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Sin, Salvation, and the Medieval Physician: Religious Influences on Fourteenth Century
Medicine

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HIST 499 Senior Seminar
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Introduction

The global outbreak of the Black Death in the fourteenth century tested medieval medical theories.¹ Over several hundred years, people throughout various parts of the world saw their populations plummet; this unknown killer would strike down people from all levels of social class and spare very few. With a mysterious disease wiping out populations globally, physicians sought to explain and combat the plague through religion and medicine. During the plague's fourteenth century outbreak, a variety of medical cures and theories existed that would baffle the modern physician, but perhaps the most striking difference between fourteenth-century medicine and modern medicine was the involvement of religion. In a time where everyone turned to God for answers regarding the unknown, the medical communities and religious institutions were intermingled.

In Europe and the Middle East, societies practicing Islam and Christianity had developed medical fields and developed systems of education. Medieval medicine in Christian Europe and the Islamic world of the Middle East and Spain was a mixture of existing ideas from antiquity and religious influences. Most medieval ideas about medicine were based the work of Greek and Roman physicians, Hippocrates (460 BC - 370 BC) and Galen (AD 129 - 216).² Their ideas set out a theory of the human body relating to the four elements (earth, air, fire and water) and to four bodily humors (blood, phlegm, yellow bile and black bile).³

¹ I would like to recognize and give my gratitude to all those who have assisted me on this project. My primary reader, Dr. Elizabeth Swedo has helped me extensively throughout the project. She has regularly met with me to discuss my paper and her expertise on the plague and on Medieval Europe in general has been invaluable. I would also like to thank my secondary reader, Dr. Kimberly Jensen; she helped me look at the bigger picture and helped me clarify parts of my paper for those outside of the area of study. Lastly, I would like to recognize my family and friends for the moral support and for their help with editing the final copy of the paper.

² Joseph Byrne, *Encyclopedia of the Black Death* (Santa Barbara, CA: ABC-CLIO, 2012) 157;174.

³ Byrne, *Encyclopedia of the Black Death*, 174. The humoral theory was a widely-accepted theory throughout Christian and Muslim medical communities and guided the cures relating to balancing the humors to obtain optimum health.

While the foundational medical knowledge was generally the same across societies of both religions, differences existed in how medical practitioners interpreted the same ancient texts differently. During the time, there were 3 main Abrahamic monotheistic religions, Islam, Christianity and Judaism. These religions had the same initial origin, the belief in a single god and followers of all three of these religions were believed to be descendants of the patriarch Abraham. The biggest difference between Islam and Christianity in relation to medicine, was the meaning of sin and salvation. Medieval Christianity emphasized the concept of original sin, in which all humans born were inherently sinful and must go through the appropriate steps to absolve themselves and be saved such as through baptism and through confession and prayer. In Islam, this concept of original sin, did not exist and while prayer was a part of the daily routine, the significance was not for confession and penance like it was in Christianity.⁴ The differing notions of sin and salvation are important because they signal a split in interpreting classical antiquity.

A lot of scholars have investigated the difference between the two medical communities and several overarching themes arose. The three main themes relevant to this thesis are the scholarship regarding humoral theory, the scholarship regarding teaching institutions and the scholarship regarding the theory of contagion. Scholars such as Michael Dols, Robert Gottfried, and Justin Stearns, have jumped on the differences between the two religions and have identified that the Islam presented a differing understanding of contagion but scholars have yet to fully investigate the root theological cause.

The Black Death gives an ideal backdrop to compare the Islamic and Christian medical communities because this era is a prime example of two different religions and two different

⁴ This is a highly-synthesized version of the theology, for more see Jessica Jacobson, *Islam in Transition* (Abingdon, Oxon: Taylor and Francis, 1998)

cultural ideologies combating the same disease at the same time in history. The universal constant that is the Black Death allows scholars to compare the two religious ideologies in an objective way. Since the Black Death occurred in both religious communities, both sides wrote comprehensively on the events that transpired and during this time, and additionally, scholars began writing heavily on medical theories and practices.

Although physicians did not determine the actual causes of the Black Death during the middle ages, Alexandre Yersin discovered the bacteria in 1894 during an outbreak of the disease in Hong Kong.⁵ Yersin isolated the rod-shaped bacillus responsible—*Yersinia pestis*.⁶ It was also during this outbreak that doctors noticed rats dying off and contained the same bacteria, and scientists also noticed that human victims often had fleabites. Scientists thus believed the plague to be transmitted by the rat flea, *Xenopsylla cheopis*.⁷

There are three different expressions of the plague: bubonic, septicemic and pneumonic. Bubonic plague, the disease's most common form, refers to telltale buboes—painfully swollen lymph nodes—that appear around the groin, armpit, or neck.⁸ Septicemic plague, which spreads in the bloodstream, is spread via fleas or from contact with plague-infected body matter and is the most lethal.⁹ Pneumonic plague, the most infectious type, is the expression of the disease that is passed directly from person to person through airborne droplets coughed up from the lungs.¹⁰ In all cases, the same bacterium is the contagion, regardless of the expression of the disease. If left untreated, the severity of bubonic and pneumonic plague varies from case to case, whereas

⁵ Ole Jørgen Benedictow, *The Black Death, 1346-1353: The Complete History* (Woodbridge, Suffolk, UK: Boydell Press, 2004) 10.

⁶ Benedictow, *The Black Death, 1346-1353*, 10.

⁷ Benedictow, *The Black Death, 1346-1353*, 14.

⁸ Benedictow, *The Black Death, 1346-1353*, 11; Michael W Dols, *The Black Death in the Middle East* (Princeton: Princeton University Press, 1976) 72-73.

⁹ Dols, *The Black Death in the Middle East*, 72-73.

¹⁰ Dols, *The Black Death in the Middle East*, 72-73.

the septicemic form is almost invariably fatal without antibiotics.¹¹ While bubonic plague can be transmitted through fleas and fleabites, the other two are highly contagious and can spread from person to person without a flea present. However, despite how contagious the septicemic form is, due to its high fatality rate, the victims would often die before being able to spread the disease further. Essentially, the modern-day understanding is that the bacterium is contagious. While death rates varied widely from region to region during the middle ages, the average mortality rate ranged from about 27 percent in some areas to a high of 62 percent.¹² Regardless of the actual percentage, it is generally accepted that a very large population died during the plague outbreak in the fourteenth century.¹³

Today's understanding of the disease does not explain why one medieval religion believed in the theory of contagion and the other rejected it. Therefore, although the basis of medical knowledge in Muslim and Christian society came from classical Greece and Rome, use of that knowledge differed, signifying that it was each religion's concepts of sin and salvation that affected the medical response. While comparing concepts of sin and salvation is not necessarily a new idea, I present a new interpretation of previous scholarship and make connections scholars have yet to fully make, offering a new insight into why the two religions produced different theories about the plague despite having the same foundation of knowledge.

Throughout this paper, understandings of core precepts of each religion's tradition as well as their principle texts come through explanations of various scriptures from the Bible, the Qur'an and the collections of the Hadith. While focus on the actual theology has an important role in this investigation, the bulk of the primary sources are a variety of medical documents

¹¹ Dols, *The Black Death in the Middle East*, 72.

¹² John Theilmann and Frances Cate, "A Plague of Plagues: The Problem of Plague Diagnosis in Medieval England" *Journal of Interdisciplinary History* 37, no. 3 (2007): 374.

¹³ Theilmann and Cate, "A Plague of Plagues" 374.

including medical treaties and chronicles taken from across both religions and these sources will show the way physicians and scholars interpreted the scripture and implemented in medical practices. Finally, after understanding the religious foundation and concepts of sin and salvation, analysis will provide a comparative study between these two bodies of evidence, concluding that it was religion that influenced medicine and affected the way physicians and scholars interpreted classical antiquity in Islam and Christianity.

Historiography

Medical history has become a trendy field to study within the last few decades. Peoples' fascination with the gross and morbid has led to a sizable amount of scholarship and through that the sub category of religious medicine has spurred much investigation. Ranging from the major pillars of the sub-field, such as Michael Dols, to more recent scholarship, such as Justin Stearns, the field of medical history is still an area of discussion and new investigation. However, several overarching themes have taken place within the scholarly communities, those regarding humoral theory, teaching institutions, and the theory of contagion.

Scholarship on humoral theory was relatively stagnant over the last fifty years. For example, C. H. Talbot presented a traditional approach to the field in his 1967 publication of *Medicine in Medieval England*, supporting ideas such as the four bodily humors being the core of medical theories during the middle ages. Talbot followed the common formula in which he supported his arguments with intellectual, cultural and social context along with the drawing mostly on primary sources that came from England.¹⁴ In *Medicine and Society in Later Medieval England*, Carole Rawcliffe followed in Talbot's footsteps and suggested concepts like humor and miasma were crucial to the belief system, and she also supported this argument with similar

¹⁴ C. H. Talbot, *Medicine in Medieval England* (New York: Science History Publications, 1967).

pieces of context as Talbot did.¹⁵ She also presented a review of the dominant medical ideas and supported and agreed with the previous scholarship. Rawcliffe takes a cue from the Talbot's work and mirrors his brevity, absence of footnotes, a reliance on manuscripts and heavy use of English sources as her main evidence. Rawcliffe was not alone in her mirroring of older, accepted works but through this, the field failed to present remarkably new information, nor did new caches of evidence come into use.

