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The Lived Experience of the Black Death

by

Megan Webb-Morgan
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A thesis submitted to the Department of History of the State University of New York
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Master of Arts.

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Abstract

During the late Middle Ages, the experience of plague pervaded the discourse of the body and influenced such disparate subjects as anatomy and art. These cultural motifs were expressed in a variety of ways that correlated the experience of plague with the mortification of the flesh required for Christian martyrdom. Similar ideas were expressed in how medical practitioners conceptualized and justified postmortems and university dissections.

The somatic nature of Christian spirituality resonates through the images of plague saints with those of anatomical illustrations of dissected figures. It links together the bodily experience of saints, dissected criminals, and sufferers of plague. This theme culminates in the time when the influences of the physical experience of plague are most visible: following the Italian epidemic of 1477-79. During this period the Italian peninsula experienced the swift advent of the cult of St. Roch, a sudden shift in the presentation of St. Sebastian, and the rise in anatomical research and dissection culminating in the publication of Berengario da Carpi's "Isagogae Breves" in 1523.

The history of plague and the history of anatomy are intimately linked. The purpose of this essay is to explore the common thread of Christian ideas about physicality and suffering that arise in both plague narratives and medical texts, a theme that remains under-examined in current historiographies of both plague and medieval medicine.

1 - Introduction

The Black Death of 1348 acts as a distinct beginning of plague iconography in art that influenced a massive amount of new art in Italy.¹ The existence of this distinct beginning of when the pestilence became a universal theme in art enables us to study changing attitudes towards physical afflictions.² The wealth of plague-related images presents overwhelming evidence that within the community of artists and patrons there was a consistent fear of plague.³

The function of these paintings was not documentary, but rather responded to the experience of plague.⁴ The denizens of Europe were always either recovering from the last outbreak or awaiting the next one – psychologically, they were never free of it, even if many years passed between epidemics.⁵ There is a cumulative psychological effect of recurring epidemics which Millard Meiss claimed was a profound pessimism induced by the plague.⁶ Christine Boeckl retorted that depression is “not necessarily the psychological response of the survivors who commissioned art after a cataclysmic event.”⁷ She claimed instead that plague art was a form of recovery from the psychological impact of plague as well as preparation for and protection from the next outbreak.

¹ Christine M. Boeckl, Images of Plague and Pestilence: Iconography and Iconology. (Kirksville, MO: Truman State University Press, 2000), 1; Franco Mormando, “Introduction,” in Hope and Healing: Painting in Italy in a Time of Plague, 1500-1800. Ed. Thomas W. Worcester et al. (Worcester, MA: Worcester Art Museum, 2005), 2.

² Boeckl, 2.

³ Boeckl, 18.

⁴ Mormando, 2.

⁵ Mormando, 8.

⁶ Millard Meiss in Diana Norman, Siena, Florence, and Padua: Art, Society, and Religion 1280-1400, Volume I., (Yale University Press, 1995), 179.

⁷ Boeckl, 158.

Images specific to plague response or anticipation of plague functioned as protection. Art was an instrument of healing and encouragement for the survivors. It acted as a mirror of society's search for solace and spiritual remedies, as well as a source of celestial relief.⁸ Art became part of society's efforts to restore hope to the population and overcome the epidemic without lasting psychological damage.⁹

Depictions of Saint Sebastian and Saint Roch that emerged in the late fifteenth century emphasized the somatic nature of their martyrdoms while at the same time promising painless relief for sufferers of plague. The experience of plague was itself regarded as an act of martyrdom. This experience is closely related to prevailing ideas about the criminal body and the act of dissection – dissection as a form of martyrdom – as evidenced by similar themes extant in anatomical drawings and plague votives.

The plague votives functioned both to request intercessory aid from plague saints and to provide catharsis for a population that had just witnessed the profound bodily destruction of the plague. By showing plague saints such as St. Roch and St. Sebastian, votives sought to influence the distribution of God's mercy by invoking the memory of the human suffering experienced by Christ during the Passion.¹⁰ The malady of the saint's physical body parallels that of the body of Christ.¹¹ The suffering caused by the physical experience of plague – the details of which we now know through modern medical research – connects the sufferer to Saints Roch and Sebastian and, through them, to Christ.

⁸ Mormando, 4.

⁹ Boeckl, 159.

¹⁰ Boeckl, 76.

¹¹ Boeckl, 156.

The experience of plague pervaded the discourse of the body and influenced such disparate subjects as anatomy and art, as the epidemics raged on. These cultural motifs were expressed in a variety of ways that correlated the experience of plague with the mortification of the flesh required for Christian martyrdom. Similar ideas were expressed in how medical practitioners conceptualized and justified postmortems and university dissections.

The act of dissection was ideologically similar to the physical suffering inherent in martyrdom. Both involved mortification and humiliation of the flesh, and each was an intensely physical experience that had important implications in Christian theology. The church stressed the importance of the physicality of Christ and his incarnation into a living body while on earth. The physical suffering experienced by Christ during the Passion and Crucifixion absolved humanity of its sins. Saints such as Sebastian and Roch experienced similar physical suffering in an imitation of Christ.

These same ideas about the body are found in representations of Saints Sebastian and Roch. The experience of plague is a common conceptual thread woven through these seemingly disparate subject areas. The use of religious imagery in dissection, especially the figure on the cross and the similarity of the dissected body to tableau and paintings of suffering saints, worked to legitimate a practice that was seen as dubious by the papacy and many clerics.

The somatic nature of Christian spirituality - religious concern with the physical body as opposed to the mind or soul - resonates through the images of the

saints with those of anatomical illustrations of dissected figures, linking together the bodily experience of saints, dissected criminals, and sufferers of plague. This theme culminates in the time when the influences of the physical experience of plague are most visible: following the Italian epidemic of 1477-79. During this period the Italian peninsula experienced the swift advent of the cult of St. Roch, a sudden shift in the presentation of St. Sebastian, and the rise in anatomical research and dissection culminating in the publication of Berengario da Carpi's "Isagogae Breves" in 1523.

The relationship between the histories plague and of Renaissance anatomy suggests that similar thoughts about the body underpinned each discourse. This study engages a number of secondary sources as well as primary sources such as medical treatises, anatomical illustrations, and art. Its goal is to uncover the cultural connections among Christian ideas about physicality and suffering, the physical experience of plague, and the rise in medical interest in anatomy and dissection. This interest culminates in the work of Berengario da Carpi, the most important transitional figure between medieval scholasticism and Renaissance anatomy.

This essay begins with an explanation of the physical symptoms experienced by sufferers of plague. The second section outlines the historiography of plague research. It argues that the identification of the plague bacillus is an important factor in understanding how pre-modern people experienced the Black Death and its subsequent outbreaks. This leads into the next section, which outlines Christian ideas about the physical body and the act of dissection. The fifth section explores how

medieval medicine reacted to the experience of plague and how plague in turn influenced medieval medicine.

Section Six explores in greater depth the advances in medicine and anatomy that occurred following the Black Death. These advances culminated in the work of Berengario da Carpi, whose illustrated work “Isagogae Breves” was the most important work of anatomical research until Vesalius. An investigation into Berengario’s anatomical drawings in Section Seven is followed by a comparison with the art of Saints Sebastian and Roch in Section Eight. This comparison highlights the underlying theme within these works: the connection between physical suffering, dissection, and the experience of plague.

2 - The Experience of Plague

The specific etiology and symptoms of plague as documented by modern medical professionals can give insight into the lived experience of pre-modern societies. To understand how plague functions as a source in and of itself, an overview of the disease is necessary to move forward.

The Mayo Clinic lists the symptoms of the three types of plague infection. Bubonic plague presents with buboes – swollen lymph nodes – which may be located in the groin, armpit or neck, are about the size of a chicken egg, and are tender and warm to the touch. They may be accompanied by fever and chills, headache, muscle aches, and fatigue or malaise. Septicemic plague – when the bacteria have entered directly into the bloodstream – is characterized by fever and chills, abdominal pain, diarrhea, vomiting, bleeding from the mouth, nose or rectum or under the skin, shock,

and development of gangrene (tissue death) in the extremities. When the bacterium enters the lungs in pneumonic plague, symptoms include bloody cough, difficulty breathing, high fever, nausea, vomiting, and muscle weakness. Possible complications of any of these types of infection include seizures, gangrene, meningitis, and death.¹² Subcutaneous hemorrhaging can often cause the skin to blacken after death.

Chroniclers and physicians during the Black Death reported these symptoms with alarm and disgust. Gabriele de' Mussis, in the "Historia de Morbo" of Piacenza, described "swellings in the armpit or groin caused by coagulating humours, followed by a putrid fever." Many people experienced a "chilly stiffness...tingling sensation... an extremely hard, solid boil. In some people this developed under the armpit and others in the groin... as it grew more solid, its burning heat caused the patients to fall into an acute and putrid fever, with severe headaches.... Some people lay as if in a drunken stupor and could not be roused."¹³

Giovanni Boccaccio's Decameron, a fictional tale set in Florence but informed by Boccaccio's actual experiences, described "the appearance of certain swellings in the groin or the armpit, some of which were egg-shaped whilst others were roughly the size of a common apple... many people began to find dark blotches and bruises on their arms, thighs, and other parts of the body... [these were] a sign that he would die."¹⁴ Similarly, the chronicler of the plague in Padua cited "incurable

¹² Mayo Clinic, "Plague Symptoms" <http://www.mayoclinic.com/health/plague/DS00493/DSECTION=symptoms> accessed 3/31/12

¹³ Gabriele de' Mussis, "Historia de Morbo," in Rosemary Horrox, The Black Death. (Manchester: Manchester University Press, 1994), 17 and 24.

