A COMPARISON OF ISLAMIC AND CHRISTIAN INFLUENCES ON MEDICINE IN THE MIDDLE AGES

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ABSTRACT

Throughout history, science and religion have both congruous and conflicting relationships. The interaction of advancement in science and religious construct has been studied and critiqued from both the theologian's perspective and the scientist's point of view. In no area is this interplay more drastically overlapping than in the area of medicine. Religions such as Christianity and Islam affect the treatment of persons who are ill, disabled, and injured; however, they way the person is treated varies based on the theological approach to healing.

This thesis will examine what the influence of religion on medicine and healthcare is in the Middle Ages and how does the influence of Islam in the East differ from that of Christianity in the West. Through the study of theological texts, religious law, and medical scholarly writing, this thesis addresses the relationship between religion and medicine. This thesis consists of four chapters that address theology’s influence on medicine from the perspective of its foundation, individual disease cause, prevention and treatment, societal treatment of disability, and effect on institutional structures.
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INTRODUCTION

Great scientific minds, from Claudius Ptolemy of the second century to Isaac Newton of the seventeenth, invested their formidable intellects in attempts to deduce the nature of the universe from the statements and philosophies contained in religious writing…Had any of these efforts worked, science and religion today might be one and the same. But they are not.

–Neil deGrasse Tyson, May 1, 2004

Throughout history, science and religion have both congruous and conflicting relationships. The interaction of advancement in science and religious construct has been studied and critiqued from both the theologian's perspective and the scientist's point of view. In no area is this interplay more drastically overlapping than in the area of medicine. Religions such as Christianity and Islam affect the treatment of persons who are ill, disabled, and injured; however, the way the person is treated varies based on the theological approach to healing.

The fall of the Western Roman Empire and the rise of monotheistic religions of Christianity in the West and Islam in the East changed the way society interacted with science and medicine. Gone were the specific pagan gods for healing. In place was a singular deity and the religious construct in the form of the Christianity and Islam. The Middle Ages saw both Christian and Islamic theologians and medical personnel encounter the dichotomy of their theology and role as healers in parallel yet unique ways.

This thesis will examine the influence of religion on medicine and healthcare in the Middle Ages and how the influence of Islam in the East differs from that of Christianity in the West. Through the study of theological texts, religious law, and medical scholarly writing, this thesis addresses the relationship between religion and
medicine from the perspective of its foundation, individual treatment, societal treatment, and effect on institutional structures.

Chapter One addresses the mutual foundations of the interaction between theology and medicine as well as taking into account the theological texts that split Islamic and Christian perspectives on healing. Both Christian and Islamic medical science drew from the Ancient Greek foundation of Galen and Hippocrates while adapting that foundation to fit the theological framework of each religion. Greek medical texts are examined to understand the scientific foundation used by medical practitioners in the Middle Ages. Examining Galen and Hippocrates’ writings will also allow understanding of progression from the pagan culture to both the Christian and Islamic religious culture of the Middle Ages. Comparatively, religious texts are examined to form the foundation of theological discourse and later legal documents are examined for inclusion of the Islamic and Christian laws that governed daily life. Analysis of religious texts and legal writings aims to establish a deeper understanding of the theological foundation of medical science and establish a platform on which to base a more detailed discussion of the physical and social treatment of the infirm in Medieval cultures.

Chapter Two builds upon the foundation of the theological interaction with medicine and scrutinizes medical practitioners’ treatment of disease on an individual level. This chapter is a study of causation, transmission, and prevention of disease from the Christian and Islamic perspective. The chapter then addresses two of the most prominent medical problems of the Middle Ages, by looking more deeply at the Christian and Islamic management of plague and military medicine. Chapter Two examines the details of medical treatment for similarities and differences between the two cultures. It
addresses how the theological constraints of each religion either handicaps or promotes understanding of disease cause and transmission and advancement in treatment protocol.

Chapter Three takes a more macrocosmic look at healthcare in the Middle Ages by addressing the sociological acceptance of disabled and ill in the East and West. Social constructs and societal organization are greatly determined by religious canon. Using these theological constructs and themes such as ostracism, shame, and acceptance the chapter focuses on social interaction with citizens with leprosy, mental illness, and physical disabilities.

Finally, Chapter Four examines the effects of theological influence on medical procedure in the form of institutional structures of the Christian West and the Islamic East. The chapter delves into how differences in interpretation of the Greek foundation of medicine and the theological hierarchy of Christianity and Islam created places where people could seek care and study medicine. The chapter addresses the institutions of infirmaries and hospitals, their management and expansion, as well as medical training through the Christian evolution to university education and Islamic hospital training.
CHAPTER ONE

FOUNDATIONS OF THEOLOGICAL INFLUENCE ON MEDICINE

Christianity and Islam in the Middle Ages were not merely theologies, they were ways of life that dictated every aspect of daily living. Medicine was not immune to the effects of religion, thus Christian and Islamic theologians and medical personnel dealt with the dichotomy of their theology and their role as healers in parallel yet, unique ways. To understand the interplay between religions of the Middle Ages and medical science it is necessary to examine the influences and texts that form the foundation of both the theological and the scientific aspects of culture. Pre-Islamic and pre-Christian cultures, theological texts, Greek medical foundations, and the interpretation of theology form the foundation of medical interaction with religion in the Middle Ages.

Christian Foundations

The Middle Ages broadly stretched from the fifth century of the common era, after the fall of the Roman Empire, to the Fall of Constantinople in 1453. Before this nearly thousand-year span of time, the foundations of the western Christian world had a very different relationship to healthcare and medicine. Smaller, more sparsely populated, communities that scattered pre-Christian Europe were less likely to encounter microbes that required dense urban areas to spread or pollution from human waste or garbage that attracted disease-carrying insects and animals.\(^1\) Even though the focus of pre-Christian European medicine began from a different base, the Christian physician drew some material from their knowledge.

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Though the Greek physicians and Philosophers wrote hundreds of years before the Middle Ages, it wasn’t until the eleventh century, that the doctors of western Europe studied the Greek medical model. Prior to that the Carolingians incorporated the traditions of Methodical physicians’ non-theoretical type of medicine and early Medieval European medical practitioners drew some knowledge from Latin sources, mainly in the form of herbal remedies. The largest surviving medical book from the Anglo-Saxon time is the *Anglo-Saxon Herbal*. Translated from the original Latin into Old English it is a Christianized version of *Hervarium* of Apuleius Platonicus. The book focused on plant-based remedies for common ailments and was a precursor to European pharmacology.

For more surgical intervention in disease pre-Medieval Christian physicians turned to the *Leechbook of Bald*, perhaps the most important Anglo-Saxon medical text. Dating from the tenth century, the *Leechbook of Bald* is an instructional manual on treatments and surgery translated from an earlier Latin manuscript. The *Leechbook* shows little to no interaction with Greek or any other Mediterranean medicine and is fairly rudimentary in its cures for medical conditions and contains ritualistic remedies.

Another text that influenced developing Christian European medicine is the *Lacnunga*. The combination Old English and Latin manuscript contains miscellaneous

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4 Ibid., 55.
Anglo-Saxon medical texts and prayers. It is perhaps the most important bridge from earlier pagan medicine and includes ‘pagan magic, charms and spells’ of Teutonic medicine.\(^5\) It also included *Lorica of Gildas* a protection prayer list of parts of the human body beginning with the head and proceeding caudally, which formed a basis of early Christian anatomic knowledge.\(^6\)

The adaptation of Greek medicine to Christianity in the Middle Ages was not just a conflict between science and religion. It was also a struggle for Christians who preferred to leave healing in hands of God and that God was more effective and safer than summoning a doctor. Galen’s and Hippocrates’ attitudes toward religion were not outwardly hostile to Christian ideas as the author of *Decorum* wrote, “in fact, it is especially knowledge of the Gods that by medicine is woven into the stuff of the mind.”\(^7\) The medicine of Classical pagan Antiquity became acceptable to Christians because it was rational and thought to work, but also because it fit into the monotheistic theological construct. Galen’s view of the “moral, god-fearing physician” operating within a divinely created universe strongly appealed to Christians.\(^8\) There were indeed some cases in which

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\(^5\) Ibid., 63.


\(^8\) Biller and Ziegler, ed. *Religion and Medicine in the Middle Ages*, 9.
individual doctrines of Galen were criticized. He was outspoken about his agnostic view of the soul but in basic medical tenants, there was little refusal of the Galenic practice.\(^9\)

The Scriptural authority on healthcare was not limited to the Bible for Medieval medical scholars. Ideas on causes of disease are prevalent in liturgical writing as well. Ecclesiasticus 38 was used as a starting point for defining the nexus of sin as disease, punishment, pain, and suffering.\(^10\) Christians used this connection of sin to disease to establish medical practice that later Lateran councils and proclamations further regulated. The Fourth Lateran council specifically addressed disease as a product of sin and required that someone who is ill must call a confessor before any treatment by a physician and forbid any physician from recommending “sinful means” for bodily health.\(^11\)

In Christian Europe, there was even more of a societal conflict between medicine and religion. There was a common saying in Middle Ages Europe that, "Tres medici, duo athei”\(^12\) which translates to where there are three doctors there are two atheists. This saying summarizes the strong feeling that medical science was in contrast to religious practice in the Christian faith. An ambiguity towards pagan medicine at the popular level contributed to a certain suspicion of doctors at a higher level. As Valerie Flint has put it,


\(^12\) Ibid., 120.
“they occupy a position in healing midway between the saint and the sorcerer, never clearly demarcated from either.”

Another foundation of Christian Medicine was the inclusion of miraculous healing. Miracles replaced older pagan customs and rites with Christian ceremonies, but did not completely remove polytheist treatments; rather it enhanced them with an aura of sanctity. Translation reduced some of the overt signs of Galen’s paganism, but it did not erase his theological doubts and criticisms entirely. Christian theologians used Galen’s philosophical writings as it helped their theology. With respect to less helpful ideas like Galen’s view of the soul, his ideas were not ignored but instead, they were interpreted to apply only once the soul has entered the human body, not the physical origins and make-up of the soul. Medicine for the Christian practitioner was therefore confined to the understanding of the body, at which Galen was excellent.

Christianity struggled with the idea of medicine and whether a doctor was necessary. Christianity had no clarity in when a person should ask for a doctor’s help, because it was based on the idea that suffering was required for salvation as it was described in the Old Testament. This attitude of strength emerging only through weakness was a point continued in the New Testament. The problem, therefore, was that if suffering was necessary for salvation what was the place of a physician who was called

13 Biller and Ziegler, ed. Religion and Medicine in the Middle Ages, 22.

14 Rubin, Medieval English Medicine, 72.

15 Biller and Ziegler, ed. Religion and Medicine in the Middle Ages, 27.

to ease suffering. And if God was omnipotent and benevolent why would a Christian who is ill need a medical practitioner to help them heal. Augustine summarized the irony of faith in God and trust in medicine by quoting, “oh god, send me death; hasten my days” yet when sickness comes they run about, physicians are fetched, and money and rewards are promised.”

Medicine in Christianity among the masses seemed to struggle with the question of God’s absolute power and the necessity of medicine in conjunction with it, but this struggle did not seem to concern medical practitioners. God’s absolute power does not seem to have been a major concern for physicians: had it been, it would have called into question the very foundation of Galenic medicine.

During the Middle Ages, the relationship of Christianity and medicine was varied and complex. Christian medical practices had not changed much since antiquity. Physicians had to be cautious in their views on sexuality, astral determinism and the interweaving of physical and psychological states. These were the issue most likely to ignite conflict between medical explanation or advice and religious demands of theological doctrine. Christian physicians stretched religious boundaries when they recommended treatments concerning sexual behavior, or procreation to ensure balance in the body; however, this too had its limits and through belief or self-censorship, medieval physicians did not contradict Christian moral teachings on homosexuality.

17 Saint Augustine, Bishop of Hippo and William G. Most, Saint Augustine's De Civitate Dei: Selections with Notes and Vocabulary (Washington: Catholic Education Press, 1949), Book X; XX.

18 Biller and Ziegler, ed. Religion and Medicine in the Middle Ages, 41.

19 Ibid., 40.
Christian physicians chose the religious law over the medical text from which they were practicing.

Another component in the foundation of interaction of medicine and theology in the Middle Ages is that of duality of body and soul. Ecclesiastical historians wrote of two separate types of medicine each practiced by a different type of healer. The superior medicine was medicine for the soul and was provided by the clergy, while medical practitioners cared for the lesser medicine of the body. This relationship between health of body and soul was impossible to extricate even for the most devout and therefore neutrality on the good or evil of medicine was impossible. Overlap and ambiguity, therefore, plagued the healers for the bodies and for souls, between medical and spiritual approaches to disease in the Middle Ages.

The Middle Ages Christian church struggled greatly with the idea that there is a great dichotomy between health of the spirit and health of the body. This affected the way Christians sought healthcare. The church also attempted, through a variety of means, to prevent Christians from obtaining medical or surgical services from Jews or Muslims, because there was greater concern for the soul than the body among the theologians. The belief of the health of the soul being of higher importance was also seen in the dealings of baptism and midwifery. Midwives were not clergy and in some communities

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20 Ibid., 4.
could be non-Christians, and yet the church found it more important to have an infant baptized by a midwife than let it die and be condemned to hell, as was the belief. In the ninth century pope Nicholas I in his letter to the Bulgarians stated that, “all baptized in the name of the Trinity or in Christ’s name were baptized whether the baptism was performed by a Jew, Christian, or pagan.”24 This was reiterated in Paris with the synod in 1311 emphasizing the importance of baptism in an infant that may die and implementation of cesarean section to birth a baby for baptism after the mother has died.25 Baptism in this way became the only sacrament that could be administered by a lay person or a non-believer.

Pilgrimage sites compounded the duality of healer of the soul and healer of the body, because hundreds if not thousands of people came to pray, some for healing. The clergy, otherwise instructed not to perform physician’s treatment, would administer treatment to the sick. The large population of people at pilgrimage site and the increased number of clergy and learned led to excellent medical libraries and increased study in healing.26 Later, clergy with study or hands-on experience as medical practitioners were called on the church for their medical expertise. From the second half of the thirteenth century, medical practitioners routinely collaborated in the canonization processes to authenticate miracles by way of process of elimination. Physicians were charged with

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24 Biller and Ziegler, ed. Religion and Medicine in the Middle Ages, 81.

25 Ibid., 83.

ruling out any medical cause for healing or curative treatment before an act could be deemed a miracle for the canonization process.\(^{27}\)

The foundations of healthcare in the Middle Ages were based on the Greek works and adapted into Christian culture through interpretive translation blended with scriptural texts; however, there were also aspects of medicine in the Middle Ages that were holdovers from more "magical" beliefs. Miracles, prayers, and cults of the saints were prevalent in the Middle Ages and contributed to the foundation of the interplay between religion and medicine.