While the majority of scholars writing on the humoral theory did not argue with previous scholarship the last few decades, in more recent scholarship, there have been some who do not agree wholly and have created movement within the field once more. For example, Peter Pormann and Emilie Savage-Smith's *Medieval Islamic Medicine* took a slightly different approach to the field and offered an alternate explanation to the humoral theory that existed in Islamic society.¹⁶ They reject the stereotypes of medieval Islamic medicine being Greek medicine translated into Arabic which was quite a markedly different opinion than most scholarship previously published.¹⁷ They certainly agree that Islamic medicine was built on foundations created by Greek physicians but offer numerous examples for the contributions outside of Greek medicine. They do however support the importance of humoral theory and explain that it was not until the nineteenth century that Greek humoral theory became obsolete.¹⁸ Overall, this piece of scholarship made a dramatic change in narrative compared to the works previously published by Talbot and Rawcliffe; Pormann and Savage-Smith's work not only offered alternate explanations for how humoral theory influenced medicine but it also moved away from English evidence and used Islamic evidence as the foundation for the argument.

¹⁵ Carole Rawcliffe, *Medicine and Society in Later Medieval England* (Stroud, Gloucs, UK: Sutton, 1997)

¹⁶ Peter E Pormann and Emilie Savage-Smith, *Medieval Islamic Medicine* (Washington, DC: Georgetown University Press, 2007), 41.

¹⁷ Pormann and Savage-Smith, *Medieval Islamic Medicine*, 80.

¹⁸ Pormann and Savage-Smith, *Medieval Islamic Medicine*, 41-45.

Michael Dols is a renowned pillar within plague history and regarding the sub-argument of teaching institutions, he, Ali ibn Ridwan, and Adil Sulaymān Jamāl co-published *Medieval Islamic Medicine* in 1984. In this publication, Dols expanded past scholarship on medical communities to include education, which was a relatively new approach for the time.¹⁹ He recognized that science was taught initially in mosques and *madrasahs*, which placed the origin of medical education in religious institutions.²⁰ According to Dols, it was not until the eleventh and twelfth centuries that a distinction was made between religious education and scientific education.²¹ Through this analysis, Dols revealed the deeply running religious vein that existed in Islamic medicine and the way it was taught to medieval scholars. Another scholar, Robert Gottfried, echoed Dols's argument in *Doctors and Medicine in Medieval England*, published only two years later in 1986. Gottfried argued that medical institutions were absolutely affected by the church.²² But he only very briefly touched on the nature of the religious involvement in medicine. He discussed that although the Black Death damaged medical institutions it did not affect the church's influence. He explained that the church had a lot to do with the universities: the "training grounds of physicians."²³ He also argued that the church had some control over the socio-religious societies that were formed within the guilds.²⁴ Gottfried's approach was not a revolutionary one and he supported the major claims that had already been made by Dols.

However, Vern Bullough's collection of essays in *Universities, Medicine and Science in the Medieval West* in 2004 took a different approach to the learning system from Dols or

¹⁹ Ali ibn Ridwan, Michael W. Dols, and Adil Sulaymān Jamāl. *Medieval Islamic Medicine: Ibn Ridwan's treatise On the Prevention of Bodily Ills in Egypt* (Berkeley: University of California Press, 1984).

²⁰ *Madrasahs* is defined simply as a college for Islamic instruction.

²¹ Dols, *Medieval Islamic Medicine*, 26.

²² Robert S. Gottfried, *Doctors & Medicine in Medieval England 1340-1530* (Princeton: Princeton University Press, 1986) 10.

²³ Gottfried, *Doctors and Medicine*, 10.

²⁴ Gottfried, *Doctors and Medicine*, 10.

Gottfried and offered new insight into the field relating to the origin of medical education.²⁵ All Bullough's papers maintain the consistent argument that medical education in Europe was "invented" at the medical universities, particularly Montpellier, Paris, Bologna, Oxford and Cambridge, a reversed interpretation to that of Dols's argument of the education of medicine starting in religious institutions.²⁶ Michael McVaugh furthered scholarship in this same field but put a heavier emphasis on surgery within European medical education and contested the argument made by Bullough.²⁷ McVaugh contended that surgical instruction was not part of thirteenth-century medical academia and so surgery was still being taught in the way it had always been: privately and between a surgeon and his apprentice, meaning medicine and particularly surgery was not a strictly university found profession in the way that Bullough had described.²⁸ If McVaugh was correct and medical knowledge was being taught in a variety of ways by different educational institutions then that would suggest a split between the university trained professional and the common surgeon.

Michael Dols also participated in scholarship on the theory of contagion. He argued that the religious attitudes of the plague were forever changing, rather than being a static interpretation hinged on theology in *The Black Death in the Middle East*.²⁹ He explained that the points of interpretation stemmed from three major rules: the first that Muslims should not enter or leave an area with plague; secondly the plague was a martyrdom for Muslims but a punishment for infidels; and finally, there was no infection or contagion.³⁰ Overall, his argument hinged on the idea of an ever-changing interpretation of the plague. Dols also gave examples of

²⁵ Vern L Bullough, *Universities, Medicine and Science in the Medieval West* (Burlington, VT: Ashgate, 2004) xii.

²⁶ Bullough, *Universities, Medicine and Science in the Medieval West*, xii.

²⁷ Michael McVaugh, "Surgical Education in the Middle Ages." In *Dynamis* 20 (2000): 285

²⁸ McVaugh, "Surgical Education in the Middle Ages," 286.

²⁹ Dols, *The Black Death*, 110.

³⁰ Dols, *The Black Death*, 110.

this changing perception and he explained that initially, Muslim physicians believed in the orthodox interpretation and ignored the signs of contagion. But Dols continued to explain that as time progressed, more physicians began to investigate and write about the contagious aspect of the disease which suggests an evolving field. Rather than looking at the field as a growing and changing entity, Samuel Cohn instead argued Islamic medical scholarship was a flat-out contraction in his book *Black Death Transformed*.³¹ Cohn did not disagree with Dols in that Muslim theology rejected the contagious nature of the plague but Cohn asserted that even though this was what Muslims claimed, physicians still showed that contagion existed in their plague tracts. As opposed to Dols's suggested transformation of thought, Cohn claimed an out-right contradiction within the medical communities. Cohn's argument led to the idea that theoretical medicine and practical medicine were in fact separate institutions.

While Dols's and Cohn's works were pillars in the Black Death scholarly world, more recent scholarship contested the once solid foundations. For example, Justin Stearns criticized common conceptions in his *Infectious Ideas: Contagion in Premodern Islamic and Christian Thought in the Western Mediterranean*. He focused on the complexity within medical discussions and offered a comparison of Muslim and Christian medicine. Stearns treated diseases in general as social constructions as well as biological entities.³² Stearns engaged Dols's argument in which Dols presented Muslim and Christian responses to contagion as entirely different: the first rejecting and the latter accepting. Stearns stated that Dols's argument was conceptually flawed since he equated religion with culture.³³ Stearns argued that Muslim scholars rather than universally rejecting the concept of contagion, as Dols and Cohn have

³¹ Samuel K. Cohn, *The Black Death Transformed: Disease and Culture in Early Renaissance Europe* (New York: Oxford University Press, 2002).

³² Justin Stearns, *Infectious Ideas: Contagion in Premodern Islamic and Christian Thought in the Western Mediterranean* (Baltimore, MD: Johns Hopkins University Press, 2011) 5.

³³ Stearns, *Infectious Ideas*, 10.

affirmed, engaged in creative and rational attempts to understand the disease. Stearns explored how Christian scholars used the idea of contagion outside of medicine as well. Just as infection seemed to spread between people, the contamination or pollution of heretics, Jews, and Muslims could taint and spread to Christians as well. Stearns also argued that despite their different approaches, at the heart of both Muslim and Christian medical fields, was a desire to protect the physical and spiritual health of their respective communities. Ultimately Stearns claimed that the understanding of contagion cross-culturally and cross-religiously was not as universal as the previous scholarship suggested since the two areas are not the same entity and each area should be treated as separate rather than being lumped together.³⁴ This identification of the different ways the two religions treated contagion introduces the question: why did these ideologies differ and how did different understandings of contagion affect medicine as a whole? Dols, Cohn, and Stearns acknowledge that a contradiction existed in Islamic medical and religious theory, but none of these scholars take a step back from this idea of contagion and delve deeper. The question was still left lingering regarding the root cause of differences between medical scholarship and how classical Greco-Roman thought affects these notions of contagion. While all three scholars explained the influences that religious institutions had over Islamic and Christian medicine, the foundational religious theory to the interpretation of classical antiquity was overlooked. This investigation will take a step further than previous scholarship and identify the very basis of religious theory that affected the medical communities through looking specifically at how each religion regarded contagion, how prayer differed cross-religiously, and how the appearance of plague in religious doctrine also affected the way each religious community reacted to the outbreak of the plague in the fourteenth century.

³⁴ Stearns, *Infectious Ideas*, 11.