¹⁴ Giovanni Boccaccio, Decameron, in Horrox, 27.

tumors near the genitals, or under the armpits, or in some other part of the body, accompanied by deadly fevers.”¹⁵

These intensely painful and humiliating physical symptoms are unlike any other disease extant in the medieval world. Before 1348 Europe had not experienced full-scale or regional epidemics of this magnitude since the now-forgotten era of Justinian. After 1348 there were frequent outbreaks of deadly epidemics for the next 400 years, wherein “whole regions suffered immense, sudden, and repeated catastrophes.”¹⁶ In the fourteenth century alone, Tuscany experienced epidemic outbreaks of plague in 1362, 1373, 1375, 1383, 1389, 1390, and 1399. The intensely physical experience of plague combined with its repetitive nature makes it a unique, extraordinary event which is more thoroughly understood when analyzed through a modern epidemiological lens.

The identification of the plague bacillus and its importance to scholarly research has been a hotly debated topic among revisionist historians, post-revisionist historians, and archaeologists who are now testing possible plague victims for the DNA of their killer. The identification of the disease has implications for how medieval people experienced the Black Death and its subsequent outbreaks, and how that affected their ideas about the body.

¹⁵ “The plague in Padua,” in Horrox, 35.

¹⁶ Vivian Nutton in The Western Medical Tradition 800 BC to AD 1800, by members of the Academic Unit, the Wellcome Institute for the History of Medicine. (London: Cambridge University Press, 1995, 191.

3 – Plague Historiography

In The Black Death, Philip Ziegler surveyed the Black Death historiography current in 1969 and concluded, “Today there is little mystery left about the origins and nature of the Black Death; a few points remain to be clarified but all the essential facts are known.”¹⁷ Through the medical and epidemiological information acquired during the Third Pandemic in the 1890’s, he averred that Bubonic Plague, *Yersinia pestis*, caused the Black Death of 1348 and its recurring waves of epidemics in Western Europe until 1722.¹⁸ The debate is over because “the symptoms of bubonic plague as known today coincide precisely with those described by the medieval chroniclers.”¹⁹

Despite Ziegler’s confidence in his identification of the plague’s cause, revisionist historian David Herlihy insisted, “It is not at all certain that the diseases we observe today are the same that troubled our ancestors.”²⁰ A number of revisionist historians, including Samuel K. Cohn, Jr., Graham Twigg, and Susan Scott and Christopher J. Duncan, have rejected *Yersinia pestis* as the plague’s cause and proposed alternative theories for what disease caused the Black Death and its subsequent epidemics.

Despite its intensity, Andrew Spicer and William Naphy conclude that the entire debate is pointless. As there is no clinical way to identify the source of the

¹⁷ Philip Ziegler, The Black Death. (New York: The John Day Company, 1969), 17.

¹⁸ Ziegler, 24. The last plague epidemic in Western Europe occurred in Marseilles, France in 1722.

¹⁹ Ziegler, 27.

²⁰ David Herlihy, The Black Death and the Transformation of the West, (Cambridge: Harvard University Press, 1997), 31.

Black Death, they claim the debate can never be truly resolved. As a result, arguments over the plague's biology obscure the events themselves. Knowing the pathology of the disease could not bring any new information to the table; we still wouldn't know exactly how many people died, directly or indirectly, from the epidemic. Yet in making this argument, Spicer and Naphy assumed that the only way to study the Black Death is through a demographic or social lens, ignoring the cultural aspect.²¹ They argued, "the telling of the history of the disease is not dependent upon or altered by the exact clinical name given to the pestilence... The debate about the 'correct' identification of the disease simply serves to detract from an attempt to understand the impact of the disease and the responses to it."²²

However, the epidemiology of the plague can be used as a source in itself, to inform how and why people reacted, psychologically and emotionally, to the nearly 400 years of repeated epidemics Europe experienced. The cumulative influence of the pestilence on culture can be discerned by knowing what disease caused it and knowing, therefore, what its effect was on the body and ideas about the body. Plague attacks the body in a specific way; as a consequence, the characteristics of the disease can be used as an historical source.

Along similar lines, Samuel Cohn, Jr. argued that the debate over the disease's identity is important because "as different pathogens provoke different consequences

²¹ Andrew Spicer and William Naphy, The Black Death: A History of Plagues: 1345-1730. (Charleston: Tempus, 2000), 55.

²² Spicer and Naphy, 56.

for our bodies and populations, they also spark differences for our minds.”²³ Societies react to plague in a vastly different way from how they react to anthrax or influenza, because they are different diseases with diverse symptoms, rates of infection, and transmission vectors. As a member of the revisionist camp, Cohn also argued that the Black Death was caused by “anything other than rat-based bubonic plague” and that the discovery of the *Yersinia pestis* bacterium “has retarded our understanding of the late-medieval plague.”²⁴ Cohn contended that the transmission of the diseases, their symptoms, and most importantly, the role of rats and fleas were different in the 1348 and 1894 pandemics. He believed that by marrying themselves to the idea that the pestilence was plague, historians twist their evidence to fit within that paradigm and therefore produce no scholarly historical work.

In response to Cohn’s criticism of traditional historians and the plague diagnosis, post-revisionist historian Ole J. Benedictow published What Disease Was Plague? It reviewed the arguments of Herlihy, Cohn, and others who claimed that the pestilence was not plague. Benedictow made a strong case that the Black Death was caused by bubonic plague, validated by recent epidemiological research from 2010-2011. He attacked revisionist historians for utilizing poor source analysis and insufficient fact-checking. However, Benedictow spent very little time answering the question of why obtaining a medical identification of the pestilence is important to the field of scholarly historical research. Although Cohn’s source analysis and use of

²³ Samuel K. Cohn, Jr. (2002), “The Black Death: End of a Paradigm,” *The American Historical Review*, (107), 738.

²⁴ Samuel K. Cohn, Jr. The Black Death Transformed: Disease and Culture in Early Renaissance Europe. (Oxford: Oxford University Press, 2002), 2.

math was at times shaky, he succeeded in arguing the point that, “diseases are relationships between microbes and hosts... regardless of human action, the character of the relationship is as vital for understanding culture and psychology as it is for demography and economics.”²⁵

During the course of this debate, traditional and revisionist historians assumed that there was no way to irrefutably identify the disease that caused plague; theories could only be based on comparative symptomology and epidemiology. New advances in archaeology and DNA analysis have changed this state of the field and garnered new information about the cause of the Black Death.

In the year 2000, Archaeologists excavated three medieval and early modern plague pits and tested the remains for the *Yersinia pestis* bacillus.²⁶ Didier Raoult’s team was one of the first to excavate plague pits and test the remains for the suspect diseases. They reported their findings in “Molecular Identification by ‘Suicide PCR’ of *Yersinia pestis* as the Agent of Medieval Black Death.” Raoult acknowledged the etiological discrepancies between the 1348 and 1894 pandemics and proposed that confirming the biological cause of the Black Death would “improve our understanding of *Yersinia pestis* epidemics in light of the current reemergence of this infectious disease.” They examined four catastrophe graves – those containing multiple skeletons without coffins or shrouds – from a grave site in Montpellier dated to from the thirteenth to late fourteenth centuries. Suicide PCR testing of the teeth

²⁵ Cohn, *The Black Death Transformed*, 251.

²⁶ Michael McCormick, (2003) “Rats, Communications, and Plague: Toward an Ecological History,” *Journal of Interdisciplinary History*, (34), 4.

resulted in a confirmed plague presence in a possible plague pit dated within the time frame of the Black Death.²⁷

In 2008 Rafaella Bianucci's team released "Technical note: A rapid diagnostic test detects plague in ancient human remains: An example of the interaction between archaeological and biological approaches (Southeastern France, 16th-18th centuries)." Since Black Death researchers were doubtful of Raoult's results and "the etiology of the past plague pandemics must still be fully demonstrated," Bianucci's team tested six potential plague cemetery sites.²⁸ They utilized a different method of analysis than that used by Raoult's team. Of the twenty-eight individuals tested for *Yersinia pestis*, nineteen (68%) tested positive, five tested doubtful, and four tested negative. Additional samples were sent to other labs for independent analysis; these results matched the results found by Bianucci's team. Bianucci concludes that *Yersinia pestis* caused the plague epidemic in Martigues in 1720-22.²⁹

Bianucci and Stephanie Haensch released another study in 2010 titled "Distinct clones of *Yersinia pestis* caused the Black Death." Seventy-six skeletons from plague pits in the Netherlands, Germany, Italy, England, and France, dating from a variety of outbreaks between 1348 and 1720, tested positive for *Yersinia pestis*. By combining ancient DNA analyses and protein-specific detection, Haensch and Bianucci found that at least two related but distinct genotypes of *Yersinia pestis*

²⁷ Didier Raoult, et al. (2000) "Molecular Identification by 'Suicide PCR' of *Yersinia pestis* as Agent of Medieval Black Death," *Proceedings of the National Academy of Sciences of the United States of America*, 97: 800.

