⁴ Ibid.
- ⁴⁵ Benedictow, *The Black Death 1346-1353: The Complete History*. 18.
- ⁴⁶ Ibid. 69.
- ⁴⁷ Ibid. map.
- ⁴⁸ de Mussis, "Historia De Morbo."
- ⁴⁹ Benedictow, *The Black Death 1346-1353: The Complete History*. 26, 28.
- ⁵⁰ Ziegler, *The Black Death*. 19.
- ⁵¹ Elvin, Stephen J. et al Elvin, "Evolutionary Genetics: Ambiguous Role of Ccr5 in Y. Pestis Infection," *Nature* 430, no. 6998 (2004).
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- ⁵³ de Mussis, "Historia De Morbo."
- ⁵⁴ Reynolds, "Origins of Modern Business Enterprise: Medieval Italy." 351.
- ⁵⁵ Kelly, *The Great Mortality: An Intimate History of the Black Death, the Most Devastating Plague of All Time*. 24.
- ⁵⁶ de Mussis, "Historia De Morbo."
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