Comparing Muslim and Christian Theology

To grasp the concepts regarding sin and salvation and the way each religion's perceptions altered the understanding of classical antiquity, one must first have a basic understanding of medieval Christian and Islamic theology. Islam is one of the major religions of the world that originated in the Middle East along with Judaism and Christianity.³⁵ In medieval Islam, there was one single God, referred to as Allah, that was viewed to be the sole creator, sustainer, and restorer of the world.³⁶ Allah's will was written verbatim in sacred scriptures called the Qur'an.³⁷ In Islam, Muhammad (570 CE – 632 CE) was the last in a series of prophets whose preaching was very quickly accepted by many people when he migrated to Medina and thus the community-state of Islam was born.³⁸ Medieval Islamic doctrine was based on four major sources: the Qur'an, the Sunna (traditions), Ijmā (consensus) and Ijtihād (individual thought).³⁹

The Qur'an was the most important source of Islamic beliefs and was divided in 114 sūras (or chapters). The Qur'an was believed to be made up of the direct words of God as told to Muhammad by the angel Gabriel over the twenty-two years of his prophecy.⁴⁰ During Muhammad's lifetime, his revelations were preserved by oral tradition and as fragments of written text.⁴¹ The Qur'an remains to this day the primary source of Islamic law and the focus of faith among Muslims.⁴²

³⁵ *Encyclopedia of World Religions*, s.v. "Islam."

³⁶ *Encyclopedia of World Religions*, s.v. "Islam."

³⁷ *Encyclopedia of World Religions*, s.v. "Islam."

³⁸ Medina is a city in the Hejaz region of Saudi Arabia; *Encyclopedia Britannica, Encyclopedia of World Religions*, s.v. "Islam."

³⁹ *Encyclopedia of World Religions*, s.v. "Islam." For a more in depth explanation of the religion of Islam, see *Encyclopedia of World Religions*, s.v. "Islam" and Jessica Jacobson, *Islam in Transition* (Abingdon, Oxon: Taylor and Francis, 1998).

⁴⁰ Jacobson, *Islam in Transition*, 149.

⁴¹ Jacobson, *Islam in Transition*, 24.

⁴² *Encyclopedia of World Religions*, s.v. "Islam."

The word *sunna* was used by pre-Islamic Arabs to explain their common law; in Islam, it came to mean the example of ideal Muslim behavior that was set by Muhammad: his words and deeds. They were then recorded in compilations called Hadith.⁴³ The Hadith provides written documentation of the words of the prophet and his followers. There were six Hadith collections compiled in the ninth century CE, and Muslims regarded them as especially authoritative.⁴⁴ The Hadith was used almost as a guidebook: a complete and definitive source of information on how Muslims should live their lives based on how Muhammad lived his.⁴⁵ The reason why the Hadith is important in this investigation is because it was second to the Qur'an in terms of dealing with what was going on in life. It is also important to note that the plague was referenced in the Hadith and the scripture in those Hadith dictate what should be done. There are three distinctions within the Hadith that rank the accuracy, *Ṣaḥīḥ*, which Muslims regard as most accurate and as genuine, *Ḥasan*, which was slightly less accurate but still good, and *Ḍa'īf*, which was weak and not reliable.⁴⁶

When it comes to actual theology in Islam regarding the role of humans in the natural world according to the Qur'an, God created two types of creatures: humans and Jinn, one from clay and the other from fire.⁴⁷ The jinn are not talked about in depth in the Qur'an; human beings are the central concern. The Jewish and Christian story of the Fall of Adam was accepted, but the Qur'an stated that God forgave Adam of his act of disobedience, thus eliminating the idea of original sin from Islamic doctrine.⁴⁸ This point is significant and is vital to the argument of sin and salvation being the difference between Christianity and Islam.

⁴³ Jacobson, *Islam in Transition*, 149.

⁴⁴ *Encyclopedia of World Religions*, s.v. "Islam."

⁴⁵ Jacobson, *Islam in Transition*, 93.

⁴⁶ Solomon Nigosian, *Islam* (Bloomington: Indiana University Press, 2004) 83.

⁴⁷ *Encyclopedia of World Religions*, s.v. "Islam."

⁴⁸ *Encyclopedia of World Religions*, s.v. "Islam."

In Islam, the idea of sin did exist. In fact, medieval Islam had a very deep-seated recognition of Satan and understood who it was. The Islam understanding also mirrors the Christian notion in that Satan was a being who had previously been of high station but fell from divine grace through an act of disobedience in refusing to honor Adam. This sin that was committed was the sin of pride, and since then, pride was considered the cardinal sin of humankind.⁴⁹ Along with this idea of sin, the idea of repentance existed simultaneously. Regardless of what actions and sins had been committed, it was always possible to achieve redemption through a genuine conversion to the truth. This conversion absolved all sin and restored a person to the state of sinless-ness in which they started their lives.⁵⁰ Following this absolution, a final judgement was necessary to bring a person to full completion. According to the Qur'an, on the Last Day, when the world was coming to an end, the dead would be resurrected and a judgement would be cast upon everyone based on their deeds.⁵¹ Those who are condemned would burn in hell and those who were saved would enjoy never ending pleasures in paradise.⁵²

When it came to proving devotion in life, there were a multitude of ways of proving faith in medieval Islam. In fact, the fundamental practices of Islam that were known as the five pillars or the "Pillars of Islam" were well-established.⁵³ The first pillar was the profession of faith, which must be recited at least once during one's lifetime, out loud and correctly.⁵⁴ The second pillar consisted of five daily prayers that were performed facing Mecca.⁵⁵ The third pillar represented the obligatory tax called zakāt, which was used primarily to help the poor. The

⁴⁹ *Encyclopedia of World Religions*, s.v. "Islam."

⁵⁰ *Encyclopedia of World Religions*, s.v. "Islam."

⁵¹ Nigosian, *Islam*, 100.

⁵² *Encyclopedia of World Religions*, s.v. "Islam."

⁵³ Jacobson, *Islam in Transition*, 25.

⁵⁴ Nigosian, *Islam*, 102.

⁵⁵ *Encyclopedia of World Religions*, s.v. "Islam" before these prayers, ablutions must be performed however, which include the washing of the hands, face and feet.

fourth pillar stood for the obligation to fast during the month of Ramadān.⁵⁶ The fifth and final pillar was the hajj, or the participation in the annual pilgrimage to Mecca (provided one could afford it).⁵⁷

Essentially, the faith of Islam was based on the words of God, or Allah, spoken to the Prophet Muhammad through the angel Gabriel that was written down as the Qur'an. In addition to the Qur'an, Muhammad's actions during his life were recorded in the Hadith and were considered by the people of the faith to be the correct way to live. Included in the Hadith were various types of codes and laws that related to a multitude of things such as dress codes and medicine. Muhammad (571-632CD) lived during later recurrent outbreaks of the Plague of Justinian (541 CE- 542 CE) and because of this, the Hadith contained prescribed responses for believed during outbreaks of the plague.⁵⁸ The presence of the plague in the Hadith explained why Muslims reacted differently than Christians, since the disease was something they were aware of and was something Muhammad himself faced. This fact prevented the public from feeling as if the world was ending.

Medieval Christianity had its origins with Jesus of Nazareth, the son to the Virgin Mary, and the son of God. Followers of the faith believed that God was a being that transcended the world and human beings and ruled over them.⁵⁹ The Christian Bible was also used by followers in a similar way to the Qur'an and was the foundation of the religion and the foundation of the Christian doctrine. However, as the way the Qur'an and Hadith were written as first-hand accounts by people during or close to the time the events were happening, the Christian Bible

⁵⁶ *Encyclopedia of World Religions*, s.v. "Islam."

⁵⁷ For more information on all the pillars see *Encyclopedia of World Religions*, s.v. "Islam.;" Jacobson, *Islam in Transition*, 25-27.

⁵⁸ The Christian Bible mentions plagues generally but not *the* plague.

⁵⁹ *Encyclopedia of World Religions*, s.v. "Islam.;" Linda Woodhead, *Christianity* (Oxford: Oxford University Press, 2004), 15.

was written some later, after the death of Jesus.⁶⁰ The Bible was a collection of sacred texts or scriptures that Christians considered to be a product of divine inspiration recording the relationship between God and humans that consists of the Old Testament and the New Testament. A variety of authors compiled these sections, with each chapter being named after the one who wrote it. The four Gospels familiar to most people are those of Mathew, Mark, Luke and John. By the fourth century, Christians brought these Gospels together and deemed them to be authoritative or canonical. Christians then included these sections in the New Testament.⁶¹ The New Testament), the Epistles, the Acts of the Apostles and the Book of Revelations combined with the Old Testament (Jewish scriptures written in Hebrew that had been appropriated by Christianity), formed the entirety of the Christian Bible.⁶²

The core ideologies of Christianity were drawn from the teachings given in the Bible and developed in the form of the sacraments. Christians defined a sacrament as religious rituals that were believed to convey [or impart] God's grace or favor to the participant through divine intercession. Eventually the medieval church would recognize seven sacraments: Eucharist (communion), Marriage, Penance, Baptism, Last Rites or Unction, Confirmation, and Ordination. Initially the two sacraments that everyone of the faith recognized was baptism and Eucharist. The church believed that receiving both baptism and the Eucharist was the only ways to gain access to heaven after death.⁶³ Baptism involves a profession of faith and sprinkling or immersion three times in water. The Eucharist involves the commemorative sharing of wine and

⁶⁰ Woodhead, *Christianity*, 19.