Biblical and other religious writings affected medical thought of the Middle Ages. The New Testament describes a number of miracle cures provided by Jesus such as when he cured the paralytic and said, “pick up your stretcher and go home” (Luke 5:24-25). Evidence in writing throughout the course of the 4th century showed that Christians increasingly attested to witnessing miraculous healing and sought divine aid to restore health.\(^{28}\) Augustine in his later years turned his focus to human suffering and detailed incidents of miracles. He recorded seventy in Hippo in less than two years and recounts ten in *City of God*.\(^{29}\) Augustine uses this portion of *City of God* to establish that through God, his relics, and saints healing occurred and though the means may not appear different than pagan healing he used it not only for healing of Christians but for

\(^{27}\) Biller and Ziegler, ed., *Religion and Medicine in the Middle Ages*, 175.

\(^{28}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 56.

\(^{29}\) Saint Augustine and Most, *Saint Augustine's De Civitate Dei*, Book XXII; VIII.
conversions.\(^\text{30}\) Other authors, such as Bede, wrote about miraculous healing to convince people still questioning their faith. Bede, an eighth century hagiographical author wrote about early English saints and extensively about miraculous healing. These writings blend medical details, miraculous healing, and an overt belief that Christianity is more valid than paganism.\(^\text{31}\)

Not only did Christians of the Middle Ages believe in miraculous healing, beginning in the fourth century, veneration for martyrs and saints became popular and their remains and belongings were thought to have supernatural powers.\(^\text{32}\) Anything from a tooth reportedly belonging to a saint to a piece of the true cross was worthy of worship. Some of these relics were thought to have specific powers and would draw pilgrims with their healing powers. In addition to miraculous healing from a relic, people seeking miracle cures in the Middle Ages would typically turn to the cult of saints. Believers could pray to a particular saint or in many cases go on a pilgrimage to visit the shrine of that saint. At the shrine, the person touched the saint's relics, drank waters in which the relic had been dipped, or slept near the saint's tomb in order to cure their ailment.\(^\text{33}\)

*Lives* of the saints became a major literary form in the Middle Ages and followers of a saint could learn details about the saint, their life, and possible medical healing

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\(^{31}\) Rubin, *Medieval English Medicine*, 76.


\(^{33}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 56.
Many saints were associated with diseases that Medieval medical scholars could easily diagnose and were common in the population such as plague, mental illness, and leprosy. Saints with popular cults in the Middle Ages were Saint Sebastian and Saint Roch for the cure of plague, Saint Lazarus for the healing of leprosy, Saint Agatha for breast cancer, Saint Mathurin for the healing of mental illnesses.\(^\text{35}\)

During the entire Middle Ages, there was a ready acceptance of signs, wonders, miracles, and the beneficial effects of holy relics even by the educated let alone the mass of the peasantry. Prayer was still the main cure for most of the poor population who questioned the validity of medical science or simply didn’t have access to physicians that were more expensive and mainly located in urban areas. Anointing with oil by both clergy and laity was not uncommon in early Middle Ages, and though conflicting to medical resources, was still used to heal the sick.\(^\text{36}\)

As the Middle Ages progressed, magic decreased as the main basis for medicine. Universities began training in the Greek tradition in the twelfth and thirteenth centuries, and physicians grew increasingly skeptical of magical and religious folk medicine.\(^\text{37}\)

However, this early folk medicine tradition of believing in miraculous healing would never be fully eradicated from the realm of medicine in the Middle Ages. It would forever hold a small component of the foundation between healthcare and it’s religious governance in Christianity.

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\(^{35}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 57.


\(^{37}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 57.
With the implementation of university medical training, curriculum transitioned to Greek medical texts. The primary curriculum for Christian medicine in the Middle Ages were the Greek texts, primarily Hippocrates and Galen. These texts established not only the treatment of disease but also the premise of the medical profession, as well as centuries of scientific advancement. The earliest of these Greek medical writings date from between 420 and 350 BCE and were known as the Hippocratic Corpus. They were attributed to fifth century BCE physician and teacher Hippocrates of Cos and consisted of over 60 texts. Among this body of work is *Epidemics I* in which the structural ideal of the medical establishment is described. Hippocrates in *Epidemics I*, states that “the art (of medicine) has three factors: the disease, the patient, the physician. The physician is the servant of the art. The patient must cooperate with the physician in combating the disease.”

Middle Age physicians in Christianity eventually appreciated the more scholarly approach to healing in coordination with faith, which was known as naturalistic. The naturalistic explanation of disease became one of the hallmarks of a Hippocratic physician, but it did not indicate a purely mechanistic understanding of nature. The Middle Ages physicians used this naturalism in accordance to their faith. Gregory the Great’s book *Pastoral Rule* saw illness primarily as a form of training for the Christian.

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38 York, *Health and Wellness in Antiquity Through the Middle Ages*, 5.

39 Ibid., 3.

Here the illness is a physical issue and is addressed as such but holds a spiritual component and was not rigidly deterministic.

Islamic Foundations

In the pre-Islamic Middle East populations were primarily nomadic Bedouins, with the exception of a few major cities such as Alexandria, Edessa, and Constantinople. In these societies Arabic poetry orally transmitted views on bodily healing and spirituality. Fifteenth-century Islamic historian, Ibn Khaldun, in his work *Introduction [to World History]* wrote, “Civilized Bedouins have a kind of medicine which is mainly based upon individual experience. They inherit its use from the old men and women of the tribe.”

This learned medicine of the Arab Bedouin tribes may not have been empirically researched, but it did show skill in anatomy. Important internal organs such as the liver, heart, spleen, stomach, and bowels, are mentioned in old Arabic poetry, as well as names for illnesses. This pre-Islamic Bedouin knowledge of names of specific diseases or maladies often accompanied treatments that later appear in Prophetic Medicine.

In addition to Arab Bedouins, the centralized location of the Arab world gave Islamic medicine influences outside of those available in Western Europe. Trade routes and connection to Asia allowed the flow of knowledge as well as medicines to the Muslim populous. Empires and cultures of the pre-Islamic East were rife with medical

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influence that Islamic medicine marginally accepted. Egyptian, Mesopotamian, Indian, Chinese and ancient Iranian medicine focused on surgical and drug interventions in contrast to the Greek influences.43 The Sassanian empire, Zoroastrians, and Christians under Sassanian rule all created their own medical traditions that contained translations of Greek works into Pahlavi and later Arabic from which Islamic sources drew.44

Magical beliefs also influence Islamic medicine as a hold over from earlier cultures and societal interaction. Within the Islamic world of the Middle Ages was a predominant belief in the evil eye, or a curse given to a person usually when unaware. The evil eye was very common among masses and even the educated in Muslim areas. People wore talismans and protective jewelry to fend off the evil eye even though, omens and star-cults were forbidden by Qur’an.45 The continued belief of these talismans’ healing and protective powers was incorporated into medicine in the Middle Ages, because of societies inability to rid the custom and possibly the medical practitioners own belief.

The Islamic world also had earlier translation and contact with the Greek influence. Being outside of the realm of the Western Roman Empire positively affected the Islamic world, Alexandria, in particular, became a haven for learned Greeks. A great influx of scholars fled to Alexandria after Justinian I closed the academy in Athens in


44 Ibid., 16.

45 Rahman, Health and Medicine in the Islamic Tradition, 34-35.
As the conflict between Christians and pagans in Europe increased forcing medical scholars east, they brought with them Greek knowledge to mix with eastern religions. Native eastern languages flourished after the death of Mohammed while Greek became less of a universal language. It could no longer be assumed that scholars understood Greek, forcing translation of Greek works into the national languages such as Aramaic in Syria and Iraq, Coptic in Egypt, and Pahlavi in Persia. While Greek was formerly the “lingua franca” of the East, translations into Arabic sponsored by Abbasid caliphs and other wealthy patrons became the new bridge language. Hunayn ibn-Is’haq, who lived between 808 and 873 quickly became the most important translator into Arabic. Hunayn studied in Baghdad under Yuhanna ibn Masawyh the court physician and director of the House of Wisdom. Although, Hippocrates and Galen were the foundations of Medieval medical traditions, late antique Alexandria greatly shaped medieval Islamic medicine through translations and curriculum.

It would be remiss to discuss the foundations of the interplay between religion and medicine without discussing the scriptural authority of the Qur'an. The Qur'an did not specifically detail medical practice or the role of the physician in society, and yet they outlined religious goals of caring for others and charity. In the Qur'an, in which otherwise

46 Ibid., 13.


49 Pormann and Savage-Smith, Medieval Islamic Medicine, 12.
so many questions about human living are discussed and rules laid down, neither the doctor nor medicine are anywhere mentioned; however, subsequent theological texts namely the Hadiths do contain information about how Muhammad treated certain illnesses and what he advised for practitioners and patients.

The Hadiths, which represent the Prophet’s extra Qur’anic teaching, are the body of traditions that make up the Muslim community. The Hadiths, second only to the Qur’an in developing Islamic jurisprudence, largely represent the opinion of the early generations of Muslims and can be taken as a vast commentary by these generations upon the Qur’an and the performance of the Prophet.⁵⁰ This Islamic jurisprudence that the Hadiths created were not only laws for daily living, but the foundation of preventative medical care by means of cleanliness and hygiene. The Hadiths later gave rise to a medical genre called Prophetic Medicine and while historians debate problems with source criticism of the Prophetic medicine, mainly that the Prophet could not write it in its entirety, to Muslims in the Middle Ages, the Prophetic Medicine was the quintessential guidebook to health and healing.⁵¹

Prophetic medicine or at-tibb an-nabawi drew upon Arab and Greek sources and was used to both counter what was considered heathen Greek medicine as well as convert it to more palatable techniques.⁵² Writings of the Prophetic Medicine had minimal surgical treatments aside from circumcision, instead, more minimally invasive options

⁵⁰ Ibid., 22.
⁵¹ Ibid., 7.
⁵² Ullmann, *Islamic Medicine*, 5.
were described such as cautery, bloodletting, and cupping. Preventative actions of regulation of diet were also described as a key to health in conjunction with naturalistic medicines. The Prophetic Medicine was clear that medicine was a combined effort between God and man in that God provided the cure for diseases, but man was required to obtain the cure and use it properly.\textsuperscript{53} A quote universally attributed to the Prophet in the Hadith is, “God has sent down a treatment for every ailment.”\textsuperscript{54} This quote made a very clear statement that healing was through God in the Islamic faith and stressed the importance of man’s connection to medicine. Furthermore, Abu Bakr Rabi ibn Ahmad al-Akhwini al-Bukhari wrote in his \textit{Guide for Students} of the importance of medicine as it relates to theology saying, “Wise men have said that it is incumbent upon every person to learn of the sacred law for when a person knows the sacred law he is immune from going astray. Second, he must know some medicine in order to preserve his health so that quack doctors will not be able to destroy him.”\textsuperscript{55} This belief is repeated throughout the Prophetic Medicine and laid the foundation of Islamic medicine that after faith, medicine is the most important service from God’s perspective.

Arabic medical scholars were subtler in the understanding of Galen than their Christian counterparts.\textsuperscript{56} In the Islamic world, three reasons were acknowledged for the origin of Prophetic Medicine. Islamic scholars and theologians wanted to challenge

\begin{footnotes}
\item[53] York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 55.
\item[54] Rahman, \textit{Health and Medicine in the Islamic Tradition}, 34.
\item[55] Ibid., 39.
\item[56] Biller and Ziegler, ed. \textit{Religion and Medicine in the Middle Ages}, 27-28.
\end{footnotes}
medical authority of a “pagan Galen” on behalf of the Prophet’s authority, theologians also wanted medical guideline for the average Muslim person, and theologians opposed to philosophy wanted Islamicized medicine free from philosophy.  

The foundation of interaction between medicine and religion in the Islamic Middle Ages was not without conflict. There was not only the conflict in pagan writings converting to monotheist but also religious laws that governed the implementation of pagan treatments. Islamic law conflicted with treatments in the pagan medical texts for a number of reasons. In the realm of medicine tension between intrinsic Arabic poetry and Greek theory was keenly felt. Islamic law relaxed on some of these conflicts, however. Shari’a law that forbade men and women from examining each other was flexible in the cases of illness. It was permissible for women to treat men and vice versa and from them to look at and examine each other. Women even traveled in battle to treat wounded. This flexibility had its limits, however, in the end, Islamic law superseded foundation of the medical treatment stating, “That which is unlawful in religion cannot be made lawful on the basis of something merely conjectural (medicine).”  

Treatments that included any parts of pigs were re-written to exclude the forbidden animal and alcohol was removed from treatments, as it to was forbidden.  

The Islamic foundation of healthcare is more concrete about when to seek care. In Islamic tradition, it was not only distinctly acceptable to seek care but obligatory. With

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57 Rahman, Health and Medicine in the Islamic Tradition, 42.

58 Ibid., 51.

59 Ullmann, Islamic Medicine, 31.
the Muslim outlook that spiritual health was connected to physical health, it was imperative to seek treatment for God to cure the ill. Similarly, the Hadith and Qur’an recognized illness as God’s trial of people and a way for spiritual cleansing. The only ambiguity in seeking medical treatment in Islam was in when to seek care where the Sunni and Shi’a beliefs differed. In the Sunni Hadith people are instructed to seek treatment without delay whereas in the Shi’a Hadith people were instructed to bear discomfort for a night before seeking treatment. This difference in Hadith instructions was minimal and both faith traditions fell under the Prophetic Medicine’s instructions on seeking treatment. The Prophetic Medicine commanded a person to seek medical care and believed illness and treatment had redemptive effect on a person.

Though the Prophetic Medicine commanded a person to seek medical care, it also glorified those who did not survive this illness stating, “whoever dies in any illness is a martyr.” A martyr, shahid, was someone who died serving God and had a place in paradise. Prophetic medicine believed the suffering of those who were bed ridden should not grieve over his or her sickness for it was a gift to die and meet God. The Qur’an says, “Think not of those who are slain in Allah's way as dead. Nay, they live, finding their sustenance in the presence of their Lord; They rejoice in the bounty provided by Allah. And with regard to those left behind, who have not yet joined them (in their bliss), the (Martyrs) glory in the fact that on them is no fear, nor have they (cause to) grieve.”

60 Rahman, Health and Medicine in the Islamic Tradition, 37.
61 Ibid., 37.
62 Ibid., 46.
Illness also allows others to show their mercy and gifts of healing that were gifted by God. Illness offered both the sufferer and the healer in Islam to achieve martyrdom though intent to do God’s will.

Islam did not struggle with the healing of the spirit conflict with healing of the body. Prophetic Medicine focused health of the whole person and did not separate the spiritual, psychological, physical and moral elements. The Qur’an does not subscribe to the doctrine of a radical mind-body dualism that Christianity does. “The term nafs, which occurs so frequently in the Qur’an and is translated into English as ‘soul’ actually means ‘person’ or else is a reflective pronoun meaning ‘itself,’ ‘himself,’ or ‘herself.’” In chapter five it was used to mean yourselves and said, “O you who have believed, upon you is [responsibility for] yourselves. Those who have gone astray will not harm you when you have been guided. To Allah is you return all together; then He will inform you of what you used to do (The Qur’an, 5.105). This lack of definition between body and soul carried throughout Medieval medical writing in the Islamic East. Ibn Sina wrote that the mind and body were affected by each other, and that, even though he believed the mind to be superior it was impossible to have health of one without health of the other or treat illness separately. Regarding mental health he wrote, “in safeguarding the emotions the mind and body are at the same time maintained.”