²⁸ Rafaella Bianucci. (2008) "Technical Note: A Rapid Diagnostic Test Detects Plague in Ancient Human Remains: An Example of the Interaction between Archaeological and Biological Approaches (Southeastern France, 16th-18th Centuries)," *American Journal of Physical Anthropology*, 136: 3612.

²⁹ Bianucci, 3612.

were responsible for the Black Death. The success of this method of testing not only adds further evidence that the Black Death was bubonic plague, but also can provide information on where, when, and how it spread to different regions. For example, their results indicated that the plague traveled along the coast from Italy to France and then on to England. However, the plague in The Netherlands was of a different genotype, indicating that the Low Countries were infected from a source separate from the one in Italy.³⁰

Positive plague results continue to pour in.³¹ Ingrid Wiechmann's team confirmed in 2010 that ten of thirty-three individuals exhumed from underneath a church in Bavaria were positive for *Yersinia pestis*.³² Sacha Kacki's team confirmed the presence of bubonic plague in a cemetery in Aude-Languedoc, France dated to the fourteenth century. Kacki used rapid diagnostic testing, which is more reliable than PCR due to the instability of DNA over time.³³

It seems inevitable now that science will, as conclusively as possible, prove that the Black Death and its subsequent outbreaks were caused by the *Yersinia pestis* bacillus. Scholars' attention to the exact pathology of plague has been a valid pursuit both for the sake of accuracy in historical research and for its broader implications concerning the plague experience for medieval individuals. The nature of disease has

³⁰ Stephanie Haensch, et al. (2010) "Distinct Clones of *Yersinia pestis* Caused the Black Death," *PLoS Pathogens*, 6(10).

³¹ For a map of Europe showing all of the confirmed plague sites listed here, visit: <http://g.co/maps/b86wa>

³² Ingrid Wiechmann, et al, (2010) "*Yersinia pestis* DNA Sequences in Late Medieval Skeletal Finds, Bavaria," *Emerging Infectious Diseases*, 16 (11).

³³ Sacha Kacki et al. (2011) "Black Death in the rural cemetery of Saint-Laurent-de-la-Cabrerisse Aude-Languedoc, southern France, 14th century: immunological evidence," *Journal of Archaeological Science*, 38:581-587.

an impact on those who suffer it, and although Cohn's assertion that the Black Death was not caused by bubonic plague has been largely disproved, he was correct that the etiology of a disease shapes its cultural consequences. What we know of the plague's epidemiology, and impact on the body can inform cultural analyses of how the specific plague germ and its pathology had consequences for the lived experience of the plague. How did living through this particular disease affect how people thought about the body?

The experience of plague in the Middle Ages was a recognizable, consistent, and horrifying phenomenon that went beyond the typical physical hardships of disease and violence that were common in medieval society. Plague held a central place in what Colin Jones calls the "social imaginary" as well as in the mindset of doctors, anatomists, and artists of the fifteenth and sixteenth centuries. Due to the "preternatural sensory assault" of the plague, the effects of the disease consumed the identity of the sufferer as the body became the "hapless site of a fluidity transcending the normal boundaries of the body."³⁴

Jones claims that there is a loss of historical understanding if we reduce plague to its component parts, namely the bacillus *Yersinia pestis*.³⁵ Knowing the etiology and symptomology of the particular disease does not add any relevant data to the corpus of knowledge and statistical data about plague. This may be true for demographic or social historians who are only concerned with mortality counts or economic data. However, reading the plague as a source or text alongside traditional

³⁴ Colin Jones, (1996), "Plague and its Metaphors in Early Modern France," *Representations*, (53), 97.

³⁵ Jones, 98.

plague sources only increases historical understanding of the plague's effect on the body of individual Europeans and European culture as a whole.

The experience of plague was an exceptionally physical one, replete with visual signs and physical suffering. Jones announces the need for “analysis of the place of plague in early modern society that combines socio-demographic with cultural analyses.”³⁶ Plague studies can therefore benefit from examining how the effects of the *Yersinia pestis* bacillus on the body influenced cultural ideas about the body.

The experience of plague alone was not the root cause of advances in medical theory and anatomical research. The rediscovery of Galen, return to classical theory, and advent of printed books all played a large part in causing medieval scholars to revise their position on anatomical dissection. At the same time, there was pressure on doctors to provide explanations of plague deaths that could not be explained by traditional medical authorities. Courts and civil authorities facilitated and rationalized an empirical examination of corpses to determine and record causes of death. A growing trend of humanistic thought also encouraged observation and exploration in the field of anatomy. However, the intensely physical experience of plague did influence how people conceptualized the body. Combined with Christian somaticism it provided a framework for how they viewed autopsy, dissection, and anatomical research.

³⁶ Jones, 101.

4 – Christian Ideas about the Body

At the time of the Black Death's spread into Europe, ideas about the body were rooted in a specifically Christian context. In the early Middle Ages, one of the most important aspects of the representation of the divine was power – the triumphant risen Christ and Mary as a ruling queen in apse mosaics and book illumination, for example, or the impassive body of Christ on large crucifixes used for processions and church decorations. In the High Middle Ages, in reaction to the Gregorian reforms and Cathar heresies, the body became the site of a much more complicated discourse. The gory martyrdom of saints was a constant throughout the Middle Ages, but in the high and later medieval periods, medieval authors found very powerful metaphors in Christ's suffering and humanity as means of identification with lay concerns and also a powerful tool in explicating themes of penitence.

The Church stressed the importance of the physicality of Christ and his incarnation into a living body while on earth. The physical suffering of Christ was satisfaction for human sin; the theme of physical suffering as experienced by Christ during the Passion and Crucifixion influenced the “variety of ways in which later medieval society perceived and explained the human body.”³⁷ This somaticism well predates plague, but clearly plague discourses engage these themes and speak to a culture already receptive to themes of physical religious suffering.

³⁷ Boeckl, 158.

This emphasis on the physical body was featured in the artwork of the times as well as religious literature.³⁸ Carolyn Bynum has argued that “control, discipline, even torture of the flesh is, in medieval devotion, not so much the rejection of physicality as the elevation of it – a horrible yet delicious elevation – into a means of access to the divine.”³⁹ The martyrdom of Christ as well as early saints became an important element of the theological discourse. Jacobus de Voragine’s The Golden Legend (circa 1260), the most widely read and quoted hagiography of the Middle Ages, “added gruesome details of physical mutilation to the stories of martyrdom.”⁴⁰ The open and dismembered body played a central role in these stories. The story of St. Ignatius, for example, documents the post-mortem examination of the saint that revealed the name of Christ written, literally, on his heart.⁴¹

The importance of the body was also reflected in the doctrine of the physical resurrection of the body at the Last Judgment.⁴² The 1336 bull of Pope Benedict XII, “Benedictus Deus,” had implications for how Christians considered the relationship between the body and the soul. This “watershed of Catholic theology”⁴³ claimed that the soul experienced judgment immediately after death, “already before they take up their bodies again” and received a new body after the Last Judgment, thus implying

³⁸ Nutton, 175.

³⁹ Caroline Walker Bynum, Holy Feast and Holy Fast: The Religious Significance of Food to Medieval Women, (University of California Press, 1989) 161-2.

⁴⁰ Nutton, 175.

⁴¹ Katharine Park, (1994) “The Criminal and the Saintly Body: Autopsy and Dissection in Renaissance Italy,” *Renaissance Quarterly*, 47(1), 22.

⁴² Nutton, 176.

⁴³ Boeckl, 70.

an interim period, known as Purgatory, and emphasizing the physicality of the resurrection.⁴⁴

Medieval people considered the body to be of particular spiritual importance both before and after death. They put great emphasis on proper funerary rituals; autopsies and embalming rituals were kept private out of respect for the dead and their families. Numerous papal bulls, including “Benedictus Deus,” also emphasized the importance of a proper Christian funeral and burial. The fear of dying without this sacrament pervaded the minds of medieval people. The breakdown in funeral rituals during the Black Death was, in their minds, a terrifying matter.

“Benedictus Deus” solidified in Catholic theology a concrete explanation of the Purgatorial body, which had been a popular concept, as evidenced by Dante’s Divine Comedy, but not officially sanctioned by the Church. The emphasis on Purgatory in the later Middle Ages encouraged survivors to purchase masses for the dead and indulgences to reduce their time in Purgatory.⁴⁵

Intercessory saints who assisted the dead in Purgatory drew popular support, leading to an upswing in the influence of their cults, especially those of popular plague saints Sebastian and Roch after 1348.⁴⁶ The Golden Legend popularized the legend of Saint Sebastian even prior to the Black Death. According to de Voragine, Sebastian was a Roman soldier under the rule of Diocletian who worked to convert his fellows in secret. When the emperor discovered his actions, “Diocletian gave the

⁴⁴ Boeckl, 72; “On the day of judgment all men will appear with their bodies.” Pope Benedict XII, “Benedictus Deus,” accessed at <http://www.papalencyclicals.net/Ben12/B12bdeus.html> on 3/31/12.