⁶¹ Woodhead, *Christianity*, 19.

⁶² For more information see *Encyclopedia of World Religions*, s.v. "Christianity." and Woodhead, *Christianity*.

⁶³ Woodhead, *Christianity*, 37.

bread that was divinely transformed through the rite of consecration into Jesus's sacrificed blood and body for the salvation of human kind.⁶⁴

A part of the religion of Christianity relates to the salvation of human beings. In fact, the Gospels led up to the events of Jesus' passion, death and resurrection, and three of the four previously mentioned Gospels make the resurrection of Jesus their climax.⁶⁵ Christians believed that through his death, Jesus had offered himself as a sacrifice to God to absolve humans of their sins, including the "original" sin committed by Adam and Eve in the Garden of Eden after the creation of man.⁶⁶ Jesus's suffering during crucifixion showed how humans were also meant to suffer in order to be absolved of their sins.⁶⁷ His resurrection was then his glorification and proof of God's power, even over death. The resurrection was also the grounds for the Christian hope of life after death.⁶⁸ who became the first Christian converts and comprised Jesus's disciples (followers), believed that only God could work real miracles so they believed that God was the only one who could raise a human from the dead.⁶⁹ Christians also believed that God would do this again at the end of time.

The religions of Islam and Christianity bear resemblance to the other as both are Abrahamic monotheistic religions and have similar ideas of someone being in direct contact with God who spoke about the correct way to live with a focus on sin and repentance. However, the two differ greatly in the presence of miracles and healing. In the Christian Bible, the Gospels

⁶⁴ Through baptism, an individual is "born again" not into the world but into the church. It symbolizes being cleaned of the influence of the devil. The Eucharist repeats and reinforces the message of baptism. The act of sharing a meal signifies the binding together of those who participate. For Christians, the meaning is extended to mirror the last meal Jesus shared with his disciples before his death (the Last Supper) and represents his blood and body that were given for the salvation of human kind. For more see Woodhead, *Christianity*, 48-49.

⁶⁵ *Encyclopedia of World Religions*, s.v. "Christianity."

⁶⁶ *Encyclopedia of World Religions*, s.v. "Christianity."; Woodhead, *Christianity*, 33; Lynch, *The Medieval Church*, 260.

⁶⁷ *Encyclopedia of World Religions*, s.v. "Christianity."

⁶⁸ *Encyclopedia of World Religions*, s.v. "Christianity."

⁶⁹ Woodhead, *Christianity*, 24;

linger over the details of the miracles performed by Jesus which often time involved human healing, while other times demonstrated Jesus's control over natural events such as stilling the storm, walking on water, feeding five thousand and turning water into wine.⁷⁰ Reason for this emphasis is because followers believed that God's omnipotence was evident in the miracles performed by the apostles and later the saints. The four Christian Gospels (Mathew, Mark, John and Luke) record healing and miracles as a major part of Jesus's ministry.⁷¹ Additionally, the Acts of the Apostles, another book within the New Testament, was full of healing, miracles, prophecy, and even other resurrections from the dead.⁷²

Jesus's actions were not the only existence of miracles and healing in the Christian Bible however, Gospel narratives were full of accounts of deeds of saints, people who were instilled with the Holy Spirit that also describe healing.⁷³ In Christianity, followers believed that God was also the ultimate source of miracles but they believed that saints were instruments of divine intersections and it was God – the Holy Spirit – that performed a miracle through a saint. Most of the early saints the church recognized were people who had died for their beliefs “at the hands of the Roman authorities.”⁷⁴ After their deaths, Christian communities would gather their bones and commemorated them annually through church services usually held on the date of their death.⁷⁵ Two saints in particular are important in the study of medicine and Black Death medicine specifically are Saints Cosmas and Damian (d.287 CE).⁷⁶ Cosmas and Damian were brothers born in the city of Egea, and they both learned the art of medicine through the grace of the Holy

⁷⁰ Woodhead, *Christianity*, 23.

⁷¹ Amanda Porterfield, *Healing in the History of Christianity* (New York: Oxford University Press, 2005) 6.

⁷² Porterfield, *Healing in the History of Christianity*, 8.

⁷³ Woodhead, *Christianity*, 23.

⁷⁴ Lynch, *The Medieval Church*, 268.

⁷⁵ Lynch, *The Medieval Church*, 269.

⁷⁶ *The Golden Legend* was a widely-read book, after the Bible, during the late Middle Ages. It was compiled around 1260 by Jacobus de Voragine, a scholarly friar and later archbishop of Genoa, whose purpose was to preserve a vast store of information pertaining to the legends and traditions of the church, Jacobus de Voragine, *The Golden Legend: Readings on the Saints*, trans. by William Granger Ryan (Princeton University Press, 2012).

Spirit.⁷⁷ The brothers went on to cure a variety of illnesses of both humans and animals whilst not taking any form of payment for their services.⁷⁸ Once word of them spread, the proconsul summoned them and ordered them to sacrifice to the idols.⁷⁹ They refused and the Roman proconsul, along with a judge later, ordered them to be tortured, but no matter the punishment, the brothers always came away unharmed until the judge finally had them beheaded.⁸⁰ Even after their deaths, Christians would call upon the brothers in times of ill health, and they would miraculously recover.⁸¹ This association with healing, and the Holy Spirit shows the close relationship medicine had with faith in the Christian religion and while there was no specific mention of the bubonic plague, there was mention of healing incurable ailments. Followers of the faith called upon these saints frequently during the Black Death and they considered the brothers to be important figures regarding medicine.

In contrast, there were no spiritual gifts in Islam. Allah directly performed all signs and miracles, and Muslims believed that no human man could perform healing or miracles. The only miracle that Muhammad did during his life, was to deliver the Qur'an; Muslims considered it, and Allah, to be the root of all other miracles. If anything miraculous happened, the event was attributed to the Qur'an and Allah's direct influence. While Muslims did believe that Jesus may have been involved in some healing and miracles, they stood by their claim that Allah was the real source. However, while the Qur'an is explicit that Muhammad does not perform physical miracles, there are a number of *sahih* ahadith that contain reference to Muhammad's miracles (including healing), though Allah is recognized as the true source of the intercession. Like most religious traditions, it is not quite as tidy.

⁷⁷ de Voragine, *The Golden Legend*, 582.

⁷⁸ de Voragine, *The Golden Legend*, 582.

⁷⁹ de Voragine, *The Golden Legend*, 582.

⁸⁰ de Voragine, *The Golden Legend*, 583.

⁸¹ de Voragine, *The Golden Legend*, 584.

A contradiction to this Muslim belief about healing and miracle, however, was that the lack of belief in miracles did not mean Muslims did not believe in the healing power of prayer. In fact, prayer was as important to Muslims as was it to Christians. In both religions, followers would call upon special prayers for different situations, including curing the plague.⁸² In Islam, the majority of prayers and other magical devices came straight from the Qur'an because the Qur'an itself was a cure against illness.⁸³ Christians mirrored this notion with the idea that "the prayer offered in faith will heal the sick man, the Lord will restore him to health."⁸⁴ In both religions, prescriptions for prayers were intermingled with medical treatises and doctors considered prayer to be vital to curing ailments.

The Shape of the Medical Community

While medicine during the fourteenth century may appear to be limited or in fact nonexistent in the eyes of someone from the twenty-first century, a very solid foundation and understanding of what was medicine existed. Many features of these scientific understandings are cross-religious, even if the two religions of Christianity and Islam acted on this knowledge differently. One of the most important distinctions within the medical community during the fourteenth century was the separation of university-trained professionals and non-licensed practitioners.

Medicine during the middle ages was conducted by a wide variety of people, ranging from herbalists to surgeons and university-trained physicians. Though there were some differences between medical training in Christian based countries and Islamic based countries,

⁸² In Islam, there was great emphasis that these prayers, while important in curing the sick, should by no means replace the customary prayers that were to be recited by Muslims at different times during the day; Dols, *The Black Death*, 122-124.

⁸³ Dols, *The Black Death*, 125.

⁸⁴ Porterfield, *Healing in the History of Christianity*, 48.

both were similar and had an emphasis on theology.⁸⁵ Further medical training was largely provided by set texts, mainly classic medical authors including Avicenna, Galen and Hippocrates.⁸⁶ Some Christian universities required clinical training with a physician, and others, particularly in Bologna and Montpellier in the early to mid-1300s, required attendance at anatomical dissections.⁸⁷ But the basis of becoming a physician rested on one's ability to know the reasons for sickness and to know how illness fit into a theory about health. It was this intellectual element that was critical to distinguishing "the learned physician who knew the reasons for things [from] the hireling with a knack for healing," distinguishing university-trained physicians from anyone else who practiced medicine.⁸⁸

The *Hippocratic Corpus*, popularly attributed to an ancient Greek practitioner known as Hippocrates, laid out the basic approach to health care.⁸⁹ As "the Father of Medicine," Hippocrates rejected supernatural causation of diseases and instead emphasized natural factors when it came to prevention, diagnosis and treatment of the disease.⁹⁰ Hippocrates accepted the humoral theory of his day but stressed the roles of diet and environment in how the disease unfolded and progressed.⁹¹ Greek philosophers viewed the human body as a system that reflected the workings of nature. The body, as a reflection of natural forces, contained four elemental properties expressed to the Greeks as the four humors: phlegm (phlegmatic), black bile

⁸⁵ R. Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity from Antiquity to the Present* (London, UK: Fontana Press, 1999), 114.