As much as religion dictated life in the Middle Ages, Greek medical writings dictated the foundation of Medieval medical science. Manfred Ullman writes, "Islamic


medicine did not grow on Arab soil. Rather it is the medicine of later Greek Antiquity which was formulated in the Arabic language in the South and West of the Mediterranean from the ninth century AD."65 Hippocrates and Galen illustrated the societal responsibility of treating diseases that Islamic culture would draw from later.

The establishment of Islam as primary monotheist religion moved to eradicate paganism and magic. Hippocratic medicine fit well into a monotheistic paradigm because it internalized health and made it more patient-focused instead of external forces. A focus of Hippocratic teachings is that health requires balance, illness is caused by an imbalance in the system.66 Hippocratic medical writings approached medicine as "rational and empirical: rational in its freedom from magic and superstition and in its beliefs in the natural causes of disease, and empirical in the collection of case histories with careful descriptions of symptoms."67 This rational focus of balance is reiterated in the Hippocratic text On the nature of Man, that the body contained four humors: blood, phlegm, bile (choler), and black bile (melancholy).68 The Middle Age Islamic physicians expanded on this Greek idea by establishing individuality in the balance of the humors. The balance of humors was not rigid as it was in ancient Greece, physicians in the Middle Ages referred to the unique balance of humors in each person as to as one’s temperament or complexion.

65 Ullmann, Islamic Medicine, Xi.

66 Ibid., 7.


68 York, Health and Wellness in Antiquity Through the Middle Ages, 6.
Even more than the Hippocratic Corpus, Galenism anchored the Islamic foundation of medicine. Galenism continued the Hippocratic idea of naturalism and balance. Galen wrote commentaries on the Hippocratic texts and adjusted Hippocrates’ teachings to his own philosophies. Galen not only addressed the four humors in his teachings, but also taught the six environmental, physiological, and psychological conditions that he called the “non-naturals.”\(^6^9\) Galen wrote that these non-naturals also affected health and an individual could control them. In *Ars Parva*, Galen noted that human regimen is vital to controlling the non-naturals that they encounter on a daily basis and that it was the physicians “principle task” to help regulated these factors.\(^7^0\) Galenic medicine was not a story of the triumph of scientific truth over religious obscurantism. Galenic medical teachings became the major influence in Islamic medicine, “not only because its remedies were thought to work, but also because its underlying theories could be adapted better to those of a religious universe.”\(^7^1\)

The Greeks were notably the most important influences on Islamic Medieval healthcare. Hippocrates only followed in the shadow of Galen and the fact that the Hippocratic oath was demanded from the Arab doctors shows how strongly medical ethics were tied to his name.\(^7^2\) Other Greek works also factored heavily into medical study. *Materia Medica* by Dioscorides was Galen’s ultimate source on drugs. Drugs were

\(^6^9\) Ibid., 8.


\(^7^1\) Biller and Ziegler, ed. *Religion and Medicine in the Middle Ages*, 19.

\(^7^2\) Ullmann, *Islamic Medicine*, 11.
categorized in four degrees of potency and were administered to patients to balance humors and complexion.\(^{73}\) Arabic pharmacology received its strongest influence from the *Materia Medica* and became far more highly developed than during the time of the Greeks.\(^{74}\)

The foundation of medical and religion interplay in the Middle Ages was not without conflict. The largest problem in founding Medical science on the basis of Galen and Hippocrates was, not the age of the texts, or the language in which the Greeks wrote, but the conversion of pagan polytheistic ideas and beliefs into Islamic monotheism. Islamic translators and medical practitioners converted pagan gods historical figures and Greek medicine was adapted to religion, which did not know a pantheon of Gods but only one God. Some Galenic writings adapted easier than others. The majority of Galen’s medical writings were easy to adapt to monotheism due to their “theologically neutral” writing.\(^{75}\) He was neutral with regards to the soul and limited reference to powers of the Gods.

One of the best examples of these conflicts of theology is illustrated in the conversion of the Hippocratic Oath. The Hippocratic Oath, still used in Medical Schools today after numerous revisions, was originally used in the Greek as a guide for medical ethical practice. Written within the framework of polytheist Greek religion, the Medieval Muslims had a couple ways of adapting the Greek pagan oath's teachings to be used in


\(^{74}\) Rahman, *Health and Medicine in the Islamic Tradition*, 52.

\(^{75}\) Biller and Ziegler, ed. *Religion and Medicine in the Middle Ages*, 9.
monotheist practice. Adaptation of the Hippocratic Oath is the best example of straight adaptation. The oath which begins, like many Greek works, with an invocation to the Gods, addresses ‘Apollo, Asclepius, Hygieia, Panacea, and all the other gods and goddesses my witnesses’. The Islamic translators, especially the translators into Syriac and Arabic, were not as offended by the inclusion of pagan gods and turned the offending words into more neutral equivalents.\textsuperscript{76} Asclepius was a god in Greek religion; this concept was unacceptable for monotheistic traditions and therefore was changed. Muslims address Asclepius as the founder of medicine removed from religion and made a historical figure. Other gods were combined into the One God and the invocation in Arabic read, “I swear by God, Lord of life and death, the giver of health and the creator of healing and every therapy, and I swear by Asclepius and I swear by the saints of God.”\textsuperscript{77} The transformation of the Hippocratic Oath showed that translating Greek medical texts was more than simply changing words and languages it meant translating into a different culture.\textsuperscript{78}

Conclusion

In this chapter we established that the foundations of theological influence on medicine in the Middle Ages came from a wide rage of sources. Both Islam and Christianity drew heavily from the Ancient Greek writings of Hippocrates and Galen and fused them with theological sources such as the Prophetic Medicine and canon law. Islamic and Christian medical scholars blended their monotheistic religious beliefs with

\textsuperscript{76} Ibid., 27.

\textsuperscript{77} Ullmann, \textit{Islamic Medicine}, 30.

\textsuperscript{78} Pormann and Savage-Smith. \textit{Medieval Islamic Medicine}, 33.
previous pagan teachings and contributions from pre-Christian and pre-Islamic sources. Islam and Christianity translated and changed offensive pagan writings into something that aligned with their individual faiths and that would be the basis for their medical treatments. In the next chapter the foundations of theological influenced established here will be implemented in a discourse of cause, transmission, and prevention of disease.
CHAPTER TWO
PREVENTION AND TREATMENT OF DISEASE AND INJURY

The interplay between religions of the Middle Ages and healthcare delves deeply into the understanding, prevention, and treatment of disease. Islam and Christianity used their religious doctrine and Greek medical texts to understand illness and establish medical practice. At times each religion harmoniously melded with an understanding of disease and at others such as the case with plague, neither Christianity nor Islam could aid in understanding or treatment. Causes, prevention, treatment of common illnesses, plague and military injuries all show the influence of Islam and Christianity. This chapter is a study of causation, prevention, and treatment of disease first from the Christian perspective then from the Islamic perspective and then will address the Christian and Islamic approach to plague and military medicine.

Christian Causation, Prevention and Treatment

Medieval medical sources did not fully comprehend the idea of communicable disease transmission. Christian doctors in the Middle Ages cited causes of illness as divine punishment as well as the Greek teachings of environmental factors and humoral imbalance. People recognized that certain diseases could be passed from a sick person to a healthy one but attributed this transmission to an environmental cause of bad air, coincidental humoral imbalance, or sin in the newly infected. In the thirteenth and fourteenth centuries Christian disease causation focused more on the interrelationship of the four elements: earth, air, fire, and water and the four qualities that define them: hot,
cold, moist, and dry based off newly available translated Greek works.\(^1\) Works such as the Hippocratic text *Airs, Waters, Places* examined seasonal changes, different direction and temperature of winds, proximity to bodies of water, and astronomical and meteorological factors as causes of disease which Christians would use to describe large scale or epidemic illness.\(^2\)

Disease prevention in the Middle Ages, like cause and transmission of disease, was rooted in theology and the Greek writings on the humors. Preventative healthcare in Christianity was more focused on health of the spirit through prayer than physical preventative care such as hygiene. Bathing, dental hygiene, and cleanliness that would slow spread of disease were not priorities for Christians in Europe and at times were even discouraged. *The Compendium de Epidemia*, written by the medical faculty of the University of Paris in 1348 in response to epidemic illness wrote, “a hot bath should be rare, and rarer still for those whose body is replete.”\(^3\) This lack of preventative hygiene caused increased infection and diminished health, especially skin, eyes, hair, and teeth.

Individual balance of humors, known as complexion, was also integral in preventing disease. This meant that for the Christian physician of the Middle Ages the treatment almost always began with adjustment to diet and regimen including rest, exercise, and calming activities such as music therapy. Natural functions such as sneezing, sweating, or expelling feces or urine were thought to be the best ways of

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\(^3\) Byrne, *The Black Death*, 160.
maintaining health by alleviating an excess of humors. Medieval doctors stressed prevention through exercise a good diet and good mental temperament echoing Hippocrates who wrote, “it is necessary to preserve the regimen in its usual manner, unless it is itself the cause of illness.”

Remedies for common complaints such as colds, cough, and headaches were a combination of herbal remedies and external treatments such as ointments. Treatment for headaches in Christian society was primitive consisting of bandaging ‘cures’ to the outside of the head to relieve pain or adding a topical salve. Monastic and medicant infirmaries of the Christian orders created these ointments and salves from herbs grown in their gardens utilizing leaves, flowers, and root of the plant. Western texts such as Medicina de Quadrupedibus dictated recipes for topical treatment of salves, ointments, and plasters composed of botanic and herbal remedies.

When dietetics and pharmaceuticals failed to cure a patient of an illness, surgery was the next option for the physicians of the Middle Ages. Surgery, however, was not the same as the modern definition of the word. Medieval physicians lacked antiseptics and analgesics to make major internal dissection possible. Christian surgeons were not only limited by the lack of anesthesia, they also had to contend with religious restrictions on surgery and possibly harmful treatments. The Lateran Councils of the Middle Ages made it a sin for Christian physicians to harm a patient either through ignorance, negligence, or

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experimentation especially the poor and religious. Christian physicians understanding that it was a sin to harm a patient made surgery a very problematic venture especially with a large percentage of physicians being clergymen. A thirteenth-century treatise said, "never become involved knowingly with any who are about to die or who are incurable." This hesitancy to treat certain patients can be interpreted as a practical measure to avoid secular punishment for failed procedures and subsequent professional condemnation.

European surgery, however, progressed with rise of rational surgery in the twelfth through the fifteenth century, when there was an influx of Islamic and Greek texts and an increase of Latin and vernacular surgical treatises. Small surgical techniques dominated treatments outside of the control of diet, regimen, and herbals, the most common of which were bloodletting, cauterization and cupping. In Europe those who fell ill received more direct treatment through bloodletting, through cutting and leeches, and cupping. Christian belief systems thought that ill people had too much blood and there were very specific veins used to cure each illness. Specific veins had spiritual healing benefits as did timing of blood letting. Christian texts also emphasized bloodletting during specific liturgically important times such as Lent. Bald writes “there is no time for bloodletting so

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7 York, *Health and Wellness in Antiquity Through the Middle Ages*, 155.
good as in early Lent, when the evils humours are gathered” but should not be practiced on holy days.⁸

Cupping was done as a less invasive version of bloodletting. Cupping did not extract blood directly from veins, instead, it utilized more superficial bleeding and therefore lowering the risk of injury or death, which was essential to the Christian belief of injuring a patient as sinful. Another minimally invasive technique, cauterization, continued the use of heat like cupping, however, instead of heated glass, it implemented caustics or heated metal rod. Cautery was used to remove ‘corrupt matter,’ staunch bleeding or limit the spread of infection. Like bloodletting and cupping, there were very specific points on the body where cautery was implemented. Twelfth century English illustrations contain charts that detail the points to apply the hot irons depending on the illness.⁹

Islamic Causation, Prevention and Treatment

Without an understanding of germ theory or contagion, Medieval Islamic society explained causes of disease through personal sin, societal sin, evil spirits, or humoral imbalance. Early fifteenth-century medical writer al-Azraq points out that before all else medicine is grounded in theology in which causes of disease are sin or God's divine punishment. He wrote in Medical Benefits Made Accessible that, “medicine is a science whose benefits are great and whose nobility, prestige, and fame are recognized and


whose roots are established in the book (Qur’an) and the example (Sunna).” Islam combined this belief of theological basis of medicine with the earlier humoral imbalance theory of disease causation.

Muslim physicians and writers Abu Bakr, al-Razi, and Ibn Sina in the tenth and eleventh centuries emphasized the Islamic continuation of Greek disease causation theories of the non-naturals and wrote on topics as far ranging as diet to architecture of house windows to admit healthy light and air and avoid illness. Ibn Sina in his Canon described how bad air affected the body, “when the air that has undergone such putrification arrives at the heart, it rots the complexion of its spirit and then after surrounding the heart, rots it. An unnatural warmth then spreads all around the body, as a result of which a pestilential fever will appear. It will spread to any human who is susceptible to it.”

Disease transmission in Islamic society began in the Hadith that said, “The owner of sick animals should not drive these to the owner of healthy animals.” This showed Islamic physicians who were grounded in theological texts understood the concept of being near a sick person could lead to illness and they merged this idea with Galen’s theory of seeds of disease that could be transmitted between people. Muslim physicians also discussed this idea of seeds of disease and in the ninth century using the word “i’dā”


which is understood more as “transmission and not differentiating between infection (direct transmission of bacilli) and contagion (transmission of parasites and the like).”\(^\text{13}\)

Disease prevention in the Islamic East was anchored in religion. Islam had very specific rules and laws regarding purification and hygiene that emphasized cleanliness consequently preventing disease transmission. Hammams or public baths were in every town and all levels of society took part in bathing rituals. Islamic Sacred Law controlled rules details such as volume of water that needed to be used to purify and the quality of water was even divided into categories based on its ability to purify.\(^\text{14}\) *In Reliance of the Traveler*, fourteenth-century Islamic jurisprudence also dictates of details washing before prayer, wudu. Details are extensive on the appropriate way to wash the face including facial hair, clean the feet including between the toes and scrape dirt from underneath fingernails. Some of these details were direct instructions from the Qur'an and the Hadith and emphasized that a prayer is not accepted without purification. Ablution, therefore, was an integral part of Islamic religion and culture and became an important societal factor in health and prevention of illness. Perfumed soap became important industry especially in Syria and Balis where it was manufactured and exported.\(^\text{15}\)


Hygiene for the citizens of Islam was not limited to bathing; grooming and dental hygiene also played an important role in religious life and prevention of disease. Galen laid the foundation of belief that facial hair such as eyelashes and eyebrows were designed for health "naturally through a prime intention."16 Because bad air was seen as so detrimental to health bad breath and teeth were essential to hygiene. The Prophet was to have said, “where it not for my desire not to burdened my community, I would have ordered them to clean the teeth before every act of worship.”17 Sacred Law required the “use of a twig or the like on the teeth and around them to remove an unpleasant change in the breath or similar.”18 A tooth stick, siwak, was made from barch branches or roots of the arak tree, which has recently been shown to prevent plaque and inflammation of the gums owing to fluoride tannins and resinous substance in the wood.