⁴⁵ Boeckl, 74.

⁴⁶ Boeckl, 75.

command to tie him to a post in the center of the camp, and ordered the soldiers to shoot him full of arrows. They shot so many arrows into his body that he looked like a porcupine.”

Miraculously, Sebastian survived this event and was nursed back to health by the Christians who had come to retrieve his body for a proper Christian burial. He returned to Diocletian’s door to rebuke the emperor, who then ordered him beaten to death and “his body thrown into the sewer to prevent the Christians from honoring him as a martyr.” Sebastian later revealed himself to Saint Lucina and told her where to find his body, thus ensuring that his recovered body would receive a proper Christian burial.⁴⁷

Saint Sebastian became associated with plague due to the manner of his martyrdom. Arrows had symbolized plague since the plague of King David in Biblical times.⁴⁸ Saint Sebastian’s suffering of the arrows of plague imply his function as an *alter christus* in a salvific role.⁴⁹ Marshall has convincingly argued that the plague arrow symbolism is insufficient in itself to explain why the cult of St. Sebastian exploded after 1348. She maintains that the confluence of the plague arrows along with Sebastian’s two separate martyrdoms form “the most perfect imitation of Christ” in his “passion-like drama of suffering, death and resurrection.” As Christ died to save humanity from its sins, Sebastian’s redemptive death functioned to save his devotees from the arrows of a plague that constantly threatened

⁴⁷ Jacobus de Voragine, trans. William Granger Ryan, The Golden Legend: Readings on the Saints. (Princeton, Princeton University Press, 2012), 100.

⁴⁸ 2 Samuel 24.

⁴⁹ Mormando, 31.

its devastating return.⁵⁰ The popularity of his cult hinged on these two factors, which explains the intensity of Sebastian's cult following the Black Death.

While Sebastian was only later considered a plague saint due to the conceptual connection between arrows and plague, St. Roch is a plague saint who, according to his legend, actually suffered and survived the plague. An anonymous version of his Life was written in 1430. At the age of twenty Roch gave away all his possessions and set out on a pilgrimage to Rome. Along the way he attended to victims of the plague and caused many miraculous cures. He was stricken with the plague at Piacenza and fled to the woods, where he was given water from a miraculous spring. A local nobleman's dog brought him food and ministered to his wounds. After his recovery, he returned to his hometown of Montpellier, where he was imprisoned as an accused spy for five years until his death. Marshall notes the ahistorical character and literary genre quality of the original text, implying that the story was an invention created to deal with the experience of plague.⁵¹

The cult of St. Roch emerged in Northern Italy in the 1460's, gaining significant momentum "during the devastating series of epidemics that swept Italy from 1477 to 1479."⁵² Diedo wrote his extremely popular version of the "Life of St. Roch" in 1478.⁵³ The saint's relics were brought from Montpellier to Venice in

⁵⁰ Louise Marshall (2002), "Reading the Body of a Plague Saint: Narrative Altarpieces and Devotional Images of Saint Sebastian in Renaissance Art," in *Reading Texts and Images: Essays on Medieval and Renaissance Art and Patronage*, ed. Bernard J. Muir, (Exeter: University of Exeter Press, 2002), 240.

⁵¹ Louise Marshall (1994), "Manipulating the Sacred: Image and Plague in Renaissance Italy," *Renaissance Quarterly*, 47 (3), 503.

⁵² Marshall (1994), 504.

⁵³ Thomas Worcester, "St. Roche versus Plague, Famine, and Fear," in *Hope and Healing*, 156.

1485.⁵⁴ This was a cult of popular devotion that emphasized Roch's pilgrimage, suffering, and ability to cure plague.⁵⁵ Roch's characteristic gesture was the display of his leg bubo, a highly favored theme in artwork. He also often appears with the dog that fed and succored him during his illness.

According to Thomas Worcester, the emphasis on Roch during this time represents worshippers' hope for a miraculously painless cure from plague.⁵⁶ Roch survived the bodily suffering of plague, so his cult played a key role in promoting reassurance, not fear, in the face of plague.⁵⁷ He is the most popular plague saint after Saint Sebastian, whose bodily experience and martyrdom to an even greater degree than Roch parallels the suffering and martyrdom of Christ. Both of these stories emphasize the somatic nature of Christian martyrdom as well as the importance of funerary rituals after death.

The Black Death and subsequent epidemics caused high mortalities and periods of social chaos. A chorus of plague chroniclers lamented breakdown of proper funeral customs during the Black Death. The chronicler of the plague in Padua bemoaned "the bodies even of noblemen lay unburied. Many, at a price, were buried by poor wretches, without priests or candles."⁵⁸ In "The Florentine Chronicle," Marchione di Coppo Stefani echoed the chronicler of Padua that "those who died had neither confessor nor other sacraments... those who were responsible for the dead

⁵⁴ Boeckl, 58.

⁵⁵ Boeckl, 58. Worcester, 156.

⁵⁶ Worcester, 157.

⁵⁷ Worcester, 170.

⁵⁸ "The Plague in Padua," in Horrox, 34.

carried them on their backs in the night in which they died and threw them into the ditch.”⁵⁹ Gabriele de Mussis lamented, “No prayer, trumpet or bell summoned friends and neighbors to the funeral, nor was mass performed.”⁶⁰

Agnolo di Tura described the experience of plague in Siena: “Members of a household brought their dead to a ditch as best they could, without priest, without divine offices.”⁶¹ He lamented that when his wife and children died of the plague, he was forced to bury them himself. His attempt to give them if not a proper Christian burial, then at least a respectful one, highlights both the importance of funerary ritual to him as well as the dismay he felt for those victims who were denied even that. Those without friends or family were buried by strangers in pits. Michael Platiensis lamented, “Soon the corpses were lying forsaken in the houses.”⁶²

The lack of a priest or funeral mass for the dead was indicative of the general social chaos caused by the plague. It is notable that this particular breakdown – that of funerary rituals – shows how important that ritual was to medieval Christians. The Christian religion emphasized the importance of the physical, suffering body before death as well as the proper care of the body after death.

⁵⁹ Marchione di Coppo Stefani, “The Florentine Chronicle.”

⁶⁰ Gabriele de Mussis, “Historia de Morbo,” Piacenza in Horrox, 132.

⁶¹ Agnolo di Tura, Siena

⁶² Michael Platiensis (1357), quoted in Johannes Nohl, The Black Death, trans. C.H. Clarke (London: George Allen & Unwin Ltd, 1926), 18-20.

5 – Plague and Medieval Medicine

The advent of plague caused medicine to make advances in medical knowledge in their efforts to deal with the Black Death. One of these advances was the increase in hands-on studies of the human body. Don Nardo argues that the groundwork for the scientific method was laid by the medical establishment in the century following the Black Death.⁶³ Just as St. Roch's cult gained prevalence during the epidemics of 1477 to 1479, so did interest in hands-on studies of anatomy gain significant momentum during that same period. A number of prominent anatomists lived through the 1477-79 epidemic, and this experience influenced their later works.⁶⁴

Samuel K. Cohn argued that Europe's adaptation to repeated waves of plague led to the New Galenism and the rise of the Renaissance "sense of confidence in their powers of healing and ability to tame nature."⁶⁵ Cohn stated that "parasites in past times transformed the culture and psychology of the populations they invaded."⁶⁶ He indicated the role of the plague treatise in the development of this increase in medical knowledge. Neither the Greeks nor the Arabs had left instructions or explanations for dealing with plague. As a result, doctors who wrote plague tracts after 1348 relied less on ancient authorities than on their own experiences with plague during the Black

⁶³ Don Nardo, *The Black Death*, (Greenhaven Press, 1999), 24.

⁶⁴ Marshall, (1994), 504.

⁶⁵ Cohn, *The Black Death Transformed*, 4.

⁶⁶ Cohn, *The Black Death Transformed*, 223.

Death and the subsequent waves of epidemics.⁶⁷ This increase in medical inquiry spurred on the field of medicine in general and anatomy in particular.

The popularity and acceptance of human autopsy and dissection increased from the 1280's to Vesalius's publication of "The Fabric of the Human Body" in 1543. The first recorded autopsy occurred in Italy in the year 1286. Contemporary Italian funeral practices incorporated methods of embalming that required opening the body to remove organ tissue. Conducting a postmortem examination as a part of regular funerary procedures did not stretch the bounds of decency.⁶⁸ The first example of an autopsy performed on behalf of the court appears in court records from Venice in 1302, after which such requests became a regular part of court inquiries.⁶⁹

Park explains that "contemporary with the appearance of formal autopsies in the years around 1300 we find the first evidence of a different but related practice – dissection aiming to illustrate and explicate these norms."⁷⁰ In 1308 the Venetian Senate gave permission to university anatomists to perform an annual dissection. Mondino de Liuzzi (Mundinus) wrote the first descriptive account of a dissection in Bologna in 1316.⁷¹ During the plagues of 1348 and 1363, courts and municipal officials ordered postmortem examinations of plague victims to uncover the physical causes of the disease. The search for the plague's causes normalized and intensified

⁶⁷ Cohn, The Black Death Transformed, 234.