⁸⁶ Porter, *The Greatest Benefit to Mankind*, 114.

⁸⁷ Porter, *The Greatest Benefit to Mankind*, 114.

⁸⁸ Porter, *The Greatest Benefit to Mankind*, 114.

⁸⁹ Very little is known of Hippocrates's career as a medical practitioner. The *Hippocratic Corpus*, a body of about 70 pieces of medical writing, was formerly attributed to him, but is now believed by modern scholars to have been written by his contemporaries and followers over several centuries.

⁹⁰ Byrne, *Encyclopedia of the Black Death*, 174.

⁹¹ Byrne, *Encyclopedia of the Black Death*, 175.

(melancholic), yellow bile (choleric), and blood (sanguine).⁹² Hippocrates applied this belief to medicine.

Galen of Pergamum was the Roman advocate of the medical ideas of Hippocrates and his school.⁹³ Galen adopted Hippocrates's theories and merged them with his own ideas and observations through late antiquity.⁹⁴ Galenism dominated the Western medical understanding until the eighteenth century whereas in Islam, scholars relied more on Hippocrates's original theories.⁹⁵ The Hippocratic doctrine provided a basis for health regimens and treatments of diseases for Galen and stressed that illnesses were the result of a humoral imbalance that could be remedied by restoring that balance.⁹⁶

Following ancient Greco-Roman medical theories, physicians cross-religiously subscribed to the humoral theory of illness and strove to treat disease by balancing the humors often through purgatives and enemas.⁹⁷ Essentially, the belief during the middle ages was that all diseases and disorders were caused by too much or not enough of one of these humors and that the levels of these humors would fluctuate in the body, depending on what was one ate, drank and inhaled. The natural world influenced every person in different ways by influencing elements connected to certain humors. Balancing these humors was important in reaching a diagnosis. Medical practitioners used the humoral theory to diagnose a patient's ailments, along with analyzing the patient's home climate, their diet, and astrological charts.⁹⁸ To restore balance,

⁹² Ibn Ridwan, Michael W. Dols, and Adil Sulaymān Jamāl, *Medieval Islamic Medicine: Ibn Ridwan's treatise On the Prevention of Bodily Ills in Egypt* (Berkeley: University of California Press, 1984), 10.

⁹³ Byrne, *Encyclopedia of the Black Death*, 157.

⁹⁴ Byrne, *Encyclopedia of the Black Death*, 157.

⁹⁵ Byrne, *Encyclopedia of the Black Death*, 158.

⁹⁶ Byrne, *Encyclopedia of the Black Death*, 158.

⁹⁷ Rawcliffe, *Medicine and Society in Later Medieval England*, 1-28, 105-125; Faith Wallis, *Medieval Medicine: A Reader* (Toronto: University of Toronto Press, 2010), 6-7.

⁹⁸ Gottfried, *Doctors & Medicine*, 177.

the physician would prescribe a new diet which not only included food to eat or avoid but also an exercise regimen and medication.⁹⁹

One of the reasons why Christian and Islamic medical theory mirrors the other was because Christian medicine drew knowledge from Islamic medicine itself in theory and practice. Medieval European medicine became more developed during the thirteenth century, when scholars translated from Arabic many texts of both Ancient Greek and Islamic medicine.¹⁰⁰ The most influential among these texts was Avicenna's *The Canon of Medicine*, a medical encyclopedia written in circa 1030, which summarized the medicine of Greek, Indian and Muslim physicians until that time.¹⁰¹ Avicenna, a scholar and physician, produced somewhere between 300 and 450 books.¹⁰² Though he did not witness plague, his major writing on medicine, *Qanun-fi-tTibb* (or *The Canon of Medicine*) had an enormous impact on both Islamic and Christian medical theory and practice.¹⁰³ The Christian influence was present in Islamic scholarship as well and can be seen through Usamah ibn Munqidh's writings in 1175.¹⁰⁴ He touted a positive experience with European medicine; in one instance, he described a European doctor successfully treating infected wounds with vinegar and recommended a treatment for scrofula demonstrated to him by an unnamed "Frank."¹⁰⁵

While the theory of medicine was very important to physicians in Christian society, these university-trained professionals actually practiced this medicine infrequently. Instead, surgeons

⁹⁹ Lawrence I. Conrad, *The Western Medical Tradition 800 BC to AD 1800* (Cambridge: Cambridge University Press, 2011), 23-25; Gottfried, *Doctors & Medicine*, 177.

¹⁰⁰ Gottfried, *Doctors & Medicine*, 7.

¹⁰¹ Gottfried, *Doctors & Medicine*, 202.

¹⁰² Avicenna was the Latinized name of Abu Ali al-Husayn ibn Abd Allah ibn Sina and he lived from 980 to 1037; Byrne, *Encyclopedia of the Black Death*, 29.

¹⁰³ Byrne, *Encyclopedia of the Black Death*, 29; Along with *ars medicinae* (art of medicine) or *articella* (little art) seen in Gottfried, *Doctors & Medicine*, 202.

¹⁰⁴ Usamah Ibn Munqidh, "Autobiography, Excerpts on the Franks" *Medieval Source Book*, Fordham University <https://sourcebooks.fordham.edu/source/usamah2.html>

¹⁰⁵ Usamah (1095-1188) was a Muslim warrior who fought against the Crusaders around Palestine.

or barber-surgeons were more accessible and were in a distinctly separate branch of medicine. Surgeons had a much more hands-on approach as their treatments were directly practiced on the patient.¹⁰⁶ They were practical and were perceived as men who got results and were often more popular among non-medical communities.¹⁰⁷

It is important to note that this distinction between surgeon and physician was not so clear in Islam, and instead of having separate branches of the medical community, the Muslim physician practiced physical medicine in addition to being well versed in the theoretical knowledge during their education. The distinction between the surgeon who manipulated the body and the physician who theorized about it was not a classical nor Arabic tradition but instead a Western Christian one; and this was apparent in teaching as well as in hospitals.¹⁰⁸ The distinction that emerged in Christian culture is generally attributed to the emerging professionalization of the physician in the twelfth century and the papal prohibition in 1163 against the clergy spilling human blood, such as that happens in in phlebotomies, wound treatments, or surgery.¹⁰⁹ The distinction symbolized the status of the individual more than the skill level. During the fourteenth century, European kings and wealthy communities within Europe put an emphasis on a university education and favored university-trained professionals when it came to medicine.¹¹⁰ However, this led to the inaccessibility of the university-trained physician to much of the European population as they were not able to pay the high wages of the physicians.¹¹¹ Instead, most people would not have recognized such as difference between the licensed and un-licensed since licenses had more to do with the assertion of authority in

¹⁰⁶ Gottfried, *Doctors & Medicine*, 67.

¹⁰⁷ Gottfried, *Doctors & Medicine*, 67.

¹⁰⁸ Byrne, *Encyclopedia of the Black Death*, 333.

¹⁰⁹ Byrne, *Encyclopedia of the Black Death*, 333.

¹¹⁰ Wendy J. Turner and Sara M. Butler, *Medicine and the Law in the Middle Ages* (Leiden: Brill, 2014) 201.

¹¹¹ Turner and Butler, *Medicine and the Law*, 201.

European territories than prove expertise.¹¹² The fields were further split when surgeons or barber-surgeons' guilds were established, beginning in Paris around 1215 and again in 1271.¹¹³ Even though high professional standards existed for surgeons, the medical faculties kept them separated from and inferior to physicians, who were considered masters of medical theory.

During the middle ages a lot of criticism went back and forth between these two communities of physicians and barber-surgeons. According to John of Salisbury, writing in the twelfth century, physicians lived by two rules, "never mind the poor" and "never refuse money from the rich."¹¹⁴ The criticism went both ways, and physicians were very critical of surgeons with only a few physicians supporting the practice of surgery.¹¹⁵ Physicians, despite there being very few in existence, claimed that only "men of great skills who had had long and arduous training" could yield their science and body of knowledge.¹¹⁶

Hospitals did exist in both Islamic communities and Christian communities, but there are differences between the two. Christian hospitals were more akin to a nursing home than a modern hospital oriented toward intervening medical care. In fact, Martha Carlin, in her survey of medieval English hospitals, found very little evidence of medical care offered by physicians and surgeons. Instead, she found that the treatments patients most likely received was bed rest, warmth cleanliness, along with a strict regimen of diet and prayer.¹¹⁷ In contrast, the Islamic hospital was a public institution run by educated Galenic physicians, and scholar Ahmed Ragab argued that physicians did focus on curing the sick and not just isolating them as Christian

¹¹² Turner and Butler, *Medicine and the Law*, 201.

¹¹³ Byrne, *Encyclopedia of the Black Death*, 333.

¹¹⁴ Gottfried, *Doctors & Medicine*, 58.

¹¹⁵ Gottfried, *Doctors & Medicine*, 62.

¹¹⁶ Gottfried, *Doctors & Medicine*, 63.

¹¹⁷ Faye Getz, *Medicine in the English Middle Ages* (Princeton University Press, 1999), 90.

physicians did in their hospitals.¹¹⁸ In Christian communities, the sick were often not treated in hospitals at all, and many of the procedures a patient would endure happened in their own homes or in the physician's home.