The strict classification of ritual impurity and filth in Islamic law further controlled hygiene and transmission of illness through bodily fluids. A purification bath, Ghusl, was required for all minor and major ritual impurity. Bodily fluids as well as other interactions were considered filth and had specific laws requiring cleansing. Urine, excrement, blood, pus, vomit, wine, any liquid intoxicant not used to cleanse a wound, dogs, pigs, slaughtered animals, unslaughtered dead animals aside from aquatic life and locust, milk of animals are all filth and unable to be eaten and require ritual bathing after

16 Peter Biller and Joseph Ziegler, ed. Religion and Medicine in the Middle Ages (York: York Medieval Press, 2001), 43.

17 Pormann and Smith, Medieval Islamic Medicine, 138.

18 Al-Naqib, Lu’lu’, and Keller, Reliance of the Traveller, 57.
any contact.\textsuperscript{19} By Islamic law requiring baths after these situations and prevention of entry to the Mosque where large groups of people were in close contact stunts the spread of disease. Ali ibn Ridwan in \textit{On the Prevention of Bodily Ills in Egypt} details how air, water, and food all can cause “epidemic illness” and prevention is possible by taking precautions such as boiling water and adding Armenian clay, tabashir, or garlic or using oils or flowers to perfume air.\textsuperscript{20}

When disease prevention failed and a person fell ill, the first line of treatment available to the Islamic physician in the Middle Ages was diet. Ideally, the patient was treated with food remedies, but physicians like al-Razi stressed that if diet change did not cure the illness simple remedies should be used before compound remedies. Al-Razi was very specific on limiting the amount of drugs to treat a patient. In his \textit{Book of Experiences} treatment focused on phlebotomy, cupping, or purgatives, regimen, medication, and diet with great reliance on rose-honey and barely water.\textsuperscript{21} Islamic physicians had a broad array of consumable medicinal remedies that they had expanded from Greek cures by utilizing locally grown flora. Islamic physicians followed the belief that God provided a cure for all illnesses, which pushed exploration of pharmaceuticals beyond the ancient uses. Wormwood was well known to Greek and Arabic physicians and was used to treat illness of the liver and spleen Islamic physicians expanded its role

\textsuperscript{19} Ibid., 95-96.


\textsuperscript{21} Pormann and Smith, \textit{Medieval Islamic Medicine}, 119.
to cure opium poisoning which was used numerous gastro-intestinal problems.\textsuperscript{22} Fruits and vegetables were also a large component of pharmaceutical remedies. Ali ibn Ridwan describes recipe for fortifying the stomach with peeled quince Syrian apples, honey, ginger, long pepper, mastic, and saffron.\textsuperscript{23}

Remedies for common complaints such as colds, cough, and headaches were a combination of pharmaceutical intervention and baths in Islamic culture. Balsam was used for its drying qualities and fennel, hyssop, licorice, and poppy, were prescribed as expectorants or cough suppressants.\textsuperscript{24} Marshmallow seeds were commonly used as to remedy dry cough symptoms in Islamic medical practice as were baths. Baths also appear in Muslim prescriptions for illness recovery and pain in joints and post-fever recovery.

Despite advancements in pharmaceutical knowledge in Islamic medical texts of the Middle Ages, there are no references to the use of deep analgesics. Certain drugs such as henbane, hemlock, soporific black nightshade, lettuce seeds, and opium were recognized as being soporific and analgesics but lacked controlled unconscious properties.\textsuperscript{25} For Medieval Islamic physicians, the lack of antisepsis as well as the deep and dose-controlled anesthesia were indeed significant limitations on all types of surgery; therefore, most surgical procedures of the Middle Ages were small procedures to heal boils, abscesses, remove various growths and perform circumcisions. Bloodletting and

\textsuperscript{22} Ibid., 120.


\textsuperscript{24} Pormann and Smith, \textit{Medieval Islamic Medicine}, 120.

\textsuperscript{25} Ibid., 129.
cauterization were old techniques indigenous to the pre-Islamic East as well as Ancient Greece that were utilized by Muslim practitioners of the Middle Ages. The Prophetic Medicine cites bloodletting through cutting open veins as and approved therapy, but there was less evidence that bloodletting was tied to a religious calendar in Islam. There was also little evidence that leeches were much used in Islamic healthcare despite the fact they were common in Greek and European practice. Ibn Sina and al-Zahrawi included short paragraphs on leeches but the information is translated from Greek writings.26

Islamic medical sources differentiated types of physicians and surgeons based on their focus of care. Physician focused on internal medicine and balance of humors by using drugs, diet, and regimen whereas, surgeons were for more external conditions such as wounds and skin blemishes.27 Types of caregivers included apart from physicians, oculists, circumcisers, phlebotomists, cuppers, bone-setters, cauterisers, and those who administered enemas. Barber-surgeons, phlebotomist, and cuppers were found in marketplaces and as hammam staff making them accessible to the Muslim citizen who was legally required to visit baths.28 This proximity and daily interaction of medical care along with earlier translations of Greek surgery techniques allowed Islamic surgical expertise to mature faster and beginning in the tenth and eleventh-century medical text

26 Ibid., 121.

27 York, Health and Wellness in Antiquity Through the Middle Ages, 154.

28 Pormann and Smith, Medieval Islamic Medicine, 135.
such as al-Razi provided extensive writings on surgery including 900 case histories mostly in the Greek tradition.\textsuperscript{29}

Approaches to the Plague

The plague affected the Medieval world like no other disease, neither medical knowledge nor religious doctrine could make sense of prevention, causes, or treatment of plague and no other disease was fought with such futility. In the mid-fourteenth century, the Black Death spread through the Near East, Europe, and North Africa.\textsuperscript{30} The plague had a mythological status in the Christian Middle Ages due to its seemingly unstoppable nature and horrific symptoms and it forced physicians to observe the plague independent from any other pestilence.\textsuperscript{31}

Plague had significant religious connotations for Medieval Christians for whom biblical pestilence was prevalent theme. The bible had multiple examples of plagues used to punish sinners. In Exodus pharaoh’s Egypt endured ten plagues before he released Moses and the Hebrews from their slavery (Ex.7:14-11:10). In 1 Samuel 5, those who had stolen the Ark of the Covenant were struck by painful swellings, not unlike buboes of plague (Sam. 1:5). The plague also harkened to the idea of Armageddon and caused many Christians to believe Judgment Day was imminent and to make their peace so that they were among those admitted to heaven.

Belief in divine intercession in disease made physicians of the Middle Ages, as well as lay people, treat the plague with forgiveness and redemption as a priority.

\textsuperscript{29} York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 152.

\textsuperscript{30} Ibid., 109.

\textsuperscript{31} Ullmann, \textit{Islamic Medicine}, 91.
Christian belief that divine punishment was the cause of the plague led to intercessory processions, special masses, prayers to Saint Sebastian and Saint Roche, as well as flagellants.\textsuperscript{32} Christian medical consilia prescribed prayer, repentance for sin, and reception of the sacraments. A prayer from the \textit{Hausbuch} in Wurzburg, Germany states:

Ever almighty God, who because of the prayer of your most glorious martyr, St. Sebastian called back a universal and lethal epidemic of plague, grant those asking you, that those who thus pray and bear this prayer about with them, and seek refuge in you because of their confidence that a wholly similar epidemic of plague would be recalled [that] through his prayers and merits, they will be liberated from the plague or disease as well as from every danger and tribulation.\textsuperscript{33}

European physicians focused on the belief that spiritual health would lead to physical health during the plague. German physician Lincelius of Zwickau wrote, “all physical exertions and emotions of the mind should be avoided such as running, jumping, jealousy, anger, hatred, sadness, horror, or fear, licentiousness and the like” and instead the person should have been “relating tales and stories and with good music.”\textsuperscript{34} Music, good spirits, and prayer were thought to fight and defend against the poison of plague that people of the Middle Ages believed was punishment.

Once the symptoms of plague were identified in an area, physicians took over the task of treating those stricken, but they also provided preventative treatments for those who had yet to be infected or show symptoms. Even in the mid-fourteenth century medical theory and practice was still based in fourth-century B.C.E Hippocrates and

\textsuperscript{32} York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 112-113.

\textsuperscript{33} Byrne, \textit{The Black Death}, 48

\textsuperscript{34} Ibid., 48.
second century C.E. Galen and focused on diet and regimen to fight epidemic disease. Moderation in consumption was stressed for prevention of plague and people were instructed to avoid moist food such as fish and milk and heavily spiced hot food. Foods that were acidic, bitter, lean, and roasted not boiled or fried were acceptable and wine was only acceptable when diluted with pills made of aloe, myrrh, or saffron. To counteract the plague Christians were suggested to drink rose or barely water with gold, crushed pearls, or gems by text such as Solmnis Medicus that believed gold “contained the power of the incorrupt sun.”

Plague preventing diets were written, published, and passed down. Fifteenth-century poet John Lydgate wrote "A Diet and Doctrine for the Pestilence" where he said:

Whoever wishes to be healthy, protect himself against sickness,
And resist being struck down by the plague,
Should try to be happy and avoid sadness entirely;
Flee from bad air, indeed avoid the presence
Of infected places which can cause harm.
Drink good wine and eat healthy foods;
Smell sweet things and for his own protection
Walk in clean air and avoid black mists.

Lydgate continues for nineteen more stanzas with instructions on diet, self-control, leeches, and Christian virtues to avoid the plague.

Beyond diet and regimen, Christian society believed the Greek miasmic theory where foul-smelling air was a cause for illness; therefore, authorities controlled situations that produced bad smelling air. Butchers in European cities, who previously dumped

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35 Byrne, The Black Death, 48.
36 Ibid., 47.
37 Ibid., 162.
animal remains in the streets, could no longer and tanneries that utilized urine to tan hides were relocated outside city walls.\textsuperscript{38} Christian Europe, who previously did not have strict regulations for care of a dead body, ruled that, “the bodies of the dead shall not be removed from the place of death until they have been enclosed in a wooden box, and the lid of planks nailed down so that no stench can escape” and that “to avoid the foul stench which comes from dead bodies each grave shall be dug two and half arm lengths deep.”\textsuperscript{39}

It was not only removal of situations that caused bad smells but physicians also used aromatics to improve air quality some followed Hippocrates in belief that certain directional winds, particularly south winds were dangerous, while others still prescribed keeping all bad air out by sealing all windows and doors, avoiding “places with natural stench” such as marshes or moving to clean air in the mountains.\textsuperscript{40} Physicians advised the healthy to hold their breath, breath through a cloth, wear aromatic perfumes called “amber apples,” and burn ash, pine, or juniper wood when around the sick to counteract the bad air. The heat would dry the “moistness” and the aroma would counteract the “putrification”.\textsuperscript{41}

Avoidance of breathing bad air was helpful in the sense that people limited proximity to the sick. This avoidance theory continued, and almost all medical texts advised those who were able to flee areas of plague. Those with land outside of urban

\textsuperscript{38} York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 114.

\textsuperscript{39} Ibid, 114.

\textsuperscript{40} Byrne, \textit{The Black Death}, 47.

\textsuperscript{41} Ibid., 47.
areas, the wealthy, and even physicians fled the plague. Boccaccio in the *Decameron* describes how people fled and abandoned infected loved ones writing, “even worse, and almost incredible, was the fact that fathers and mothers refused to nurse and assist their own children, as though they did not belong to them.”

While bad air was a main concern to the physician treating plague, the buboes were the most recognizable symptom and treatises sought to treat them individually through various therapies. Physicians prescribed surgical methods to alleviate buboes, which were believed to be where poison gathered. Bloodletting, lancing, and cupping were recommended to removed the poison and restore humeral balance. Gentile wrote, “If the bubo is located on the neck or head, then open in succession the cephalic vein in the two thumbs. If under the armpit or in the right arm, then open the pulmonary vein, which one can find in the middle and ring fingers on the right hand.” Plasters and ointments were also recommended for the treatment of buboes. A fifteenth-century leechbook recipe for bubo said, “and ointment of honey, duck grease, turpentine, soot, treacle, egg yolks, and scorpion oil.” Unfortunately, no surgical or medicinal combination proved successful in treating plague.

In the end, Galenic medicine and the prescriptions of Medieval doctors could do little to stop the spread of plague. Christians in Europe resorted prayers, charms, amulets, and magic squares. Europeans wore gems and gold to ward off plague and believed they

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43 Byrne, *The Black Death*, 50.

44 Ibid., 50.
would be spared especially if worn on left ring finger closest to the heart. Superstitious pre-Christian magical cures reemerged and Bede wrote in *The Life of St. Cuthbert* that people, “took to the delusive cures of idolatry as though by incantation or amulets or any other mysteries if devilish art, they could ward off a blow sent by God the creator.”

Islamic sources were also compelled to blame God as the cause of the plague. The dramatic appearance, terrifying symptoms, and high mortality rate of the plague no doubt gave additional support to arguments for the divine cause of the Black Death. Muslims saw the plague as separation of divine punishment where suffering was seen as a “punishment for infidels” and communal sin. It was also a test for the faithful, one that devout Muslims believed if a faithful person suffered and died of plague they became holy martyrs that went directly to Paradise. The religious based cause of the plague was hindered by the way it spread through communities. Islamic physicians who followed the Qur’an and Prophetic Medicine believed that contagion without the will of Allah was not possible. However, their faith could not explain why hundreds and thousands of people could all suffer and die of the same symptoms at the same time for either God wanted to punish everyone or there was another explanation.


47 Ibid., 112.


49 Ibid., 44-45.
Islamic physicians turned to Greek miasmic theory as another cause of plague. An Arabic Physician wrote, "The pestilence resulted from a corruption occurring in the substance of the air due to heavenly and terrestrial causes. In the earth the causes are brackish water and the many cadavers found in places of battles when the dead are not buried, and land which is water-logged and stagnant from rottenness, vermin, and frogs."\(^{50}\) Bad vapors or bad air was a commonly accepted cause of plague from Hippocrates time. Muhammad ibn-al-Lakhami ash-Shaquiri a mid-fourteenth-century Muslim Spanish author sided with theologians regarding plague spreading through God's will but also stated, "the cause of the plague is the impurity of the air" and that "lung-sufferers" are especially prone to sickness.\(^{51}\)

Islamic physicians instructed anyone who could flee to avoid cities and live in rural areas to avoid infection. This way of preventing plague is even written in the Hadith attributed to Muhammad where it is written, “if you hear that the plague has broken out in a country, do not go there; if it breaks out in a country where you are staying, do not leave it.”\(^{52}\) In addition to fleeing areas of epidemic, quarantines were set up both to prevent outsiders and goods such as linen products from infecting regions that had not received the plague and also keep plague-stricken areas isolated.\(^{53}\)

\(^{50}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 110.