⁶⁸ Park, 6.

⁶⁹ Park, 5.

⁷⁰ Park, 7.

⁷¹ Nutton, 177.

the use of autopsies, and “over the course of the fourteenth century both autopsy and dissection became increasingly common.”⁷²

In the fourteenth century human dissection became a part of university teaching.⁷³ “From at least the early 12th century, opening the body was a common funerary practice... over the course of the fourteenth century it also established itself in Italian medicine as not only tolerated but frequently requested.”⁷⁴ There are discrepancies in the historiography of medicine over whether the Church officially condoned this practice. In a 1482 letter, Pope Sixtus IV gave the University of Tübingen permission to dissect executed criminals provided that the bodies ultimately received a proper Christian burial.⁷⁵ So long as a human autopsy or dissection did not “destroy the contours of the body,” it was considered by religious authorities to be technically acceptable.⁷⁶

However theoretically acceptable dissection may have been, the way that it opened the body and put it on public display made it a type of public humiliation. “Dissection compromised the identifiability and hence also the personal identity of the corpse... and forced alterations in the ritual of the funeral.”⁷⁷ For this reason, the letter from Pope Sixtus IV to the University of Tübingen emphasized that public dissections only be done on condemned criminals once every two or three years.

⁷² Park, 8.

⁷³ Nutton, 157.

⁷⁴ Park, 4.

⁷⁵ Nutton, 147. The letter Pope Sixtus IV wrote to the University of Tübingen has been quoted in numerous works, but the actual text of the letter does not seem to be available in print or online.

⁷⁶ Park, 6.

⁷⁷ Park, 13.

The general tradition in university dissection was to work only on the bodies of marginal members of society such as criminals and poor foreigners. For criminals, the act of dissection was an extension of the process of execution, already an act of bodily humiliation. Poor foreigners were also acceptable candidates for dissection because their families were too far away to embarrass through public dissection and could not pay for a proper burial, which the university provided.⁷⁸ Private postmortems to determine cause of death were a much less intense experience than the complete destruction of the body that occurred in an academic dissection. While a family could request the private autopsy of a loved one, only those marginal members of society without family to oppose it were eligible for the physical humiliation of a public dissection.

Scholarly interest in human anatomy increased over the course of the fifteenth century. Due to the classical revival and rediscovery of Galen, there was a rejection of traditional medical authorities such as Aristotle who relied on theory and argument. Direct observation of a dissected body became increasingly part of anatomical research. The production of printed books also played a role in this increased interest.⁷⁹ Park notes that “in the years around 1490 [there was] a remarkable flowering of interest in anatomy as a problem not just of teaching but also of research.”⁸⁰ A “vigorous medical culture” developed over the course of the fourteenth and fifteenth centuries that made many advances in the fields of anatomy, surgery,

⁷⁸ Park, 12.

⁷⁹ Park, 14.

⁸⁰ Park, 14.

and others. Leonardi di Bertipaglia (1380-1465), for example, advanced the field of surgery through the introduction of suture-ligature.⁸¹

Many medical authors in medieval scholasticism were more concerned with analyzing ancient sources, especially Aristotle, and ultimately reasserting the accuracy and supremacy of those authorities.⁸² Yet medical writers such as Antonio Guaineri (Pavia, 1448) and Giovanni Garzoni (Bologna, 1419-1505) began a trend in proffering new medical theories independent of or critical of the ancient authorities. Guaineri rejected medieval medicine's attempts to harmonize the authorities by stating, "Let us leave these good fellows in Paradise, where all disputes subside." Garzoni, a survivor of the 1477-79 plague epidemic, valued the classical Greek medical theories and "scandalized some by his insistence that Galen was far less useful for medicine than Hippocrates."

Traditional medical authorities could not provide answers to new questions brought forth by the experience of plague. Only through original research and direct observation could this generation of medical scholars find answers to the questions of plague's origins and treatment. By knowing the effects of the plague bacterium on the human body, modern scholars know precisely what pre-modern researchers witnessed during plague epidemics. The symptoms and etiology of plague is a constant against which the experience of pre-modern researchers can be measured.

⁸¹ Nutton, 200.

⁸² L.R. Lind, Pre-Vesalian Anatomy, (Philadelphia: The American Philosophical Society, 1975), 7.

6 - Berengario da Carpi and Pre-Vesalian Anatomists

Both Katharine Park and L.R. Lind emphasize the importance of Berengario da Carpi (1470-1530) in the advancement of the practice of dissection and the study of anatomy. The son of a barber-surgeon, he claimed in his books to have assisted his father in numerous dissections from an early age. He studied at the University of Bologna and was a student of accomplished anatomist Girolamo Manfredi.⁸³ While an important work in the transition to Renaissance medicine in its own right, Berengario's magnum opus "Isagogae Breves" also serves as clear evidence for the ways in which ideas about plague, the body, and martyrdom influenced the practice of dissection.

Berengario's accomplishments must be situated within the context of late medieval anatomical research and the increase in interest in dissection. L.R. Lind names the earliest surgeons in the movement towards anatomical research as Rugerri and Rolando de Parma and William of Saliceto (1225). Mondino dei Luzzi (Bologna, 1270 – 1326, also known as Mundinus) was the famed first human dissector of 1316 who published those results in the first modern anatomical text "Anatomia corporis humani." It was considered the most complete description of the human body since Galen. Editions of his book were reprinted more than thirty times, well into the 1500's, and became the standard textbook of university anatomy. His was also the first anatomy to utilize "tolerable" illustrations.⁸⁴

⁸³ Jacobo Berengario da Carpi, "A Short Introduction to Anatomy (Isagogae Breves)," trans. L.R. Lind (New York: University of Chicago Press, 1959), 4.

⁸⁴ Lind, 6.

Certain anatomists' work in the late fifteenth century was integral to the rising prominence of anatomy by subtly, or even overtly, contesting the theoretical assertions of Aristotle and medieval scholastic theorists. Girolamo Manfredi (Bologna, 1430-1493) published his "Anathomia" in 1490, which relied heavily on Mundinus but rarely resorted to the ancient sources.⁸⁵ Alessandro Anchillini (1463-1512) was a professor of philosophy and anatomy at the University of Bologna. His "Anatomical Notes," published posthumously in 1520, parallels Mundinus in its description of a dissection and includes numerous references and perspectives of both traditional authorities and his own interpretation.⁸⁶ Anchillini's numerous minor achievements include the discovery and description of the tympanal bones of the ear.

Alessandro Benedetti (1450?-1512) was born in Parma, traveled and worked extensively in Greece and Crete, and worked as surgeon general of the Venetian army. His "Anatomice, or The History of the Human Body" is a descriptive anatomy in the style of Mundinus. It concludes with a final chapter on the praise of dissection. He expresses the need for a clinical examination rather than uncritical trust in the authorities "since in it we see the truth and contemplate its revelations as the works of nature lie under our eyes... but those who trust only the monuments of literature... are often deceived and entrust opinion rather than truth to their minds."⁸⁷ He later

⁸⁵ Lind, 8.

⁸⁶ Lind, 9.

⁸⁷ Alessandro Benedetti, "Anatomice," Book V, Chapter 35. In Lind, 137.

describes a postmortem examination of a woman who had died of syphilis and the disease's effects on her bones.⁸⁸

Benedetti critiqued those anatomists who trusted in the authorities more than their own experience: "Aristotle has had so much authority for so many centuries that even those things which [physicians] have not seen they will affirm to exist, even without experiment."⁸⁹ Benedetti valued personal observation over blind trust in the authorities and even, shockingly for the time, corrected Aristotle. "Aristotle believes that the nerves first arise from the heart... but almost all of them (as is more evidently established) are perceived to originate in large part from the brain..."⁹⁰ Medieval scholars preferred to trust the authorities over their own observations, while this new generation of anatomists increasingly valued the experience over theory.

Notably, Manfredi, Anchillini, and Benedetti were all survivors of the devastating Italian plague of 1477-79 that was the impetus for the growth of the cult of St. Roch at the end of the fifteenth century. Anchillini endured this particular epidemic as a young teenager; Manfredi and Benedetti were old enough to have possibly worked as plague doctors during this period. The experience of plague is universal to sufferers and witnesses alike; how doctors and anatomists reacted to epidemics of *Yersinia pestis* reveals the ways in which they conceptualized the lived experience of the physical body.

⁸⁸ Lind, 77. His use of the word "suppurating" is particularly effective.

⁸⁹ Benedetti, Book III, Chapter 13. In Lind, 106.

⁹⁰ Benedetti, Book I, Chapter 8. In Lind, 87.

During this period of intense plague epidemics, the painters of medical activity in fifteenth century anatomical manuscripts transitioned from mnemonic illustrations controlled by artistic schemata to realistic drawings from life. The same theoretical shift occurring in the medical field was also taking place in the artistic realm, shifting away from reliance on traditional norms and towards a greater emphasis on direct observation and experience.⁹¹ Medical manuscripts began to offer “an insight into and beyond the body, into the universal and not simply the individual.”⁹² Vivian Nutton claims that the renaissance of anatomy was a result of “the interests of artists in anatomical dissection” which “put the subject into the public arena and helped it gain popularity.”