Despite differences in the nature and role of hospitals in Muslim and Christian communities, both utilized classical Greek humoral theory generally in the practice of medicine. The reason for this was in addition to shared classical antiquity; persistent intermingling of the two medical communities took place. However, as seen in the role of hospitals, medicine was practiced differently by each religion, which suggests that it was each religion's individual approach to foundational knowledge that changed the way medicine was practiced.

Scriptural Influences on Medical Thought: Islamic Beliefs

Since medical communities were intermingled and the medical teaching institutions focused so much on religion, scholarship must include a basic understanding of Islamic theology to compare the differences to Christian medicine. The Qur'an and Hadiths were central to Islamic medicine. These two doctrines stated that Muslims had a duty to care for the sick and this notion was often referred to as "Medicine of the Prophet." According to the sayings of the Prophet Muhammad, he believed that Allah had sent a cure for every ailment, "There is no disease that Allah has created, except that He also has created its treatment," and that it was the duty of Muslims to take care of the body and spirit.¹¹⁹ This certainly fell under the responsibility of improving the quality of healthcare and ensuring access for all, and many other Hadith laid down guidelines for a holistic approach to health. For example, (The Prophet said), "Healing is in three

¹¹⁸ Ahmed Ragab, *The Medieval Islamic Hospital: Medicine, Religion, and charity* (New York, NY: Cambridge University Press, 2015), xi.

¹¹⁹ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5678. Trans by Muhammad Muhsin Khan (Islamic Foundation of America, Springfield, VA: 1997).

things: A gulp of honey, cupping, and branding with fire (cauterizing)." But I forbid my followers to use (cauterization) branding with fire."¹²⁰ Quotes like these give an exact guideline for what was and was not accepted within Islam; in this example, physicians were not allowed to perform cauterizations.

Another thing that was heavily emphasized in the Hadith was the practice of cupping. One Hadith stated, "he paid Al-Muqanna a visit during his illness and said, 'I will not leave till he gets cupped, for I heard Allah's Apostle saying, "There is healing in cupping."'"¹²¹ This idea of cupping was extremely prevalent within Islam and was an extremely prevalent practice for an array of ailments ranging from headaches to being used on someone who was in a state of *Ihram*¹²². Furthermore, the idea of evil was also relevant within the Hadith literature pertaining to medicine, for example in Hadith 7723, in a *sahih* collection by al-Bukhari, "Fever is from the heat of Hell, so put it out (cool it) with water."¹²³ The Hadith emphasized good and evil, and the scriptures explain that hell caused harm to humans in the form of fevers.

Something unique about Islam in comparison to Christianity was that the Prophet Muhammad was alive during various epidemics, and thus there are scriptural guidelines on how to cope with disease outbreaks. This having already been documented influenced the reaction of the plague greatly within Islam, whereas Christianity did not have anything scriptural to fall back on. In another Hadith from the same *sahih* collection by al-Bukhari, Hadith 5728 stated that, "If you hear that it (plague) has broken out in a land, do not go to it; but if it breaks out in a land where you are present, do not go out escaping from it."¹²⁴ This shows how people were supposed

¹²⁰ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5680.

¹²¹ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5697.

¹²² *Ihram* is defined as a sacred state of being that Muslim must enter in order to perform any pilgrimage; Jacobson, *Islam in Transition*, 25.

¹²³ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5723.

¹²⁴ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5728.

to react to the plague. Instead of running from the disease, they should face it as “He (a Muslim) who dies of an abdominal disease is a martyr, and he who dies of plague is a martyr.”¹²⁵ This shows that death through sickness was not perceived as a negative thing but instead should be respected, as the fight against illness was honorable. However, another Hadith does state that,

Plague was a punishment that Allah used to send on whom He wished, but Allah made it a blessing for the believers. None (among the believers) remains patient in a land in which plague has broken out and considers that nothing will befall him except what Allah has ordained for him, but that Allah will grant him a reward similar to that of a martyr.¹²⁶

Allah hand-picked who received the Plague and those who were chosen, would be granted the status of a martyr. This belief opposing the Christian thought of the Plague as punishment, instead Muslims believed that the Plague was a gift from Allah himself. Overall, the Hadith stated many things about what should be done regarding medicine. When one was sick, they should seek medical help because Allah only gave diseases for which he had also given a cure. In times of the plague, the way to cope was to face it because those receiving the plague were being made into martyrs.

The people in the Islamic faith thought that they should accept the plague as the will of Allah, and so the population reacted to the plague by drawing closer to their religion. When the plague struck the Middle East, the dominant view, inherited by Muslim scholars from earlier experiences of Plague epidemics (such as the Plague of Justinian) consisted of three principles: the plague was a mercy sent by God and a martyrdom for faithful Muslims, Muslims should not enter or flee areas stricken by the Plague, and contagion was rejected because the disease came directly from God. All three traditions were attributed to the prophet Muhammad, who was reputed to have prohibited fleeing from a plague-stricken area. He also supposedly denied the

¹²⁵ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5733.

¹²⁶ Volume 7, Book 76 The Book of Medicine of Sahih Bukhari. Hadith 5734.

pre-Islamic belief in contagion. Devout Muslims believed righteous and holy plague victims were martyrs and would be taken directly to Paradise after their deaths.¹²⁷ Muhammad Al-Manbiji, a legal and religious scholar from the conservative Hanibalite school of Sharia jurisprudence, was witness to the plagues of 1348 to 1374.¹²⁸ He stated that prayer for lifting the epidemic was abhorrent because the plague was a blessing from God; at the least, a Muslim should devoutly accept the divine act.¹²⁹

The reason why this possible martyrdom did not negatively affect the medical community's progress was because of it was also understood that no could know Allah's plans or simply assume that they had earned martyrdom. This meant they must fight against the plague rather than just accepting it as martyrdom, and therefore medicine was still implemented at a high level. Through various medicinal treatments and through prayer, they believed they were essentially arming themselves for battle, even if it was God's will for them to die in that battle, they still had to partake in the fight itself.

Even though Muslims generally believed the ultimate cause of the plague was the will of God, the way God caused the plague to occur among men was the subject of much discussion. Most Muslim scholars were primarily interested in the theological explanation of the plague; however even the physicians who were more interested in physical causation were not free from the influence of religion in their explanations. Even if their medical observations contradicted notions put forth by the religion, physicians still had to support the religious law, such as the belief that the plague was not contagious.¹³⁰

¹²⁷ Joseph Byrne, *The Black Death* (Westport, CT: Greenwood Press, 2004) 39.

¹²⁸ Byrne, *Encyclopedia of the Black Death*, 7-8.

¹²⁹ Byrne, *Encyclopedia of the Black Death*, 8.

¹³⁰ Dols, *The Black Death in the Middle East*, 84, 110.

Evidence in Medical Practice: Islam

Throughout the Middle East, physicians relied on classical texts for information and treatment for the plague, or derivatives of original treatises. The general understanding was the plague came from God, however, the manner by which God gave the disease was the subject of many contradictory explanations.¹³¹ Many scholars that wrote about the plague were much more concerned with the theological elements of it rather than the physical elements, and thus they rejected the theory of contagion, claiming God was ultimately in control and chose exactly who received the plague and who did not. Even physicians were not free from religious structure in their medical treatises; many naturalistic explanations for the plague were lumped together with religious ones. Due to the confusion that was caused from the plague itself, the consensus was the disease was produced and spread by so called corrupted air and this air was said to taint men, animals, water and plants. However, Christians still believed that God chose who got sick.¹³² Since so much of the basis of knowledge regarding medicine came from Hippocratic and Galenic thought, the theory of tainted air was readily accepted by several Muslim physicians despite their rejection of the theory of contagion.

Evidence for the theory of tainted air can be seen in various types of preventative measures such as smelling apples, or creating a simple recipe consisting of black pepper, red and white sandal, roses, and bol armeniac to smell.¹³³ In a translated excerpt of Abi Jafar Ahmed ibn Ali ibn Khatimah's 1349 medical treatise, *Tashil al-gharad al-qasid fi tafil al-marad alwafid* (Description and Remedy for Escaping the Plague) more preventative measures can be found. Ibn Khatimah was a physician on the coast of south Spain, which at the time was a Muslim

¹³¹ Dols, *The Black Death in the Middle East*, 84.

¹³² Dols, *The Black Death in the Middle East*, 85.

¹³³ Dols, *The Black Death in the Middle East*, 104.

kingdom in Granada.¹³⁴ He described how an elemental imbalance can cause rotten air and water, which can lead to sickness, contradictory to the religious belief and contradictory to what he stated in his treatise.¹³⁵ In his writing he stated, “It is clear and obvious that it is the nature of the disease to spread and contaminate,” but he later went on to say “With this, we contradict the belief maintained by people in error and reject ‘infection.’”¹³⁶ This statement goes against Ibn Khatima’s own observations and experiences of the disease, but he was obligated by Islamic principles to reject contagion and stand behind the claim that a plague can only come from God. This issue was one that presented itself multiple times in Islamic medical documents.