\(^{52}\) Ibid., 87.

\(^{53}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 114.
Avoidance and quarantine were not always possible or effective and Islamic physicians turned to treatments utilized on other illnesses of the Islamic Middle ages. Bloodletting, cupping and cautery were used on plague bulboes that Islamic sources thought to be spots where the poison pooled. Islamic physician ibn Khatimah wrote that the thickness of the blood determined the location of these buboes and that the lightest appeared near the ears and the heaviest "hurled to the groin."\(^{54}\) In further efforts to restore balance, diet prescriptions were utilized in accordance to Sacred Law that forbid alcohol or gold be consumed.\(^{55}\) With these prescriptions, plague tracts written by Muslim physicians following the initial outbreak of the epidemic, more advanced anatomy and scientific understanding Islam was still helpless to plague.

**Approaches to Military Medicine**

Aside from communicable disease, minor surgeries, and plague, a major component of healthcare in the Middle Ages was that of military medicine due to the necessity for treating battle injuries in the near constant fighting of the Middle Ages. Unfortunately, the fall of the Roman Empire and the rise of the Catholic Church in the West negatively impacted wounded soldiers. Military medicine regressed to the Bronze Age, required more than 300 years to regain the knowledge and skill of the first and second-century Roman military physicians and in many cases, it wasn't until the ninetieth

\(^{54}\) Byrne, *The Black Death*, 44.

century and even WWII before European armies recovered Roman skill of battlefield care.\textsuperscript{56}

The lack of hygiene and sanitation in military camps was staggering. European armies suffered through poor nutrition, contaminated water supplies, and inadequate camp sanitation. These factors along with sleeping on cold or marshy ground and living in close quarters with hundreds or thousands of other soldiers made armies susceptible to illnesses such as smallpox, cholera, diphtheria, typhus, dysentery and numerous other febrile and diarrheal disease for which the armies had no cure.\textsuperscript{57} The Christian understanding and implementation of the Greek miasma, humoral and non-natruals theories proved of little assistance because diet and regimen were not or could not be adjusted in times of war and distance from home and support prevented supplies. Often disease and malnutrition killed more men than the battle itself. The army of Louis VII in the Second Crusade lost 95,000 of his 100,000-man army to disease and famine before ever reaching the Holy Land.\textsuperscript{58} These issues were not limited to the Crusades, however, camp hygiene problems continued in Europe and were not address until 1415, when Henry V in his \textit{Ordinances of War}, ordered proper burial of animals slaughtered for food to minimize disease.\textsuperscript{59}


\textsuperscript{57} York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 200-201

\textsuperscript{58} Gabriel and Metz, \textit{A History of Military Medicine}, 208.

\textsuperscript{59} Ibid, 208.
Doctors were infrequent in Christian armies built from the feudal system because rural communities that made up the armies rarely had doctors outside of monasteries and friaries and there was little monetary incentive for a physician to join an army. The wealthy nobles of Christian armies could afford private physicians to travel with them on campaign, but these men were not hired to treat the masses. Understaffed barber-surgeons cared for the army but there was little there was no organized system of care.

European armies lacked field hospitals and any system for evacuation of the wounded for care. Though hospital building and care progressed throughout the Middle Ages and the formation of Knights Hospitaler and other military orders provided medical care to the sick and wounded of the Crusades as a matter of Christian duty, during the Hundred Years War the French army treatments were still primitive. The first evidence of consistent regular medical service in a European army did not appear until the late 1400s in Spain, where the Spanish army adopted Islamic military medical care and mobile hospitals.60

Fractures and dislocations were very common injuries among military personnel as well as common citizens. Treatment for fractures was well documented and Christian medical writings depict treatments including splinting and surgery. Manual manipulation of fractures is evident in archeological evidence and some medieval examples show that padded metal plates had been applied to externally fixate and support correct alignment in healing.61 Christian leechbooks included treatment for a broken leg that included

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60 Gabriel and Metz, A History of Military Medicine, 209

herbal bath and splinting saying, “when they [the limbs] are in a sweat, then let the patient arrange the bones as well as he can and apply a splint.”" S62 Surgical treatment of fractures was implemented for open fractures common on the battlefield. Archeological evidence of surgery in the Middle Ages to treat fractures are cut marks on bone and metal implants used to keep fractures still.63 However, even with these surgical and splinting techniques physicians of the Middle Ages were not capable of preventing impaired functioning post-fracture. Bone angulation, limb shortening and evidence of non-healing fractures made were long-term problems.

The primary concern for battlefield medical personnel was wound treatment, which began with controlling initial blood loss. The blood loss from internal organ or vascular damage in a piercing wound was of far greater concern than those of more superficial wounds caused by slashing weapons. Archeological evidence shows swords and slashing weapons could cleanly cleave bones causing amputations, but they more commonly caused more superficial flesh wounds that were considered the least dangerous forms of battle injury, so long as they didn’t contact bone or cut through nerves or tendons.64

Head wounds were understood to provide different problems entirely from either slashing or penetrating wounds elsewhere. Theodorich wrote: “and the most particularly of all, one must be careful that everyone having a wound on the head (especially if there

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63 Mitchell, *Medicine in the Crusades*, 114

64 York, *Health and Wellness in Antiquity Through the Middle Ages*, 195.
is suspicion of internal injury) keep it from every pollution, because if care is not exercised in head wound spasm will occur very quickly and when this has happened, according to most evidence, he will die a most bitter death on the third day." Medieval medical authors addressed both concerns of increased vascularity of the head and face making it difficult to stop blood loss and skull fractures in their documentation of battlefield treatments. Archeological evidence also shows that increased technology in armor increased the focus of injury to the head and neck away from the more protected areas of the body or that the armor protected the body enough to keep the wounds superficial. The difficulty in head wounds for the physician of the Middle Ages was not only blood loss but mitigating a skull fracture. Soldiers with head wounds appear to have been watched more carefully for post-injury symptoms. If upon assessment of the wounded the surgeon suspected a fracture he expanded the wound and scraped the skull. Paul of Aegina suggested on the day after injury, pour black ink on wound and scrape the skull so the fracture would present as a black line. Once a fracture was discovered more wound exploration was done and any sharp bone fragments were removed with tools such as mallets and chisels to free bone shards that would not come clean with fingers or forceps, smoothed rough bone edges with rasps, and dressed the head wound in bandages

65 Mitchell, Medicine in the Crusades, 164.

66 York, Health and Wellness in Antiquity Through the Middle Ages, 195.

67 Ibid.,197
soaked in oil of roses or wine. Surgeons also used trephination, drilling holes in the skull to relieve pressure, in accordance to Hippocrates *On Wounds of the Head*.

For Christian soldiers post-wound infection was a far greater concern than initial injury, and it is probable that infection that killed more than blood loss or injury from the wound. For post-wound care a soldier may have been moved into the shade or some other comfortable spot, his wound and pulse may be checked and prayer said over him, but largely was left to fend for himself. Christian medicine differed in their belief of natural infection, they believed some infection in a wound was normal and not threatening to the patient. Physicians believed in “good” and “bad” puss and it was ordained by God who survived.

Christian military medicine not only had to contest with the poor hygiene and limited medical staff, but also the theology of martyrdom. Pope Urban II at the Council of Clermont in 1095 he alluded to martyrdom while preaching the First Crusade. The idea that anyone who died fighting an enemy of Christianity went directly to paradise affected their mentality on seeking treatment and care for the wounded. Martyrdom was also a feature of stories of chivalry, such as the Chanson de Roland, which told of Emperor Charlemagne’s battles against the Moors of Spain, and thus it was part of the mentality of the arms-bearing elite and devalued military medical care.

Islamic military medicine fared far better than their Christian European counterparts. Islam continued the study of the Greek texts and improved on battlefield

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69 York, *Health and Wellness in Antiquity Through the Middle Ages*, 197.

treatments as struggles between Caliphates led to larger more centralized governments. The Qur’an, with less restriction on anatomy and surgery, allowed Islamic physicians more flexibility in study resulting in more adept treatment of battlefield injuries and proximity to Byzantium, which did not suffer the loss of medical knowledge caused by the fall of the Western Roman Empire, may have also aided Islamic military medical advancement.

Hygiene was a large focus in Islamic society, which was ruled by rituals including washing, teeth cleaning and nail scraping. Even with this focus in Islamic culture, hygiene and health suffered for soldiers during war. An Egyptian text describes a soldier as "he is called up for Syria. He may not rest. There are no clothes, no sandals. His march is uphill through mountains. He drinks water every third day; it is smelly and tastes of salt. His body is ravaged by illness." Though Islamic physicians could not control all aspects of hygiene during military campaign, post-injury hygiene was advanced for its time. Islamic post-operative and post-injury treatment consisted of cleaning the wound with antiseptics including wine and they greatly valued the prevention of infection. Wine used to clean wounds had specific exemption in Islamic law and was not filth like other intoxicant beverages. Islam’s amenable relationship with medicine meant that flexibility such as using intoxicants for wound cleaning and also allowing physicians to treat the wounded instead of leaving care to the divine for natural healing. There is no evidence that Islamic physicians believed in natural infection, meaning infection that was normal

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71 York, Health and Wellness in Antiquity Through the Middle Ages, 200.

72 Al-Naqīb, Lu’lu’, and Keller, Reliance of the Traveller, 95.
and beneficial part of healing, though they understood the difference in discharge and infection from a wound. Physicians knew there would be inflammation around the wound and that fever and pus accompanied infections. An Egyptian swnw described how to care for a healthy wound by binding the wound “with two strips of linen over that gash; you should treat it after (with) grease, honey, (and) lint every day until he recovers.” When the patient presented with fever and “cool like wenesh-juice” discharged from the inflamed wound the swnw suggested that “you should not bind it; you should moor (him) at his mooring stakes [i.e continue with regular diet and do not administer any medicines], until the period of his injury passes by.”

Islamic armies valued medical expertise and traveled with physicians on campaign. Not only did the army benefit significantly from the proximity of medical care but physicians expanded their expertise and advanced medical practice through military experiences. In the late tenth century, Abul Kasem wrote about his experiences as a surgeon with the army and detailed his work in a chapter on surgery. Other Islamic authors wrote about military medical treatment of severe slashing wounds caused by swords or axes. Al-Zahrawi described surgery for the treatment of abdominal wounds resulting in protrusion of the intestines. He modified earlier methods for suturing and also

74 York, *Health and Wellness in Antiquity Through the Middle Ages*, 199.
75 Ibid., 200.
presented a case history of a man wounded in the abdomen with a knife. His surgery writing would then be taught to physicians studying in urban Islamic hospitals.

Islamic armies also developed mobile military hospitals that not only housed physicians during battle but tools, structures and medicine. Mobile military hospitals provided proximity and timely access to care allowing physicians to stop blood loss and prevent shock in wounded soldiers and giving Islamic armies greater success at caring for casualties. Some texts even mentioned the “use of structures by indigenous surgeons to bring together the edges of wounds.” Few details remain of how the structures functioned, but there appeared to have been success despite the lack of sterility.

With most military wounds, arresting hemorrhage was the most immediate concern. Islamic medical writers understood the difference between arterial and venous bleeding and the severity difference that required more aggressive treatment. Albucasis wrote in tenth to eleventh century Islamic Spain on how to treat an arterial bleed:

Very often there occurs bleeding from an artery which has been cut either by an external wound or in opening an abscess or in cauterizing a part of the body and so on, and it is difficult to stem. When this happens to anyone, quickly apply your forefinger to it and closing it properly until the bleeding ceases under your fingers and nothing comes out. Then put in the fires several olive cauteries, small and large according to size of the wound and the size of the opening of the artery and bring the cautery right down on the artery itself, after promptly removing your finger, and hold the cautery upon it until the bleeding ceases.

77 Pormann and Smith, Medieval Islamic Medicine, 124.
78 Gabriel and Metz, A History of Military Medicine, 204.
79 Mitchell, Medicine in the Crusades, 180.
Arterial bleeding and deeper penetrating piercing wounds were more concerning than the flesh wounds of slashing weapons.  

Islamic surgeon Abu al-Qasim al-Zahrawi described penetrating wounds from arrows or spears and Islamic understanding of infection when he wrote about a man wounded in the face with an arrow. After detailing treating the man for months with various methods of extracting the arrow to no avail he wrote, “About four months passed. Then when the wound was enlarged and I was able to introduce forceps into it I pulled on it and moved it, but it would not come out. And I went on skillfully and gently trying for it with various instruments until one day I caught hold of it with a pair of strong forceps…and drew it out; then dressed the wound.”82 As with other wounds in the Middle Ages, concern for death did not end once the arrow was extracted. Gangrene from infected wounds was still prevalent even in what were considered non-life threatening wounds. Islamic author Usama wrote of a Muslim soldier Shihab-al-Din who was wounded by a Frankish arrow in the lower arm. He was treated, arrow removed, and bandages applied, but went on to die after three days when “his arm turned black, he became unconscious and then died.”83

While most major or invasive surgery was not attempted mainly due to the lack of anesthesia, one traumatic operation that was the subject of every surgical Medieval

81 York, Health and Wellness in Antiquity Through the Middle Ages, 195.

82 Spink and Lewis, eds. Albuscasis On Surgery and Instruments, 610-614.

83 Mitchell, Medicine in the Crusades, 158.
medical manual was amputation. Amputation was an unfortunate but mandatory piece of military medicine of the Middle Ages. Amputation was performed when a wound had severed a limb, a bone was fractured beyond repair, or gangrene had set in and threatened life. Amputation was only prescribed to remove lower joints. An Islamic physician wrote that were gangrene had spread above the elbow or knee that, “there is nothing of any avail in this case but to leave it, and for the patient to resign himself to death.” Of the reasons for amputation, gangrene was the most common and usually followed multiple fractures. The precise way to amputate a limb was described in numerous texts dating back to Galen. A ligature was applied above and below the site to be cut and then following the operation the wound would be cauterized and styptics would be applied to staunch bleeding. Sterile medical practices did not exist in the Middle Ages and few medical texts suggested the patient be washed before amputation; however, post-operatively the area was frequently cleaned or dressed with “wine, wine mixed with oil of roses, oil of roses alone, salt-water, or vinegar and water all of which have varying antiseptic properties.”