Artistic interest in dissection also influenced the content of anatomical texts from the 1520’s onward. Interestingly, the intricately detailed anatomical sketches of Leonardo da Vinci had little long-term influence on artists or anatomists; his notebooks, dating 1489-1514, were locked up in 1570 and removed from the public eye. The notebooks do however indicate the overlap between artists’ training in the workshops and their awareness of anatomical practices; da Vinci was not unique in this activity.⁹³

Certain religious developments also added to the increase in dissections and anatomical research. Boniface VIII issued the bull “Detestande feritatis” in 1299 in response to what he saw as improper funerary practices. During the Crusades, the

⁹¹ Nutton, 181.

⁹² Nutton, 183

⁹³ Nutton, 265

bodies of deceased crusaders were dismembered, the flesh boiled off the bones, and the bones put into reliquaries to be sent home for internment. Boniface's bull, while often cited as an example of religious prohibition on all dissection, condemned this improper funerary practice whilst still leaving spiritual wiggle room for dissections to occur.⁹⁴ The goal of the bull was to regulate funerary practices, not medical research, and anatomists found ways to distance themselves from the recipients of this bull. The ritualism of university dissection, which incorporated solemn pageantry and a funeral-like atmosphere, helped make this activity morally and socially acceptable in ways that the Crusaders' actions did not.



Figure 1: Vesalius, "De humani corporis fabrica," title page, 1543.

The solemn pageantry of university dissection can be seen in the title page to Andreas Vesalius's 1543 work "De humani corporis fabrica." The dissection takes place in a formal colonnaded hall. Vesalius himself performs the dissection as a half-hidden scribe takes notes and measurements. Rows of well-dressed spectators look on; some follow the process in books while others watch and comment on the process to one another.

⁹⁴ Nutton, 177. While Boniface's "Unam Sanctam" is available in numerous places online and in print, his lesser-known bulls are far more difficult to locate in their entirety.

The classical revival, New Galenism, increase in printed books, and religious developments resulted in greater emphasis in Italian universities on medical practice and, for anatomists, a sharp increase in interest in human dissection. Fifteenth-century medicine was exemplified by the rejection of medical authorities and abstract scholastic theory.⁹⁵ Varied and repeated observation, the theoretical backbone of the scientific method, eventually replaced medieval scholasticism.⁹⁶ Leonardo de Bertipaglia and Berengario da Carpi were proponents of this new outlook. Ugo Benzi (1376-1439), Antonio Cermisone (1441), Bartolommeo da Montagnana (1452), Gianmatteo Ferrari (1472) and Bavario de' Bonetti (1480) all contributed to the production of case-histories as an accompaniment to theoretical texts in university studies. This practical emphasis is also evidenced by the popularity of private and court-ordered autopsies in the years following the Black Death and its subsequent epidemics.⁹⁷

New advances in medicine occurred during this period. Gabriele Zerbi (1445-1505), a Veronese professor at the Universities of Bologna and Padua and another survivor of the 1477-79 plague, published the first printed treatise on geriatrics, which took the form of a practical guide. "His analyses and descriptions of the first systematic and sufficiently detailed examine of the human body since Mondinus far outstrip the latter in scientific accuracy."⁹⁸

⁹⁵ Nutton, 202.

⁹⁶ Park, 16.

⁹⁷ Nutton, 203.

⁹⁸ Lind, 10.

The emphasis on practical experience and observation had several immediate effects on the practice of dissection. Larger audiences began attending university dissections; anatomists now had audiences in the tens and hundreds. Demand for public dissections increased and thus increased the demand for bodies suitable for dissection – a supply which was previously limited to condemned criminals without family. An unofficial extralegal supply of bodies resulted from this demand. Vesalius himself admits to stealing dead bodies for dissection.⁹⁹ Outside of the university setting, the courts and the public increasingly requested postmortems for private individuals to determine cause of death. Anatomists gained more experience with the process of dissection and therefore with the body itself. Whereas Bartolommeo da Montagnana had opened 14 bodies by 1452, in 1522 Berengario da Carpi claimed to have anatomized several hundred.¹⁰⁰

Berengario survived the 1477-79 epidemic as a small child. When the plague struck Bologna again in 1508, the city assigned the adult Berengario to a post approximately equivalent to Commissioner of Public Health, a post which he kept until 1512.¹⁰¹ He later worked as a physician during the plague of 1527.¹⁰²

Berengario was well-acquainted with the specific bodily experience of the disease caused by the *Yersinia pestis* bacterium – the buboes, the bloody cough, the blackening of the skin after death. Like other anatomists before him, including his mentor Manfredi, he witnessed the disease's effect on the body before and after

⁹⁹ Nutton, 179.

¹⁰⁰ Park, 15.

¹⁰¹ Berengario, 6.

¹⁰² Berengario, 10.

death. The experience of the plague – the involuntary martyrdom complete with humiliation of the flesh – promoted anatomical research in general. It also influenced the ways in which Berengario presented his research, specifically in the illustrations of his magnum opus. Berengario’s unique experience as a barber-surgeon turned physician, theorist and anatomist inculcated in him an interest in direct observation and dissection unequalled by any of his predecessors or contemporaries. As a result of this experience, Berengario became the most important figure in anatomy until Vesalius.

7 - Anatomical Drawings in Berengario’s “Isagogae Breves”

Berengario completed his “Commentary on Mundinus” in 1521 and the “Isagogae breves” in 1522. This was the first full-scale description of the human body published between Mundinus in 1316 and Vesalius in 1543 and functions as a transitional point between medieval anatomy and that of the Renaissance.¹⁰³

“Isagogae Breves” was the first work of anatomy to use drawing from nature as opposed to genre-dictated schemata. Much like Berengario’s discussion of anatomy, these illustrations were based on experience rather than ancient authorities or artistic schemata.¹⁰⁴ Throughout the process of republishing subsequent editions of the “Isagogae Breves,” Berengario continued to improve upon his published illustrations by replacing many plates with new, cleaner versions. Despite the more impressive anatomical illustration work of his contemporary, Leonardo da Vinci

¹⁰³ Berengario, 15-16.

¹⁰⁴ Berengario, 18.

(1452-1519), Berengario's illustrations in "Isagogae Breves" were the "first to bring the art tradition of its day to the service of anatomical science."¹⁰⁵

The illustrations in "Isagogae Breves" share visual and ideological connections between the experience of plague and the practice of dissection. These connections culminate in the concept of martyrdom. Park argues that the pomp and formality of the university dissection on the body of an executed criminal "resembled a sacrament." Furthermore, Berengario's drawings "include two male figures in the stance of saints holding their instruments of martyrdom... [and] willfully participating in their own dissection."

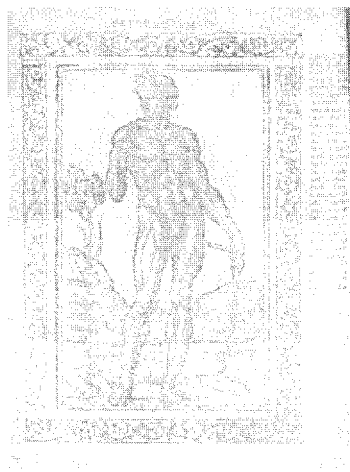


Figure 2: "Isagogae breves,"
Leaf 70r

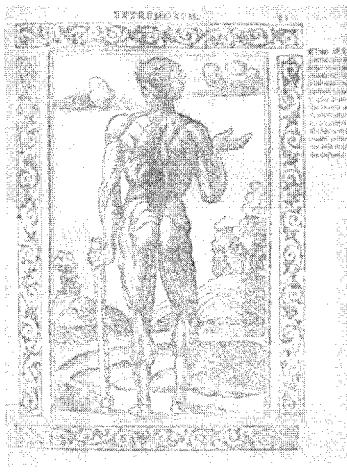


Figure 3: "Isagogae breves,"
Leaf 71rv

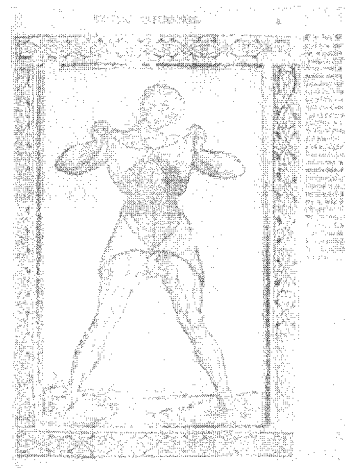


Figure 4: "Isagogae breves,"
Leaf 6r

Park here refers to the illustrations on leaf 70r and 71v, in which the dissected body poses in turn with a rope and an axe. The figure on leaf 6r holds back his skin to display his insides, again participating in his own dissection. These images of the dissected body echo the stories in de Voragine's The Golden Legend – gruesome

¹⁰⁵ Berengario, 27. It should be noted that Da Vinci also witnessed the 1477-79 epidemic.