Another example of the theory of contagion in practice can be seen in Lisan Al-Din Ibn Al-Khatib’s *A Useful Inquiry into the Horrible Sickness* written between 1349 and 1352.¹³⁷ Ibn Khatib was a physician in southern Spain and friend to Ibn Khatima.¹³⁸ He wrote his own medical account of the plague into which he incorporated Ibn Battuta’s description of the plague.¹³⁹ Ibn Khatib started off his account with the theory of contagion, claiming contagion did in fact exist. He explained contagion had been proven by “experience, deduction, the senses, observation, and by unanimous reports” and was one of the few people to go against the common and accepted conception of rejecting the theory of contagion based on Islamic doctrine.¹⁴⁰ The most compelling aspect of this particular case was the fact that the declaration he made in this account could very well have been in the reason why he was forcibly exiled from Granada in

¹³⁴ Granada by the 13th century, included only the southern part of Spain, south of the Guadalquivir river.

¹³⁵ Abu Jafar Ahmed Ibn Khatimah. “Description and Remedy for Escaping the Plague.” In *The Black Death*, edited by Joseph P. Byrne (Westport, CT: Greenwood Press, 2004) 55.

¹³⁶ Ibn Khatimah. “Description and Remedy for Escaping the Plague.” 55.

¹³⁷ Lisan Al-Din Ibn Al-Khatib, “A Very Useful Inquiry into the Horrible Sickness” in *The Black Death: The Great Mortality of 1348-1350: A Brief History with Documents*. Edited by John Aberth (Boston, MA: Bedford/St. Martin's, 2005) 114.

¹³⁸ John Aberth, *The Black Death: The Great Mortality of 1348-1350: A Brief History with Documents* (Boston, MA: Bedford/St. Martin's, 2005) 114.

¹³⁹ Aberth, *The Black Death*, 114.

¹⁴⁰ Ibn Khatib, “A Very Useful Inquiry into the Horrible Sickness” 115.

1371. However, before the trail for heresy based on his writings could begin, he was lynched by a mob in 1374.¹⁴¹

All in all, because the theory of contagion contradicted Islamic law, many physicians and scholars ignored the aspects of contagion entirely. The reason why it was such a breach of Islamic law was because if the theory of contagion existed that would mean God was not ultimately in control; which would mean sin and salvation had nothing to do with the plague and why people were dying. If Allah were not in control and giving martyrdom to some, then there would have been no one to be saved; the plague was viewed a punishment for anyone who was not a devout Muslims.

Scriptural Influences on Medical Thought: Christian beliefs

However, the theory of contagion did not contradict Christian theology. Most European Christians also believed the origin of the plague was God, though some also said it was from Satan or the anti-Christ. They believed the plague was sent for punishment for all because of sins and the medical community accepted both spiritual and medical reasons for the plague. The belief that the plague was God's punishment was rooted in the Bible and other examples of plague were seen in Egypt (such as the seven plagues in the Book of Exodus, 2 Samuel 24). In Exodus, David punished his people with a plague for carrying out a divinely forbidden census; and in 1 Samuel 5, those who stole the Ark of the Covenant were struck with painful swellings. The swellings were akin to buboes, and the belief that the plague was an act of divinity continued up until the 17th century.¹⁴²

In any case, it was wrong to try to subvert God's holy will by interfering with the natural

¹⁴¹ Aberth, *The Black Death*, 114.

¹⁴² Byrne, *The Black Death*, 38-40.

course of events. It was God who caused illness and He was responsible for cures just as he was responsible for death. Even the Old Testament mentioned, in passing, diseases were attributable to God, for example, “The Lord will strike you on the knees and on the legs with grievous boils of which you cannot be healed, from the sole of your foot to the crown of your head.”¹⁴³

Furthermore, God was the only one who could heal afflictions, “And the prayer of faith will save the one who is sick, and the Lord will raise him up. And if he has committed sins, he will be forgiven.”¹⁴⁴ This excerpt from the letters of James, shows exactly where the notion of prayer within medicine came from; it came directly from the Bible. Instead of putting their faith in healers, followers put their faith in God. To further this notion, Christians believed that those “who had suffered much under many physicians, and had spent all she had, and was no better but rather grew worse.”¹⁴⁵ The depiction of physicians in the Bible was not favorable and they were accused of being “whitewash with lies” and “worthless.”¹⁴⁶ The feelings portrayed by statements such as these, show the distrust the Bible instilled in people regarding the medical community. Followers pushed forward the idea that God was the only one who could heal and prayer was the only way to ask for help.

In terms of actual evidence this idea of the Plague being a form of punishment, Christians was full heartedly believed they were being punished for their sins and this can be seen in chronicle written by Gabriele de Mussis, a notary from Piacenza, Italy. He contended in 1346 that, "We know that whatever we suffer is the just reward of our sins."¹⁴⁷ He fully believed that the plague was a blessing and curse sent from God because of the wicked nature sinners; he

¹⁴³ Deuteronomy 28:35

¹⁴⁴ James 13:4

¹⁴⁵ Mark 5:26

¹⁴⁶ Job 13:4

¹⁴⁷ Gabriele de Mussis, “Historia de Morbo” in *The Black Death*, ed by Rosemary Horrox, (New York: Manchester University Press, 1994), 23.

trusted that the only truth was that believers could be saved through repentance of sin. Thus while people relied on the medical community for guidance too, the greatest response across both Christianity was to turn to religion and prayer.

This did not mean people were not encouraged to heal themselves and seek out healers for certain ailments. In fact, 1 Timothy states, “No longer drink only water, but use a little wine for the sake of your stomach and your frequent ailments.”¹⁴⁸ If the situation permitted, one could seek guidance from a physician or surgeon and take herbs or remedies to heal themselves, in this instance, wine for the sake of a stomachache. The main take-away from Christian doctrine was that ultimately God was in charge and the plague was given as punishment because of both original sin and sin committed in life. This, however, did not mean people should not seek medical help entirely, but there was a higher reliance on prayer and absolution through confession and show God that they were worthy of being saved.

Medicine in the Christian Bible was not commonplace. Christianity had little to say about the nature of the human body; so, European physicians relied heavily on Greek medical theories and translations.¹⁴⁹ For example, Avicenna’s *The Canon of Medicine* was used throughout Europe and the Middle East as a medical textbook and explains the vast amounts of overlap between the ideologies of each community since it was a summary of all medical and pharmaceutical knowledge up to that time. The theory of contagion did exist in Greek medical theory, and because it did not contradict the Christian understanding of the plague, there was no issue in believing the theory.

Evidence in Medical Practice: Christianity

There is much overlap in how each religion reacted to the plague; prayer was an

¹⁴⁸ 1 Timothy 5:23

¹⁴⁹ Byrne, *The Black Death* 34.

important similarity but the actual methods of healing were quite different. Along with astrology, uroscopy, and pulse taking were the other common methods for diagnosis among physicians in predominately Christian areas. Uroscopy was the principal diagnostic tool at the time and the color, texture, odor, and even taste of urine was analyzed frequently. Often, a physician would take the patient's sample of urine and compare it to other samples of urine either in flasks in the physician's office or in medical textbooks.¹⁵⁰ Excess bodily humors were supposedly apparent in the urine. Pulse reading was featured heavily in Galen and Avicenna's manuscripts, but was not generally as popular as uroscopy. Pulse reading was often used in conjunction with uroscopy and astrology to develop a general diagnosis.¹⁵¹ Regardless of whether God or the stars caused the plague, most medical theorists in Europe believed in the orthodox model of contagion presented by Hippocrates and Galen, who stated bad air caused pestilence. Muslims also accepted this theory despite rejecting contagion, and so the theory of bad air existed in both religions even though contagion was not accepted by both religions.

Other earthly explanations for the miasmas include southern winds, air from swamps, decaying plants and animals, cesspools and sewers, dung heaps, and putrefied human corpses.¹⁵² The physician Gentile of Foligno (d. 1348) believed corrupt air could be released locally by opening long sealed caverns, wells, or even rooms in houses, and he believed bad air was deadly.¹⁵³ Another proposed explanation stated in a medical treatise was that the poisonous air arose from the sea.¹⁵⁴ Unlike their Muslim counterparts, most European physicians realized the

¹⁵⁰ Gottfried, *Doctors & Medicine*, 170-178.

¹⁵¹ Gottfried, *Doctors & Medicine*, 170-178.

¹⁵² Byrne, *The Black Death*, 42-43.

¹⁵³ Gentile Da Foligno, "Short Casebook, 1348" in *The Black Death: The Great Mortality of 1348-1350: A Brief History with Documents*, edited by John Aberth (Boston, MA: Bedford/St. Martin's, 2005) 47-50.

¹⁵⁴ "A Fifteenth-Century Treatise on the Pestilence," in *The Black Death* edited by Rosemary Horrox (New York: Manchester University Press, 1994), 193-194.

plague was contagious.¹⁵⁵ The friar Jean de Venette noted “a healthy person who visited the sick hardly escaped death.”¹⁵⁶ Because of the belief in contagion, many physicians simply recommended leaving plague-infested areas, contrary to Muslim physicians who, according to the doctrine, were not told to flee plague ridden areas.¹⁵⁷

Medical *consilia* were formal written communications in the form of explanations between physicians and patients who requested them; they were written for a nonmedical audience during the time of the plague.¹⁵⁸ One of the best-known medieval Plague *consilia* was the 1365 treatise written by John of Burgundy.¹⁵⁹ John begins by stating that the heavenly bodies influence everything made up of the elements, a common classical Greek understanding.¹⁶⁰ He claimed the heavenly bodies corrupted the air, and many people died from these evil vapors, especially those filled with evil humors.¹⁶¹ They died from both the outside air and the humors within them. John cites Galen by saying bodies will not be corrupted unless they have a tendency towards it. He claims cleansed bodies, free of evil humors, would not be afflicted by the plague. He stated the plague would affect people differently depending on their astrological predispositions and argued that many physicians were unable to treat the plague because they were ignorant of astrology, “a science vital to the physician.”¹⁶² Here John of Burgundy advocated both Galen’s humoral theory as well as astrology.