Conclusion

In this chapter our study of disease causation, prevention, and approaches of plague and military medicine we learned that treatment of illness and injury in the Middle Ages infused Christian and Islamic religions and Greek medicine. In some cases, such as hygiene, Islamic religious law benefited medical care by setting legal standards on

84 Pormann and Smith, Medieval Islamic Medicine, 124.

85 York, Health and Wellness in Antiquity Through the Middle Ages, 199.

86 Pormann and Smith, Medieval Islamic Medicine, 128.
bathing, grooming, and care for deceased people and animals, which lessened transmission of communicable diseases. Military medicine and battlefield care organization was superior in Islamic armies that did not suffer the medical scientific void caused by the fall of Roman Empire and limitations of the Catholic Church. In other instances, such as the plague, neither Christian nor Islamic medical science could benefit the suffering. The analysis of treatment protocol and interaction with the sick discussed in this chapter will be expanded in the next chapter to understand how Islamic and Christian societies dealt with disease on a social level.
CHAPTER THREE
SOCIAL ACCEPTANCE OF THE ILL AND DISABLED

Pope John Paul II said, "A society will be judged on the basis of how it treats its weakest members." He believed that it was in the care for the weak that truly showed the belief system of a community not in how well it cured the sick or the advances it made in areas like medicine. This belief emphasized the role that religion played on those in society that were less fortunate. In the Middle Ages, the interplay between religion and medicine was evident in the management of those with untreatable, long-term and disfiguring disorders. Christianity and Islam differed in societal treatment and care for the lepers, mentally ill, and physically disabled through various forms of acceptance, marginalization, and charity.

Social Acceptance in Christianity

Social acceptance of leprosy in Christian Europe during the Middle Ages was two-fold. On one hand, the leper was segregated from society and lived as an outcast, but on the other, this segregation from society led to Christian charity by some who formed leper houses and cared for lepers following in the way of Jesus. Leprosy was unique both medically in the way it is so prevalent in the twelfth and thirteenth centuries as well as its significant place in social history as one of the most stigmatized disorders. During the height of leprosy’s prevalence in Europe those diagnosed suffered severe social stigmas, economic hardships, and yet benefited from Christian charity.

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Christians in the Middle Ages interpreted leprosy as a sign of moral sin and a physical representation of God's punishment. While epidemic diseases like the plague were considered communal sin, leprosy's identification as individual sin allowed Christian society to justify isolating sufferers as a type of moral exclusion. Lepers were excluded from church services as well as entire cities, a fate justified with the Bible. In 13 Leviticus diagnosis and treatment of a leper was described: “Now the leper on whom the sore is, his clothes shall be torn and his head bare; and he shall cover his mustache, and cry, ‘Unclean! Unclean!’ He shall be unclean. All the days he has the sore he shall be unclean. He is unclean, and he shall dwell alone; his dwelling shall be outside the camp” (Lev. 13:45-46). The Medieval church greatly accentuated the moral aspect of leprosy and the lifelong seclusion of the moral decay and uncleanliness of a leper did not even end with death. Lepers were viewed as the damned and refused burial within the churchyard or on holy ground unless they received special privilege.\(^2\) The church was very active in diagnosing and excluding those suffering from leprosy from society, and it appeared that they felt this was the moral and just solution. Some Christians even believed that punishment in the form of leprosy was positive and God was blessing the person by punishing them in this life so they may have hope of salvation.

Church officials held ceremonies when a person was diagnosed as a leper and separated from society. Lepers in Vienne France were removed from society in a religious ceremony called Mass of Separation that included the words “our lord gives you great gift when he wishes to punish you for the evil you have done in this world.

Wherefore, have the patience in your illness.” In these words, the clergy and community were absolving themselves of any wrongdoing in ostracizing the sick person by considering them as evil and interpreting God's punishment as favorable.

The Church also had significant influence in secular policies, therefore, the Christian moral stigma of leprosy had political and economic effects for the afflicted. Fear of contagion and the belief that people should avoid the disfigurement of lepers led secular leaders to follow up Church legislation by forbidding lepers from entering large cities such as London. While the Church had already ostracized lepers on a large-scale level, London further excluded lepers on a local level with the Assizes of 1276 that said, “no leper shall be in the city nor come there, nor make any stay there.” Lepers were not only barred from society physically but also economically. As part of their exclusion from society, lepers forfeited property, could not own land and lost their means of income. Christian society eliminated all means of a leper providing for themselves or their family creating a shame such as with a criminal. As if the shame of exclusion wasn’t enough, to further isolate lepers from society, they were required to dress a specific way in order to warn anyone close to their presence. Lepers wore a black cloak with hood attached, a hat, plain shoes and carrying a bell or clappers to warn the public of their approach and sometimes carried a begging bowl.

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5 Ibid., 160.
The second component of how Christianity handled leprosy in the Middle Ages was the Christian charity shown in development of leper houses, lazar houses, or leprosaria. Though the leper was ostracized and segregated from society and lost much of their property, he or she was offered community and care in a leper house. Aside from the practical consideration that lepers, who had been publicly forced away from family, their land, and entire cities, could not roam the streets uncontrolled due to the fear of both illness and moral contagion, leper houses were established out of compassion. Leper houses were established as charitable institutions that housed lepers and provided spiritual and physical care while still segregating them from society. The houses allowed the lepers a sense of community, and moral support between people who understood the plight each inhabitant of the leper house was given chores and duties but also provided certain rights unlike life outside the house.\(^6\) Those who staffed the leper houses drew from different biblical inspiration for their treatment of the lepers. Some Christians believed that the punishment of a leper was a trial of God’s will, others believed that the treatment of lepers by the healthy was also a trial and that those who cared for lepers were often viewed as having an “aura of sanctity.”\(^7\) Instead of focusing on Leviticus those who cared for lepers focused on how Jesus interacted with lepers. In Mark 1, “A man with leprosy came to him and begged him on his knees, ‘If you are willing, you can make me clean.’ Jesus was indignant. He reached out his hand and touched the man. ‘I am willing,’ he said. ‘Be clean!’ Immediately the leprosy left him and he was cleansed”


(Mark 1:40-42). The Christians who established and ran leper houses may have still believed that the patients were sinful, unclean, and needed removal from society, but instead of pushing lepers away they established houses and community for them.

The second type of disorder that showed societal treatment of long-term disorders in the Christian Middle Ages was mental illness. Mental illness, like so many other diseases, was greatly misunderstood. Though the stigmas and segregation of the mentally ill were not as severe as they were for people suffering from leprosy, the mentally ill were still considered second-class citizens religiously as well as legally. Christianity believed there to be multiple reasons for insanity that were rooted in the spiritual. Thomas Aquinas described Medieval beliefs of mental illness as having different causes. He wrote, “First, from a bodily cause, as is clear from those who through some infirmity are out of their minds. Second, though the power of demons, as is seen in those who are possessed. Third, from the divine power. It is in the sense that we speak of ecstasy when one is elevated to a supernatural level by the divine spirit, with the abstraction from the senses.”8 Mental illness to Aquinas and Christian society of the Middle Ages was seen as a moral issue, either a punishment for sin or a test of faith. Christian society also believed that madmen were seized by spirits, that were either divine or evil in origin based on the person’s sinfulness. Evil possession carried heavy stigma while divine ecstasy was viewed positively considered the touch of God and interpreted as revealing Gods intentions.9

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8 York, *Health and Wellness in Antiquity Through the Middle Ages*, 171.

9 Ibid., 171.
Medieval Christians believed that some mental illness was transient and therefore held out more hope for the mentally ill that they could be cured through faith than some other disabilities. With this hope of healing or regaining of mental faculties, the mentally ill were re-assessed to re-confirm diagnosis of insanity instead of having a lifetime diagnosis. Because of the belief that mental illness resided more in the spiritual realm than the physical, the mentally ill were not outcast from society for fear of contagion nor were they put in institutions such as leper houses. Daily care and treatment for the mentally ill in Europe was the responsibility of their families and doctors were rarely consulted for care. Any conditions causing psychoses, delusions, or fits were considered caused by divine nature and thus fell under the control of priests and theological healing. Families of the mentally ill could seek religious cures and visit shrines of saints that had reputations were believed to heal people with mental disorders.¹⁰

Christianity applied societal restrictions on people with mental disabilities through the involvement of family and local priests. Legal authorities with help in diagnosis from the clergy minimized, if not completely eliminated, the mentally ill from holding property, acquiring wealth, and inheriting titles. A parent was capable of holding land and property for a mentally ill heir; however, if the parents died, wives, children, or heirs of the insane were not able to take over control of the property. Without a parent managing the property of the mentally ill, they were required by the crown to become a ward of the king.¹¹ This title, while seemingly in the best interest of the person suffering

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¹⁰ York, *Health and Wellness in Antiquity Through the Middle Ages*, 172.

¹¹ Wendy J. Turner and Tory Vandeventer Pearman, ed. *The Treatment of Disabled Persons in Medieval Europe: Examining Disability in the Historical, Legal,*
from mental illness, meant that the crown claimed all land rights and profit from the land
giving only living expenses to the wife or any children of the ward. Medieval authorities
justified their intervention into the lives of mentally incapacitated as being protective,
however, their actions were much more about securing the profits of lands than it was
actual concern for the patient. In England, the crown held the lands of the mentally
disabled from the mid-thirteenth century reign of Henry III through sometime after 1550
and was known as the Prerogative Regis.\textsuperscript{12} The exclusion of the mentally ill from society
by means of protecting their land lead to the exclusion and disenfranchisement of their
families and heirs. Families of the mentally ill fought this loss of land, wealth, and title
and by the middle of the fourteenth century began to write wills changing the lines of
inheritance to exclude mentally disabled heirs or preemptively name specific guardians to
avoid crown intervention.\textsuperscript{13}

Physical disability also had major societal response in the Middle Ages. Attitudes
toward the physically disabled in Christian Europe were varied. Many thought
disfigurement, blindness, or lameness was a punishment for sin or disobeying divine law
and yet others such as trade guilds would support injured colleagues. While the
physically disabled were not fully ostracized from society, as lepers were, they were
marginalized through regulations of work, education, and law.

\textit{Literary, Medical, and Religious Discourses of the Middle Ages} (Lewiston: The Edwin
Mellen Press, 2010), 57.

\textsuperscript{12} Turner and Pearman, ed. \textit{The Treatment of Disabled Persons in Medieval
Europe}, 52.

\textsuperscript{13} Ibid., 59
Christian society claimed a biblical basis for their marginalization of the physically disabled. Deuteronomy Chapter 28 connected sin with blindness and lameness and Leviticus went even further matching deformities with specific sins. Holding the disabled to this standard, many in Medieval society avoided the disabled and forced them into the periphery of society as punishment for their perceived sins. Theologians of the Middle Ages did not suggest that the physically disabled be completely removed from society; instead, Augustine’s belief that ugliness and deformity acted as opposition to beauty and that it could not be completely eliminated from society had endured through the late Middle Ages. Alexander of Hales in the thirteenth century emphasized Augustine’s principle when he wrote, “Evil as such is misshapen…Nevertheless, since from evil comes good, it is therefore well said that it contributes to good and hence it is said to be beautiful with the order [of things].”\textsuperscript{14} Hales and his contemporaries such as Thomas Aquinas thought that the disabled were part of society because without their ugliness then the beauty of other people would not be recognized.

The physically disabled were marginalized in Medieval society through work or the inability to work. Disabilities that were painful or decreased mobility limited manual labor and caused an inability to work that lead to poverty and the disabled becoming a burden on his or her family. Many who could not work became beggars, which also ostracized them from his or her social network. Physical disability could not only cause marginalization due to inability to work but certain professions flatly denied people with

disabilities. Leviticus 21 denied entrance to the clergy for those who were disabled. It states:

> Whosoever he be of thy seed in their generations that hath any blemish, let him not approach to offer the bread of his God. For whatsoever man he be that hath a blemish, he shall not approach: a blind man, or a lame, or he that hath a flat nose, or any thing superfluous, or a man that is brokenfooted, or brokenhanded, or crookbackt, or a dwarf, or that hath a blemish in his eye, or be scurvy, or be scabbed, or hath his stones broken. (Lev. 21:17-20)

Preventing the disabled from positions in the clergy removed them from attaining higher social statutes within the church because physical integrity was equated to moral integrity and disqualified the disabled from service. Master General of the Dominicans, Humbert of Romans, emphasized physical integrity for a priest when he said, “people who are disfigured in this way are debarred from the Lord’s service in Leviticus and similarly the church has banned them from public office for fear of popular scandal and ridicule.”\footnote{Opera d Vita Regulare, ed J.J. Berthier, 2 vols. (Rome, 1888-1889; rpt. Turin, 1950), II: 406. Quoted by Angela Montford, Health, Sickness, Medicine and the Friars in the Thirteenth and Fourteenth Centuries (Burlington, VT: Ashford, 2004), 30.}

Humbert of Romans not only emphasized that religious orders of the Middle Ages still followed Old Testament restrictions on the disabled, but he also speaks of the greater social significance of disability saying it would create societal backlash for the church.

Social backlash for the physically disabled marginalized them through shame. Appearance and physical capabilities were viewed as essential to a person’s social status for both men and women. A woman’s main role in society, for instance, was to marry and become a mother. Disfigurement of a daughter made it difficult for her parents to find her a husband because backlash and shame from having a disfigured wife would prevent a marriage. Even the wealthy were subject to shame because illness and deformity were
seen as peasants’ problems. Physical imperfections could put nobility and rulers at risk of peers viewing them as weak and threatening their power. Legally, physically disability could also prevent a man from fulfilling their social roles with secular laws forbidding inheritance from the deaf and sometimes those with mobility problems.\textsuperscript{16} If a man who was physically disabled chose to achieve higher station through education here too he was refused. Some universities had unwritten or written rules denying people with physical differences admission to undergraduate or graduate school. The statutes of 1400 for New College, Oxford stated no scholars graduate or undergraduate would be admitted with “incurable disease or grave bodily deformity.”\textsuperscript{17} Disability was seen as shameful for the institution and exclusion of the disabled prevented social backlash just as the clergy did by refusing the disabled. Social backlash affected disabled women, men, rich and poor from achieving upward mobility in society.