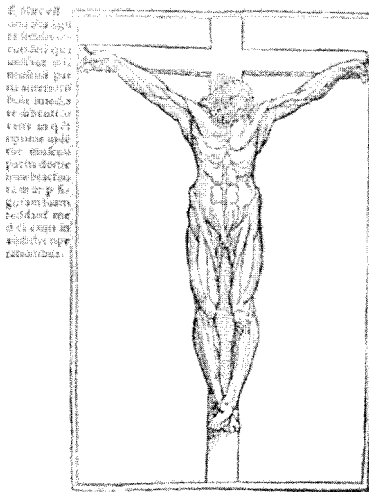


Figure 5: "Isagogae breves,"
Leaf 69v

tales of martyrdom replete with axes, arrows, and other instruments of painful death. The image with the strongest connection to Christian somaticism and martyrdom occurs on leaf 69v. Here, the dissected figure is displayed on a cross in a direct imitation of the crucified Christ, connecting both the criminal and the act of dissection to the Passion, crucifixion, and martyrdom of Christ.

The dissection of the criminal body after an execution parallels the act of martyrdom and echoes the tales of suffering and torture found within the religious discourse of the time. These themes connect in the image of Christ crucified together with two criminals.¹⁰⁶ Examples of martyrdoms and other tales of saints in The Golden Legend reveal the powerfully physical quality of Christian spirituality during the period following the Black Death. Medieval Christianity's emphasis on the somatism of Christ's passion and the gory martyrdom of saints caused Christians to place particular importance to the open and dismembered body in general. This theme – the importance of the opened body – permeates not only the religious discourse, but the discourse of Renaissance anatomy as well. The martyr within this framework creates a conceptual link between the saint and the dissected criminal, imparting

¹⁰⁶ Luke 23:39-43: "One of the criminals who were hanged *there* was hurling abuse at Him, saying, "Are You not the Christ? Save Yourself and us!" But the other answered, and rebuking him said, "Do you not even fear God, since you are under the same sentence of condemnation? **And we indeed are suffering justly**, for we are receiving what we deserve for our deeds; but this man has done nothing wrong." And he was saying, "Jesus, remember me when You come in Your kingdom!" And He said to him, "Truly I say to you, today you shall be with Me in Paradise."” Emphasis added.

religious overtones to the already ritualized and formalized act of anatomical dissection.

8 – The Art of Saint Sebastian and Saint Roch

Following the Black Death, especially the Italian plague epidemic of 1477-79, new images of Christian martyrs and saints appeared. Saint Sebastian was appropriated as a plague saint and Saint Roch gained new fame and popularity. The religious art of the time emphasized the importance of both saints to plague-ridden Christians.

The new plague-related images of Saints Sebastian and Roch were drawn from a variety of sources. Plague texts dating from ancient and classical times, as well as Christian, scientific and folk beliefs, all contributed to this emerging visual tradition.¹⁰⁷ Some of the most popular symbols of plague were swords, darts, and most especially arrows.¹⁰⁸ There was also a prevalence of *memento mori* themes, dark clouds, and astrological signs (*signa magna*) such as comets, which were often referenced by physicians and writers of plague tracts as causes of plague. The physical symptoms of plague – a raised arm, a tilted head, or a collapsed body – began to symbolize plague in post-Black Death painting.

Plague saints offered hope and healing before, during, and after times of plague.¹⁰⁹ A specific style of painting, the plague votive, was considered a talisman for warding off plague. It portrayed a particular saint as an intercessor between God

¹⁰⁷ Boeckl, 39, 46.

¹⁰⁸ Boeckl, 47.

¹⁰⁹ Worcester, 153.

and the person or persons who commissioned the painting – usually a town, government, lay confraternity, or religious order to atone for the “collective guilt” of the community.¹¹⁰

These plague votives worked as a psychological defense against disease in which people attempted to manipulate their situation through requesting the intercession of a saint against the arrows of plague.¹¹¹ Rather than a society depressed and resigned to repeated epidemics, these votives represent people taking positive steps to regain control over their environment. Paintings of plague saints, including St. Roch and St. Sebastian, as well as new methods of depicting the Virgin Mary and Christ, represent the confidence in which renaissance worshipers sought to access supernatural aid in overcoming the ravages of plague.¹¹²

Louise Marshall argues that the genre of plague painting needs to be seen as part of a broad spectrum of mechanisms for coping with the threat of plague. The very abundance of means by which people invoked the aid of the celestial court is essential, she argues, in understanding Renaissance responses to the disease.¹¹³ Rather than depression or resignation, people “possessed a confidence that put even an apocalyptic disaster of the magnitude of the Black Death into perspective of God’s secure and benevolent plan for humankind.”¹¹⁴

¹¹⁰ Boeckl, 60.

¹¹¹ Boeckl, 75.

¹¹² Marshall (1994), 500.

¹¹³ Marshall (2002), 239.

¹¹⁴ John Aberth, The Black Death: The Great Mortality of 1348-1350: A Brief History with Documents. (Palgrave MacMillan, 2005), 4.

The plague votives functioned both to request intercessory aid from plague saints and to provide catharsis for a population that had just witnessed the profound bodily destruction of the plague. By showing plague saints such as St. Roch and St. Sebastian, votives influenced the distribution of God's mercy by invoking the memory of the human suffering experienced by Christ during the Passion.¹¹⁵ The malady of the saint's physical body parallels that of the body of Christ.¹¹⁶ The suffering caused by the physical experience of plague – the details of which we now know through modern medical research – connects the sufferer to Saints Roch and Sebastian and, through them, to Christ.

In the theological discourse, the suffering of Christ was satisfaction for human sin.¹¹⁷ Therefore the suffering of plague saints act as satisfaction of divine justice through a sacrifice parallel to Christ's. These saints suffered innocently for their faith.¹¹⁸ Their endurance of plague, both literal and symbolic, emerges as a form of martyrdom and presents the emotionally charged images of a promised cure.¹¹⁹ In combination, these elements work to secure divine favor on behalf of worshippers.

Christians also used both plague saints and images of the Passion as a means of catharsis.¹²⁰ The suffering shown in these paintings mirrors the physical suffering of the sick, the recovered, and those who witnessed the ravages of the disease on

¹¹⁵ Boeckl, 76.

¹¹⁶ Boeckl, 156.

¹¹⁷ Boeckl, 158.

¹¹⁸ Boeckl, 55.

¹¹⁹ Marshall (1994), 505.

¹²⁰ Mormando, 10; Boeckl, 159.

another's body.¹²¹ Along with images of the plague saints, there was at this time an increase in images of the Passion, the crucifixion, and the image of Christ as the Man of Sorrow.¹²² To find emotional release and catharsis, lay people need only concentrate on the suffering of the saint in order to find comfort and protection from suffering.¹²³

The development of the art of Saint Sebastian after the Black Death reflect these conceptual links and culminate in the saint's radical new image-type after the epidemic of 1477-79. The arrows of Sebastian's first martyrdom, believed to represent the plague metaphorically, are more frequently found in artwork after 1348. Often the arrows are located in the lymphatic glands, where buboes form.¹²⁴

One of the earliest known example of artwork depicting St. Sebastian as a plague saint dates from the 1360's, as medieval society gradually realized and accepted that the Black Death was not a one-time event but a constant threat on the horizon.¹²⁵ Nicoletto Semitecolo's "St. Sebastian Shot by Arrows" (1367) depicts the saint's martyrdom within a narrative framework. Four archers shoot the saint with a dozen arrows as Emperor Diocletian looks on.

¹²¹ Boeckl, 158.

¹²² Boeckl, 76.

¹²³ Marshall (2002), 260.

¹²⁴ Boeckl, 56.

¹²⁵ Marshall (2002), 245.

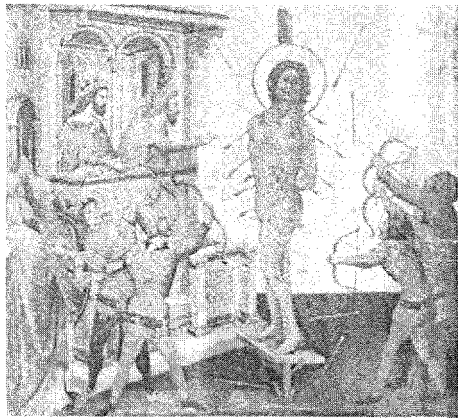


Figure 6: Nicoletto Semitecolo, 1367



Figure 7: Giovanni del Biondo, 1374

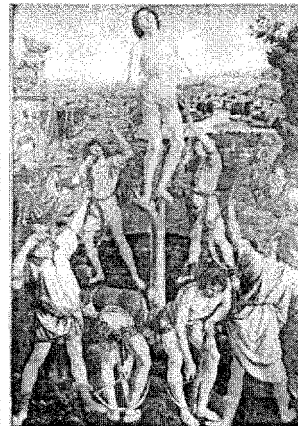


Figure 8: Antonio and Piero Pollaiuolo, 1476

Contemporary with Semitecolo, Giovanni del Biondo's altarpiece in the Florentine Cathedral, circa 1374, depicts Sebastian surrounded by archers as he is shot full of arrows "like a hedgehog," just as he is described in The Golden Legend.¹²⁶ Biondo presents Sebastian as a Christ-like redeemer protecting humanity from the threat of plague.¹²⁷ Paintings such as Biondo's placed Sebastian within a narrative frame in the act of becoming a martyr for the sake of those threatened by plague. This image-type of Sebastian continued to be in use for the next century, as evidenced by Antonio and Piero Pollaiuolo's "Martyrdom of St. Sebastian," dated to 1476. Again, the artist chose to depict the saint at the moment of his martyrdom. Although fewer arrows are shown than in previous iterations, the presence of the archers in the act of shooting continues the narrative theme.