Because of the belief in miasmas (bad air), many preventative measures revolved around eliminating the poisonous air. Scholars and physicians alike believed that winds from the south

¹⁵⁵ Byrne, *The Black Death*, 45.

¹⁵⁶ Jean de Venette, “Chronicle” in *The Black Death*, edited by Rosemary Horrox (Manchester: Manchester University Press, 1994), 83.

¹⁵⁷ Philip Ziegler, *The Black Death* (New York: John Day, 1969) 52.

¹⁵⁸ Byrne, *The Black Death*, 36.

¹⁵⁹ John of Burgundy, “The Treatise of John of Burgundy”, in *The Black Death* edited by Rosemary Horrox (New York: Manchester University Press, 1994), 184-186.

¹⁶⁰ John of Burgundy, “The Treatise of John of Burgundy” 185.

¹⁶¹ John of Burgundy, “The Treatise of John of Burgundy” 185.

¹⁶² John of Burgundy, “The Treatise of John of Burgundy” 185.

generally were miasmatic, so houses were supposed to face north. The coasts were also shunned, which coincidentally did protect some because the plague was often imported via port cities. Marshes were also to be avoided because they were believed to have killing mists.¹⁶³ Some physicians advocated keeping bad air out of one's home by sealing doors and windows tightly, though others said that keeping windows open would allow healthy air to enter houses, a parallel seen in Islam as well. Practitioners also believed that holding one's breath or breathing through a cloth when around the sick would help.¹⁶⁴ When the plague was present, people were told to burn dry and richly scented woods to keep the miasma at bay; this included juniper, ash, vine, and rosemary.¹⁶⁵

Bloodletting (phlebotomy, venesection) was very popular during the fourteenth and fifteenth centuries across both religions as blood was the easiest humor to get to. Galen himself had allegedly been cured from a plague by bloodletting. Astrological considerations dictated the best time for a phlebotomy. Usually the best time was during the spring with a waning moon and a zodiac sign that was good for the patient.¹⁶⁶ Interestingly, physicians and surgeons did appear to realize that there was a limit to how much blood could be drained from a patient as not to harm them. The buboes were thought to contain the plague's poison; therefore, various surgical techniques were utilized against them. Some advocated either piercing the buboes themselves, or drawing blood from around them. "Cupping" (as seen in Islam) was another technique used to cure buboes.¹⁶⁷ A cup would be placed over a bubo and would then be heated, creating suction that was thought to suck the poison out. Likewise, numerous ointments were recommended

¹⁶³ Ziegler, *The Black Death*, 52-53.

¹⁶⁴ Byrne, *The Black Death*, 46-48.

¹⁶⁵ John of Burgundy, "The Treatise of John of Burgundy" 187.

¹⁶⁶ Byrne, *The Black Death*, 49-51.

¹⁶⁷ Byrne, *The Black Death*, 49-51.

because they were believed to draw the poison out.¹⁶⁸ The buboes were also often opened and cauterized, a method that was not allowed within Islam.¹⁶⁹

Conclusion

During the middle ages, medicine was intertwined with religion and no clear definition existed. After examining a multitude of primary sources of Islamic and Christian origins, I have argued that religion affected the interpretation of classical Greco-Roman medicine in Islamic and Christian societies during the outbreak of the plague in the fourteenth century. More significantly, these two religions interpreted the same foundational knowledge differently, because of each respective religion's concepts of sin and salvation. Scholars have not previously investigated this notion of sin and salvation as the root cause of the differences that encouraged each religion to alter core medical fundamentals to fit their own religious ideals. Because Islamic scripture gave guidance on how to respond to plague, which prevented the apocalyptic tendencies that were seen in Christianity, because of the connection between the theory of contagion, because of each religions' notions towards original sin, and because of the incorporation of prayer in medicine, the clear religious influences on physicians and medicine in general can be analyzed. Because the two religions had a shared basis of knowledge, this shows that it was the predominant religion's ideals that shaped a society's theories of medicine.

As Michael Dols explains, there were three core tenets that Muslims abided by regarding plague: "1. A Muslim should not enter or flee from a plague-stricken land, 2. The plague is martyrdom and a mercy from God for a Muslim and punishment for an infidel, and 3. There is no

¹⁶⁸ Byrne, *The Black Death*, 49-51.

¹⁶⁹ Ziegler, *The Black Death*, 53.

infection (contagion).”¹⁷⁰ Regarding this statement as a whole, the inclusion of the plague in Islamic doctrine at all instilled confidence in the Muslim people. Since the plague was something Muhammad himself had encountered, that certainly meant the world was not ending. For Christians, this confidence did not exist and created a general apocalyptic feeling among communities. Taking Dols’s statements separately, the most important and relevant of the tenets is the one in which he mentions the rejection of contagion. The reason why Muslims dismissed contagion was because they believed Allah was in direct control of who received the plague, which in turn connects to sin and salvation through why God or Allah gave the disease to humans. In Islam, Allah gave the plague to believers as martyrdom and to non-believers as punishment. This concept conflicts with the theory of contagion because if anyone could contract the disease, it meant Allah was not in direct control and it would mean anyone, regardless of religion and regardless of sin could contract and die of the disease. In comparison, in Christianity, the idea of original sin existed and this meant that all humans were born inherently sinful since they were humans. The plague was then interpreted through this understanding of sin and led Christians to believe that God was punishing all of humankind and pushing everyone to confess and repent for their sins. The presence or lack of the plague in religious doctrine, and notions of sin and salvation, prove the influence religion had on medical understandings of classical antiquity that existed throughout Europe and the Islamic Mediterranean world.

However, while theoretically, the blame on why foundational medical knowledge was interpreted differently can be put upon sin and salvation, in practice it was much more complex. The main caveat to the evidence presented here was that the two bodies of medical theory do not fit into separate boxes. Instead, the differences between the two religions can be compared on a

¹⁷⁰ Dols, *The Black Death in the Middle East*, 109.

mostly theoretical level and not a practical level since the reality was much more tangled. From not adhering to the doctrine, to flat out contradictions to the doctrine, a simple conclusion is difficult to find for why the religions interpreted medical knowledge differently. The issue was that just because a physician writes that contagion does not exist in his treatise does not mean he does not believe the plague can be spread from person to person, instead all this declaration means was that the religion dictated that contagion did not exist. In Islam specifically, there are a great deal of contradictions between the theoretical medicine and the practiced medicine. For example, referring again to Dols's three main points, the idea that one should not flee the plague but also should not go somewhere that has the plague contradicts with the rejection of contagion. If people could not contract the plague by being near it, through contagion or infection, then this call for avoiding plague stricken areas would not be necessary. Practices also vary by location, and as seen in Ibn Khatib's declaration of a contagion, it was apparent that some Muslims did believe in contagion and just because the majority of physicians rejected it does not mean the general public felt the same way nor does it prove they reacted in the way they were supposed to.¹⁷¹ The issue with historical events that date back to the fourteenth century was that many of the primary sources that are analyzed are simply prescriptive, meaning just because something was written does not mean it was believed or enforced. Another reason why a simple answer does not exist, was because each religion has complex theology that cannot be summed up into a single sentence. While concepts of sin and salvation are one reason why medical knowledge was treated differently, there are a multitude of additional elements that would cause each religion to interpret the knowledge differently, both theological reasons and non-theological. Finally, the last element that causes the nature of this research to be unclear was simply the way the two religions interacted during the fourteenth century. In very few instances would the religions be

¹⁷¹ Ibn Khatib, "A Very Useful Inquiry into the Horrible Sickness" 115.

totally isolated from one another and due to this, a lot of concepts and theories would have been shared. This sharing of knowledge blurs the line between the two bodies of knowledge and effects how Islamic and Christian medicine can be studied, separated and compared.

The study of the religions influences on medicine is muddled and difficult to navigate, however, one causation of the difference between the way Islamic and Christian scholars interpreted classical Greco-Roman medicine can be seen through each religions' understanding of sin and salvation and how that related specifically to the presence of plague in scripture and the theory of contagion. Ultimately, there were a lot of similarities between the Islamic response to the plague and the Christian response to the plague, they both thought Divine Will caused it and they both used the same kinds of medicine practically with very similar tonics and potions making appearances in their medical documents. But along with the similarities, there are also variances including a non-apocalyptic response or belief in contagion theory, and these differences rest on theories of original sin and salvation in each respective religions' theology. This revelation matters within scholarship of plague medicine because while it may not be a revolutionary change that alters the whole field, it does change the way medicine can be studied in the future. If the field of historical medicine acknowledges the root theological causation for why the two bodies of Islamic and Christian medical thought are different, or perhaps even the reverse and why they are more similar than different, could produce more in-depth investigations and reveal the connection between the two medical communities.

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