The societal backlash against the disabled was harnessed into punishment in the Middle Ages where for certain crimes people were disfigured. This fed off of the pre-existing bias against physically disabled people in society and perpetuated the idea that the physically different were morally inferior by equating them to known criminals. Kings and emperors used punishment through disfigurement and amputation mainly against captives of battle as shame for going against the ruler and a sign for others who think of opposing the ruler. In \textit{Itinerarium Peregrinorum et Gesta Regis Ricardi} King

\begin{itemize}
\item \textsuperscript{16} Christian Krötzl, Katariina Mustakallio, and Jenni Kuuliala, eds. \textit{Infirmity in Antiquity and the Middle Ages: Social and Cultural Approaches to Health, Weakness and Care} (Burlington: Ashgate, 2015), 74.
\end{itemize}
Richard the Lionheart is detailed as mutilating resisting inhabitants of newly conquered Cyprus saying “He had as many of our people as he could seized and had one of their eyes put out, or their nose cut off, or an arm or a foot mutilated, exacting whatever revenge he could to soothe his rancour.”\(^{18}\)

Not all views of the physically disabled in the Middle Ages were as negative. The Middle Ages were wrought with farming, industrial, and military injuries that caused disfigurement. Fraternities and organizations did not ostracize members for reason of sin or shame, instead, they understood the difficulty of their work and high rate of injury. If a member was unable to work some organizations provided for him so that he would not become a beggar. Physical deformity in a knight would have made him unable to perform his duties or take future jobs. Some knights returning from crusade were fortunate to receive letters from people such as the grandmaster of the Order of Saint John suggesting charity for being a martyr and being injured for Christ.\(^{19}\) It was not only knights returning from Crusade, who were deemed eligible for charity after disability, other professions wrote statutes to care for injured workers. The carpenter's guild in London in 1389 statutes wrote that, "each brother and sister of his fraternity shall pay to the helping and sustaining of sick men which have fallen in disease, as by falling down of an house, or hurting of an axe, or by diverse sicknesse, twelfe pennies per year.”\(^{20}\) Orders such as

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\(^{20}\) Ibid., 51.
these among professional organizations did not marginalize the disabled, did not cast them out of society to be beggars or prevent social integration due to physical disability, instead, they made opportunities to do charitable work and treat the disabled as part of an understanding community.

Social Acceptance in Islam

Medieval Islamic society confronted leprosy in a much different way than their Christian contemporaries. Islam made the significant separation between the illness of leprosy and any negative moral stigma. Lepers were not seen as the damned or punished for sin. Because of this separation Islamic society was more accepting of lepers in daily life and it did not ostracize them.

Islamic medicine, with regards to leprosy, clung tightly to the rational medicine of the Greeks. Muslim doctors followed the belief of humoral treatments for leprosy and continued the ideas that leprosy was both contagious and transmitted through hereditary ways, but lacked any attribution of leprosy to illicit sexual intercourse or moral misgivings.21 Focusing on the Greek rational causes of leprosy meant that Islamic society did not condemn sufferers to life outside of society. There were not Leper houses in Islamic society where lepers were forced to live in groups of fellow sufferers segregated from healthy society. Islamic hospitals treated leprosy much as it did any other disease with no more shame. There is also no evidence of legal regulations forbidding lepers from entering or living in cities or law forcing remittance of property and title.

Islamic medical texts concerning leprosy lacked any element of moral censorship of the afflicted disease not considered divine punishment. Removing the belief that divine punishment for sin was a cause of leprosy removed the theological restrictions on Islamic lepers. There was no equivalent of the Mass of Separation in Islam to remove a leper from worship nor was there a mandatory special wardrobe for a leper to warn others of his or her approach. Contagion was slightly problematic in Islamic theology on leprosy. The Prophet is quoted as both believing in the contagious nature of leprosy and not allowing a leper near him but also saying that diseases come directly from God. Even with conflicting views on contagion Islamic treatment is much more humane to those suffering from leprosy. Islamic society’s inclusion and humanitarian treatment of lepers shows a larger concern for the community and unity of Muslim society.

The mentally ill in Islamic society also confronted social acceptance difficulties. In the Islamic East during the Middle Ages the Arabic word *majnun*, meaning possessed or madman, was the most commonly used term for a mentally ill person, someone who lacked intellect or reason. Islamic society believed there were different types of mental illness and was very specific on societal classifications of mental disorders. Temporal classifications were made based on duration of the mental illness. Islamic society defined partial or temporary madness in contrast to comprehensive or perpetual madness based on the temporal framework of five daily ritual prayers. The perpetually mad person was one

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22 Ibid., 333.

23 Ibid., 331.
who missed all five prayers due to mental disability.\textsuperscript{24} Whether the madness was temporary or perpetual, Islamic society itself determined whether someone was considered majnun and very infrequently consulted a physician. Mental illness was believed to have both physical and spiritual causes of madness. While physicians like Ibn Sina based understanding of mental illness in Greek humeral causes, society as a whole believed spirits caused mental illness. Islamic society believed that there was both good and evil possession and it was imperative to determine from which a person suffered so that the person could be treated accordingly. Both divine and demonic possession showed symptoms of melancholia and mania and the use of majnun in the Qur’an ambiguously described both possessions. Good spirits were believed to cause truth speaking such as with the prophet Mohammed who was often accused of being a madman. Evil spirits known as djinn caused madness.\textsuperscript{25} Unlike the medieval Christian view, however, divine punishment for sin as a cause for madness was a minor theme in Islamic thought.\textsuperscript{26}

The belief that Islamic society, regardless of being possessed by good or bad spirits, treated the mentally ill like they were physically sick instead of just a spiritual illness. Physicians resorted to the same humoral treatments as they might apply to physical disorders and hospitals built wings for the mentally impaired as well as devoted entire hospitals to their care. Unique to Islamic medicine of the Middle Ages, maristan

\textsuperscript{24} Ali Altaf Mian, “Mental Disability in Medieval Hanafi Legalism,” \textit{Islamic Studies} 51, no. 3 (Autumn 2012): 254.

\textsuperscript{25} York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 169.

came to mean an insane asylum.\textsuperscript{27} While most care was still provided by family at home, mentally ill they could turn to hospitals and physicians for medical advice and prescriptions. For those mentally ill who were believed possessed by djinn spiritual healing in the form of talismans, prayers, and massage were prescribed. One text reads, “the devil should be massaged out from the important organs to the less important ones and eventually out of the body through the lower extremities.”\textsuperscript{28}

Mentally disabled people in the Islamic Middle Ages were exempted from religious obligations such as ritual prayer, fasting, the alms-tax, and pilgrimage following the Prophetic saying, “The pen does not record the deeds of the sleeping person until he awakes, the child until he reaches puberty, and the insane until he recovers his mind.”\textsuperscript{29} The religious exclusion of the mentally ill was not a fear of moral plight or contagion, but instead a realization that the person should not be held responsible for certain acts that exceed his or her capabilities. Islamic jurisprudence stated that sanity was a prerequisite for the performance of wudu’ and ghusl, as it was for all other religious duties. Therefore the insane, epileptic, mentally deficient, and the unconscious were exempt, not as a punishment but a relief of duties.

Islam was more compassionate and understanding towards human nature and more open to variability in behavior. As long as a person was not a threat to himself or society he was free to live his life. Medieval fiqh said, "madness was unproblematic and

\textsuperscript{27} Ibid., 112.

\textsuperscript{28} York, \textit{Health and Wellness in Antiquity Through the Middle Ages}, 169.

\textsuperscript{29} Mian, “Mental Disability in Medieval Hanafi Legalism,” 256.
required no expertise judicial, medical or otherwise for its determination."\textsuperscript{30} Instead, Islam followed the Qur'an in the belief that “Allah burdens not an individual more than his capability” (Quran, 2.286). People considered mentally ill were held to the same legal requirements as children, they required guardians to manage them, and could not own property. Islamic society did not appoint a caretaker for the property nor profit from controlling a madman’s land, nor did they take it away. Guardians were held responsible for financial penalties incurred by the mentally ill and Islamic Law ruled that the insane were excused and all their sins were forgiven.

Islamic society treated the physically disabled much more inclusively. Physically disabled individuals were not forbidden from prayer and they were not seen as sinful or contagious. Islamic society was organized around devotion expressed through bodily acts like ritualized prayer, fasting, dietary restrictions, and pilgrimage and therefore physical disabilities posed a significant problem if a person was unable to perform these rituals. Instead of forbidding those physically disabled from religious acts dispensations were made to make prayer and rituals more inclusive so that physical differences or disabilities did not eliminate people. Ritual cleansing was an important facet of Islam and accommodations for those with physical differences appeared very rational by allowing the person to perform cleansing as best as possible. For instance, a person with a hand amputated is exempt from performing dry absolution, tayammum, on the hands, but is instead told to perform tayammum on the remaining part of the arm and the other organs

\textsuperscript{30} Ibid., 251-252.
subject to ablution. People with physical disabilities that limited motion also had accommodations so that they could pray in different positions. The prayer of the sick, salat al-marid, in Hanafi fiqh, says “The sick will pray standing, and if unable to do so, then sitting, and if unable to prostrate, they should nod the head and render the [sign of] prostration lower (deeper) than [that of] the kneeling”. These views were based on the wording of the Qur'an that said Allah prayed in many postures and therefore his followers with could also. The Qur’an taught, “Such as remember Allah, standing, sitting and reclining, and consider the creation of the heavens and the earth” (Qur’an, 3.191).

Islamic law also protected those with physical disabilities so that they were not segregated from society. The general attitude to the disabled in Islamic law was tolerant. This positive attitude could be attributed to the belief that physical deformity was not directly caused by sin. Though it still could have been more difficult for someone with a disability in Medieval Islamic society to marry, there were no legal restrictions on the physically disable to marry and few disabilities that warranted the marriage termination.

The inclusiveness of Islam with regards to people with physical disabilities in the Middle Ages had its limits, however. While those who were disabled were still encouraged to pray and take part in rituals they were not able to be Imams. The Hanbali faqih “consider it reprehensible if the imam is blind, deaf, has no arms or legs or misses one of them, has a cut off nose, suffers frequent epileptic seizures, or has speech

31 Vardit Rispler-Chaim, Disability in Islamic Law (Dordrecht: Springer, 2007), 22.
32 Ibid., 24.
33 Ibid., 95.
impediments so that here iterates the sound fa’ or the sound ta’, or if he speaks in a hurry so that he is hardly understood.”

Islam felt that the leaders of religion, those preaching the words of the Prophet needed to be physically as well as morally perfect.

Islamic society in the Middle Ages showed tolerance to those with physical deformities. The Qur’an mentions physical differences marked by acceptance in the fulfillment of the religious duties and as well as in matters of criminal justice. The separation of sin from physical disability eliminated much of the shame associated with deformity and Islamic religion and law showed physically disabled people they were an integral part of society and were not social outcasts.

Conclusion

This chapter showed that the interplay between religion and medicine was evident in the management of those with leprosy, mental illness, and physically disabilities through various forms of acceptance, marginalization, and charity. Christian European society ostracized lepers and marginalized to a lesser extent the mentally and physically disabled. Islam meanwhile showed a much more inclusive and tolerant attitude toward leprosy, mental illness, and physical disability. The connection of sin with illness and disability in Christian society led to worse treatment of those seen as sinful than in Islam that kept sin and disability as separate. This distinction created a more inclusive Islamic society but it also led to Christian charitable institutions for those ostracized by society. The next chapter builds upon the idea of institutions expanding on how Christian and Islamic societies cared for the ill in infirmaries and hospitals and expanded medical knowledge through education.

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34 Ibid., 26.
CHAPTER FOUR

EFFECTS ON INSTITUTIONAL STRUCTURES

The influence of religion was evident in every facet of medicine in the Middle Ages. One area that benefited from the influence of religious authority is that of institutional structures. The Middle Ages saw growth and progress of Christian and Islamic hospitals and the development of medical schools and places of learning. Charity, the driving principle behind Christian healing centers, encouraged the early Christians to care for others while Islamic culture and thirst for knowledge supported more secularized hospitals. Both Christian Europe and the Islamic East progressed medical education Christianity through regulating clergy and Islam through hands-on practice and personal scholarship.

Christian Institutional Structures

Christianity developed the concept of Christian charity during the twelfth and thirteenth centuries when theology scholars in large cities created new values of Christian society. The deep belief in God’s will previously affected the decision regarding healthcare because illness was often seen as a punishment or a test so it was not always beneficial to treat or associate with the sick. Christian charity changed the focus from the possible reasons and benefits for illness, to illness as a social problem. Following Christ’s commandment to “love your neighbor as yourself” (Mark 12:31-33) became the positive force behind establishing infirmaries and hospitals. The bible guided the belief that it was a responsibility of Christians to care for the needy by supplying food, water and shelter. The Christian view in the Middle Ages was that anyone asking for help was Christ and
the care of the sick, poor, and needy became tied to religious life creating vocations of religious healers and carers.

Monasteries were the first to build religious medical centers in Christian Europe. Originally these infirmaries were solely for their own brothers but later progressed to include the poor and travelers. The founding monastic principles to lead an ascetic cloistered life of work and study made the monastery ideally suited for medical care. Monasteries studied herbs and medicines and translated texts. Some of the works that the monks translated were medical texts, which created centers of medical knowledge. Monasteries self-regulated with religious doctrine ordained from saints and modeled upon scriptural examples that emphasized charity.

The Rule of St. Benedict and The Rule of St. Augustine were primary in instituting charity in healthcare in monasteries. The Rule of St. Benedict was very influential in monastic infirmary establishment and operation. Its seventy-three chapters of rules of religious life emphasize charity in different ways and included reminders to the abbots of their obligation to maintain high standards of care in the infirmary and addressed care for the young, old and ill.¹ The Rule of St Benedict also maintained focus on health and its relation to prayer that visitors to monasteries should be led on arrival to pray before any care was rendered.² Similarly, the Rule of St Augustine established a community of monasteries and later larger hospitals that took responsibility for the poor


and traveler citing “in works of piety for the sick…you should labour for them with all your body in diverse ways.”

Monastic infirmaries were either closed or open. Closed meant that the infirmary only treated the brothers that resided in the monastery whereas open meant the infirmary served people outside the monastic brotherhood. Even though, an open infirmary admitted people from outside the brotherhood they could limit what illnesses they treated whereas a closed infirmary treated any accident or disease affecting one of the brothers. The opening of monastic infirmaries was charity progressing outside fraternal love within the cloistered community to include the entire communities. Monasteries view of Christian charity was to aid the poor but they served many levels of society. Gentleman and ladies in waiting of royal households and great household magnates when they became infirm were sent as pensioners to a monastery in the employer’s patronage. Even with this monastic focus on charity for the needy, the belief that sin was the cause of illness greatly affected organization of a monastic infirmary. It both led to segregation of certain illnesses such as leprosy into different areas and led patients to refuse treatment. Health was beneficial to the monastic orders where numbers of brothers were important, but illness was not always correspondingly seen as harmful. The topos of a saint whose

3 Humbert de Romans and J.J. Berthier. Opera de Vita Regulari (Torino: Marietti, 1956), 205.

4 Montford, Health, Sickness, Medicine and the Friars in the Thirteenth and Fourteenth Centuries, 93.

5 Orme and Webster, The English Hospital: 1070-1570, 112.
life was altered by illness was a common one. These stories led monasteries to house individuals who actually received no care in the infirmary, but stayed until they recovered or died.