¹²⁶ Marshall (2002), 246.

¹²⁷ Marshall (2002), 250.

During the course of the fifteenth century, especially after 1479, the expectations placed on St. Sebastian resulted in a new radically new image-type.¹²⁸ The new visual formula removed all of the action, proffering the “pierced yet living body of St. Sebastian” as the sole subject of the painting.¹²⁹ These images focus on his suffering on behalf of humanity, taking the plague arrows into himself so as to prevent them from striking his devotees.¹³⁰



Figure 9: Bernardino di Lorenzo, 1475-90



Figure 10: Lorenzo Costa, 1490



Figure 11: Pietro Perugino, 1494

Bernardino di Lorenzo’s “St. Sebastian” (dated 1475 to 1490) shows the martyred saint alone, tied to a post and pierced with a dozen arrows. He stares off into the distance as if unaware or uncaring of his physical suffering. Lorenzo Costa’s “Martyred Sebastian” (1490) shows only two arrows, one in the heart and one in the side. The image contains only the torso and head of the saint – all extraneous features

¹²⁸ Marshall (1994), 496.

¹²⁹ Marshall (2002), 256.

¹³⁰ Marshall (2002), 257.

have been removed to focus solely on the image of the suffering saint gazing back at the viewer. Pietro Perugino's "Bust of St. Sebastian" (1494) echoes that of Costa while showing only one arrow in the neck (a frequent site of plague buboes). Francesco Botticini's Sebastian (1505) is visited by an angel carrying the crown of martyrdom as he relaxes against the tree to which he is tied. Amico Aspertini's Sebastian (1505), true to the new type, gazes towards heaven heedless of the pain of his martyrdom. Bernardino Luini's Sebastian (1526) similarly gazes at the viewer while gesturing at his wounds.



Figure 12: Francesco Botticini, 1505

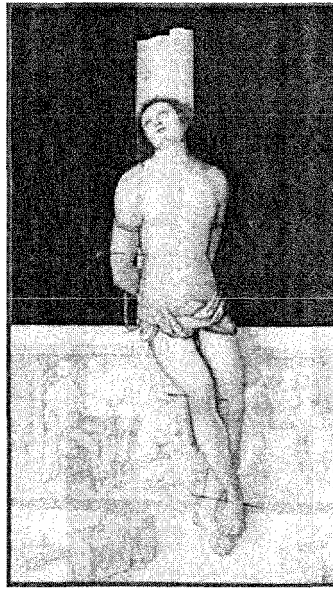


Figure 13: Amico Aspertini, 1505



Figure 14: Bernardino Luini, 1526

By showing St. Sebastian obviously wounded yet free from pain, the new image-type "allows the worshipper direct access to the promise of salvation from the plague contained in Sebastian's wounded but living body."¹³¹ Berengario's illustrations in "Isagogae Breves" are true to this type in their depiction of the

¹³¹ Marshall (1994), 500.

suffering, dissected body. The body experiences its own martyrdom free from suffering, displaying its wounds to the viewer without pain.

The new image-type of St. Sebastian developed at the same time that the cult of St. Roch gained a sweeping increase in popular devotion. The art of St. Roch after 1477 was similar to that of St. Sebastian. Both saints displayed the wounds of their martyrdom without evidence of pain or suffering. While the wounded Sebastian stood motionless, Roch actively lifted his clothing to display the plague bubo in his thigh. This display of his plague bubo showed that “he welcomed his disease as a divinely sent opportunity to imitate the sufferings of Christ... [his] patient endurance [of the physical suffering of plague was] a form of martyrdom.”¹³²



Figure 15: Fiorenzo di Lorenzo, 1478



Figure 16: Bartolomeo della Gatta, 1479



Figure 17: Titian, 1511

¹³² Marshall (1994), 505.

Fiorenzo di Lorenzo's "St.'s Romanus and Roch interceding with God the Father on behalf of Deruta," (1478) is an early example of St. Roch's plague iconography. Dressed in the garb of a pilgrim and leaning on a staff, St. Roch lifts up his mantle to display his bubo. Bartolomeo Della Gatta's "St. Roch in front of the Fraternita dei Laici in Arezzo" (1479) and the figure of Roch in Titian's "Madonna and Child with Saints Anthony of Padua and Roch" (1511) all contain these important elements. Roch's status as a pilgrim who suffered plague is paramount in his iconography. Marshall notes, "the sight of Roch scarred by the plague yet alive and healthy must have been an emotionally charged image of a promised cure. Here was literal proof that one could survive the plague, a saint who had triumphed over the disease in his own flesh."¹³³ Again, the gestures of Berengario's anatomical figures echo that of St. Roch, drawing back their skin to display their insides just as Roch draws back his clothing to display his plague bubo.

Suffering as a sign of sanctity is very specific to a Christocentric theology that focuses on the similarities between Christ in his human form and the experience of laypeople. Victims of plague identified with the suffering of Christ and Sebastian through their own experiences but also recognized Christ's suffering as something extraordinary and divine. Both ideas are exercised in the language and visual representation of the body.

After the 1470's Sebastian's image became both more static and more realistic. His particular iconography functions in a number of ways: the

¹³³ Marshall (1994), 505.

representation of arrows as a multivalent sign of suffering, martyrdom, and also disease; a quiet study of the muscular and skeletal systems; and an homage to classicizing models of Greek sculpture by Renaissance painters. In contrast, Roch is a much more cogent figure of the simple physical effects of plague and the experiences of laypeople. Both sets of iconography share strikingly similar characteristics to the images found in Berengario's "Isagogae breves."

9 – Conclusion

The explosion of the cult of St. Roch, the new iconography of the cult of St. Sebastian, and the increase in anatomical dissections developed concurrently during the late fifteenth century, especially after the epidemics of 1477-79. These manifestations share an increased interest in the lived experience of the body and delve into the Christian concept of martyrdom. St. Roch and St. Sebastian are literally and figuratively martyred by plague through the bodily experience of (plague's) arrows. Their suffering reflects the suffering of those people who experienced repeated waves of the *Yersinia pestis*-induced plague – they found emotional catharsis through viewing the martyred saints because they, too, had experienced or witnessed similar mortification of the flesh.

The theme of bodily suffering also resonates through the history of Renaissance anatomy. The plague tract specifically arose in order to explain the cause of plague. The experience of plague caused physicians and anatomists to question the ancient authorities, who had no answers for them regarding these widespread and repeated epidemics. Physicians turned to human dissection to begin answering not

only questions of plague but general questions about the body itself. Human dissection itself became an act of martyrdom that paralleled the martyrdom of St. Roch, St. Sebastian, and the ordinary people who contracted plague during outbreaks.

The somatic nature of Christian spirituality means that the opened or dismembered body had important religious implications. The act of dissection paralleled the act of martyrdom, both requiring the humiliation of the flesh. The martyrdoms of Saints Roch and Sebastian functioned to protect their devotees from the arrows of plague. A similar martyrdom can be seen in the act of dissection on behalf of the advancement medical knowledge. The illustrations in Berengario da Carpi's "Isagogae Breves" contain similarities to depictions of Saints Sebastian and Roch: the contrapposto stance and calm demeanor of the man mid-dissection echoes that of Sebastian mid-martyrdom. The dissected figure holds back his skin to display his insides just as Roch holds back his tunic to display his bubo.

The widespread and frequent outbreaks of *Yersinia pestis*-induced plague gave it a prominent place in the "social imaginary" of fourteenth and fifteenth century culture. The "preternatural sensory assault" of the plague engendered links with Christian somaticism and concepts of martyrdom. As in many of de Voragine's tales of gruesome martyrdom, the sufferer of plague lost their identity to become the "hapless site of a fluidity transcending the normal boundaries of the body."¹³⁴ The afflicted body was at the forefront of both medieval theology and medical thought. Plague doctors sought to both find treatments for the physical ravages of plague as

¹³⁴ Jones, 97.

well as to discover the source of the contagion. This search led, in part, to an increase in practical examinations of the body. The increase in post-mortem plague examinations led to an increase in autopsies in general, and then to research-led university dissection. In turn, the dissected body became a site of martyrdom parallel to that of plague saints and plague sufferers everywhere.

The ordinary person who experienced plague did not have a voice in the chronicles, plague tracts, paintings, or anatomies. We know how they experienced plague only through the identification of the *Yersinia pestis* bacillus and the bodily experience of plague victims today. Today, the few remaining plague victims – 1,000 to 2,000 people per year, according to the Centers for Disease Control – respond with a course of antibiotic treatment.¹³⁵ The plague victims of the fifteenth century responded by emphasizing the shared bodily experience of martyrdom for plague sufferers, saints, and objects of anatomical research.

¹³⁵ Centers for Disease Control, “Information on Plague,” <http://www.cdc.gov/ncidod/dvbid/plague/info.htm> accessed 3/31/12

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Vita

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