In what became known as frater medici, later in the Middle Ages Friaries continued the clerical medical practice established by the monasteries. The two main orders were the Franciscans and the Dominicans who each modeled their medical practices off the writings and teachings of their founders and lived by the rules of the Dominican Constitution and the Franciscan Rule. The Franciscans modeled their medical treatment off of the teachings of St. Francis of Assisi who believed that the friars should care for all people physically because the body was the receptacle of the soul. Francis of Assisi’s teachings were cited in 1232 when Benveuto of Gubbio wrote, “following the mandate of holy father Francis to serve [others] with humility he dutifully served suffering humanity by washing their feet and bodies with his [own hands] and challenging his own fastidiousness by wiping away the effluence from their ulcers and the putrification of their limbs.” To ease suffering of all humanity and feel the body as a receptacle of the soul, the Dominicans followed Dominic, St. Thomas Aquinas, and Humbert of Romans who thought the body and soul were one. They approached medical care as a secondary

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7 Thomas de Papia, *Dialogus de Gestis Sanctorum Fratrum Minorum*, ed. Ferdinand Delorme (Quarrachi, 1923), 74.
concern to the care of the soul Humbert of Romans wrote, "study is undertaken for preaching for the salvation of souls, which is the ultimate aim[of the Order]."\textsuperscript{8}

Life and treatment by frater medici was similar to that in monastic infirmaries. Their work epitomized the values of Christian charity while providing care for members of their orders and increasing their evangelism to those in need of care. Location of the infirmary was also crucial to the friars. Just as the monasteries isolated the sick from the main convent buildings, so too did the friars. Separation from the main buildings was partly due to the friars’ remedial understanding of contagion and also the belief that disease was caused by sin, which made necessary a “spiritual quarantine.”\textsuperscript{9} Separation of the sick also allowed easier, more efficient care. Medicant friar infirmaries, as did monastic infirmaries before them, were long halls with one or two floors of bed often with the chapel at the end of the hall so the inhabitants could see it even if they were unable to attend mandatory daily services.\textsuperscript{10} Medicant friar infirmaries were larger than their monastic counterparts. The largest infirmaries such as the Dominican house in Bologna accommodated over one hundred ill, which allowed the friars to care for as many as possible, and also proselytize to non-believers. This interaction between friars and the lay people they cared for epitomized the values of friars in both education and knowledge of medical text derived through translation of Greek, Hebrew, and Aramaic and with piety and Christian charity.

\textsuperscript{8} Humbert de Romans and J.J. Berthier, \textit{Opera de Vita Regulari}, 28.

\textsuperscript{9} Montford, \textit{Health, Sickness, Medicine and the Friars in the Thirteenth and Fourteenth Centuries}, 52.

\textsuperscript{10} Ibid., 53.
While Christianity had a large influence in the establishment of healthcare institutions, church hierarchy and leaders as time progressed restricted the monastic and medicant infirmaries. Concerns regarding surgical techniques, treating women, and conflict of interest in treatment of the physical versus treatment of the soul caused Christian church authorities to restrict medical practice by clergy. The first written indication of church restrictions on medical practice by clergy came in the twelfth century when the church council of Tours in 1163 and the Second Lateran Council in 1139 forbid certain higher clergy from medical practice. These council writings were supported and expanded upon by Pope Honorius III in 1219 with the Bull Super Specula which, in addition to forbidding higher levels of clergy from medical practice, also forbid clergy to leave their houses for more than two months for secular study.\footnote{Montford, Health, sickness, Medicine and the Friars in the Thirteenth and Fourteenth Centuries, 109.}

Church leaders were very concerned with the idea of clergy becoming too engrossed in secular practices as well as con a conflict of interest in professions. The church believed that saving a person's soul from damnation was more important than emergency medical care of a physician called in to give emergency treatment to save his patient's life; however, the church felt that since the cleric was also a medical practitioner his first instinct may be to treat the patient physically. The Fourth Lateran Council wrote, “When physicians of the body are called to the bedside of the sick before all else they
admonished them to call the physician of souls so that after the application of spiritual medicine [confession] the application of bodily medicine may be of greater benefit."  

Ecclesiastical leaders also questioned techniques of physical healing. The Fourth Lateran Council of 1215 and the diocesan synod held in Bayeux in 1300 found certain surgical techniques such as burning, cutting, and urinalysis inappropriate for clerical healers.  

There was great concern for scandal, gossip, and reputation that dictated techniques and treatments. Treatment of women in monasteries and friaries also caused concern and led to limitations on care among the religious orders such as the Orvieto restrictions of 1265 forbid Dominicans from treating nuns or visiting healthy women at home.  

As time progressed restrictions on clerical medical care became stricter until it was banned completely by general chapter regulations like those of Poitiers in 1407 and Bologna in 1410, which forbid all friars from medical care.  

Church hierarchy was not the only party concerned about the medical practice of monks and friars; academic physicians and guilds sought to regulate medical training and practice. The rise of universities in Europe increased medical school educated physicians and by the late thirteenth century, university education was encouraged, though not required of physicians. Regulations restricting clergy’s travel from the convent made

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13 Ibid., 245


15 Ibid., 126.
years of schooling away from the monastery or Order impossible. By the fourteenth century licensing requirements by kings, emperors, universities, and guilds controlled quality standards of care and restricted those unable to fulfill these requirements. Restrictions forbade medici from practicing without the understanding of disease causes which were only taught in medical schools. The University of Paris, where Dominican friars were prevalent, along with King John II of France, issued legislation in 1352 called *Royal Ordinance against the Illicit Practice of Medicine* to stop medical practice by people without university educations or guild membership.¹⁶ Restrictions such as this on education of medical practitioners and treatment at monasteries and friaries led to more secular hospitals in Europe.

Hospitals in Christian Europe emerged from the pressures and restrictions on monastic and medicant institutions. The term hospital included institutions for the incurably sick, the disabled, alms houses for the poor, and travelers’ hostels. Unlike monastic infirmaries or medicant infirmaries, hospitals were not founded by religious orders or brothers, instead, secular people such as kings, lay magnates, knights, gentry or townspeople or clergy unrelated to a community such as a bishop or lesser clergy founded hospitals.¹⁷ A fourteenth-century canon law gloss states that "a hospital may be built without the license of a bishop and anyone may assign their house or part of their

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house for hospitality of the poor”\textsuperscript{18} thus highlighting the ease at which the Church dealt with hospitals.

Many European hospitals of the Middle Ages still considered themselves houses of God and though they were founded by secular people, many hospitals followed the foundations of religious infirmaries with rules, uniform dress, and church services. By following the examples and foundations of the religious infirmary institutions, hospitals benefited from the faith as therapy without governance by the church. With this self-governance and lesser ecclesiastic oversight than with friars or monasteries, hospitals were not threatening to the church, which allowed them to further develop and flourish instead of diminishing like the monastic and medicant infirmaries. Hospitals prospered under such loose regulations and grew in number rather than size. Larger towns opted for multiple small hospitals instead of one large one, because they could operate with as little as one small building, and unlike some large monastic infirmaries, even larger town hospitals rarely topped one hundred patients.\textsuperscript{19} Hospitals, therefore, were able to be supported by less money and allow access to care for communities that were not able to support a monastery in staff or funds.

Hospitals were founded for specific subsets of society while some admitted patients from all classes many were separated by occupation such as clergy, members of trade guilds, household servants, mariners, and infrequently women. While Christian charity was the basis of their foundation they were more segregated. Segregation was not


\textsuperscript{19} Orme and Webster, \textit{The English Hospital: 1070-1570}, 36-37.
only based on trade and class, lepers were segregated into their own hospitals and by the fourteenth century, some hospitals were exclusively for the mentally ill.\textsuperscript{20}

Still echoing the belief in charity to help the least fortunate specific sections of hospitals cared for laboring women and children. Childbirth and children were rare in Medieval hospitals and usually only discussed in hospitals in larger towns and cities. Since most childbirth was done at home with midwives, often women who were delivering in hospitals were those without homes such as poor prostitutes, unwed travelers, or servants without a home base. Hospitals who cared for women in labor often also cared for orphan children from these cases. Children also were only mentioned in hospitals of larger cities such as St Bartholomew and St. Mary without Bishopsgate in London, which cared for orphan and foundling children through the age of seven, but this was rare.\textsuperscript{21}

Frankish Crusader hospitals were a uniquely hybrid between Christian monastic infirmaries of Europe and Islamic hospitals of the East. They were run and maintained by military orders funded by pilgrims, fundraising, and farming profits off the orders’ land. The first of the military orders were the Order of Saint John, the Knights Hospitaller, which became a self-governing body in 1113 in Pope Pascal II’s bull \textit{Pie Postulatio Voluntatis}.\textsuperscript{22} Christian hospitals in the Holy Land had different significances than

\begin{itemize}
\item \textsuperscript{20} William H. York, \textit{Health and Wellness in Antiquity Through the Middle Ages} (Santa Barbara: Greenwood, 2012), 172.
\item \textsuperscript{21} Orme and Webster, \textit{The English Hospital: 1070-1570}, 111.
\end{itemize}
contemporary European monastic infirmaries. They not only cared for the poor and sick as Christian charity dictated, but they also were an ideological and political statement that they took philanthropy very seriously and provided services that were very limited in Europe. As in monastic infirmaries in the West, patients in Christian hospitals in the Holy Land were mainly the poor or travelers on pilgrimage. Wealthy elite paid for physicians to attend to them at home such as when the ruler of Jerusalem, Conrad Montferrat was stabbed in 1192.²³

There were also closed and open hospitals such as closed and open monasteries. The Hospitaller hospitals treated the public, as did the orders of St. Thomas of Canterbury and the Teutonic Order, whereas the Templar infirmary was more similar to a closed monastic infirmary because it cared only for members of the Knights Templar.²⁴ Unlike the monastic infirmary; however, it was not the brothers who treated patients. Laymen provided the care at these Order’s hospitals that in addition to treating the poor, focused on battle wounds sustained by the brothers. The ‘Retrais of the Infirmarer brother’ section of the hierarchical statutes of the Templars detailed the care and treatment in the hospitals including the segregation of the sick similar to the Islamic hospitals.²⁵ The Crusader hospitals used the foundation of Christian charity combined with the influence of Eastern Islamic hospital structure and less oversight from Christian


²⁴ Ibid., 54.

hierarchy to establish some of the earliest, largest, and most complex hospitals in the Christian world in Jerusalem and Antioch.

Islamic Institutional Structures

The Islamic hospital developed very differently from those in Christian Europe. While the religion of Islam influenced care and treatment, Islamic hospitals were much more secular from the onset. There was no overarching rules demanding penance and prayer before treatment nor were regular religious services performed. Though some hospitals had a mosque and even a Christian chapel it was not mandatory to have places for religious ritual associated with Islamic hospitals.\(^6\) Patients in an Islamic hospital were treated based on Greek humoral pathology rather than theological healing.

Islamic hospitals were also more secular in their founding in the sense that they were founded and funded by donations from rulers and rich benefactors. Leaders such as Saladin, who established Nasiri hospital in Cairo, funded hospitals and then held trusts for the hospital funded by land and properties.\(^7\) These donations and monetary contributions by Islamic rulers, however, had deeper religious connotations as one of the five pillars of Islam, Zakat or charity. Zakat was the practice of charitable giving based on accumulated wealth to ease the hardship of others. Islamic hospitals satisfied both the donation of wealth and the easement of other’s hardships.

Islamic hospitals in the East were first established in the eighth and ninth century in Iraq possibly based on the ideas Nestorian Christians monasteries of the Sassanian


\(^7\) Mitchell, *Medicine in the Crusades*, 50 -51.
Empire in Persia or Byzantine Orthodox Christians; however, with the expansion of Islam, there were no wealthy Christians to endow monasteries, therefore, Islamic hospitals took over care for the poor and sick.\textsuperscript{28} Earlier translations of Greek medical texts, leaders satisfying Zakat, and a thirst for knowledge outside of the faith allowed Islamic hospitals to thrive. By the twelfth century, most major cities in the East had at least one hospital whereas larger cities had several hospitals.\textsuperscript{29}

Islamic medical practitioners were trained medical practitioners, whether they were physicians, surgeons, or nurses they were not clergy also performing medical care. Large hospitals had large staffs that included physicians, pharmacists, stewards, and orderlies. Islamic hospitals did not discriminate when it came to practitioners of different religions. Muslim, Jewish, Christian, and pagan doctors treated patients of all faith backgrounds.\textsuperscript{30} Oversight of the hospital was often divided into two areas: medical and administrative. Medical oversight was carried out by elite physicians such as al-Razi, whereas the administrator was usually a politically appointed layman who was responsible for general management.\textsuperscript{31} This separation between the medical practitioner and political business manager alleviated conflicts of interest in care.

Care in Medieval Islamic hospitals ranged from short-term acute care to long-term retirement home care for those who had no family to be caregivers. Islamic hospitals

\textsuperscript{28} Mitchell, \textit{Medicine in the Crusades}, 50.

\textsuperscript{29} Ibid., 50.

\textsuperscript{30} Pormann and Savage-Smith, \textit{Medieval Islamic Medicine}, 101.

\textsuperscript{31} Ibid., 98-100.
also were convalescent homes for those recovering from illness or accidents, insane asylums, and places for medical training. Islamic hospitals were larger, more extensive, institutions well equipped with a wider range of functions though not all hospitals performed all functions. Mansuri hospital founded in 1283, for example, was a converted Fatimid palace and could house several thousand patients in its 10,000 square yards.\textsuperscript{32}

Mansuri hospital and smaller Islamic hospitals were divided into wards that segregated patients by illness, and gender. Concerns about cleanliness, noise, and smell led to separate wards for patients with fever, gastrointestinal illness, ophthalmological conditions, mental illness, and the wounded requiring surgery.

Islamic hospitals were much more inclusive all people regardless of their race, religion, citizenship, or gender. Men and women were separated into different buildings in the Islamic hospital complex. While only male doctors were employed, nursing staff and orderlies were the same genders as the patients.\textsuperscript{33} Just as different genders and different religions were treated in Islamic hospitals, so to were patients of all socio-economic statuses. Charitable endowment forms from Qalawun hospital in Egypt read:

\begin{quote}
The hospital shall keep all patients, men and women, until they are completely recovered. All costs are to be borne by the hospital whether the people come from afar or near, whether they are residents or foreigners, strong or weak, low or high, rich or poor, employed or unemployed, blind or sighted, physically or mentally ill, learned or illiterate. There are no conditions of consideration and payment, none is objected to or even indirectly hinted at for non-payment.\textsuperscript{34}
\end{quote}

\textsuperscript{32} Mitchell, \textit{Medicine in the Crusades}, 52.

\textsuperscript{33} Ibid., 50-51.

\textsuperscript{34} Phillip Adler and Randall Pouwels, \textit{World Civilizations} (Stamford: Cengage Learning, 2007), 198.
There appeared no preference to treating clerics nor were there closed institutions for religious leaders as there were in the Christian West. Endowments to charity such as hospitals called Waqf forbid refusal of patients.

Christian Medical Education

The other major institutional structure that benefited from the influence of religious authority was the development of medical schools. European medical schools in the Middle Ages grew out of cathedral schools and monasteries where medical texts were translated and copied. Deeply rooted in Christianity, medical study was eventually removed from monastic and medicant infirmaries and institutionalized into the medieval universities in the eleventh century. Universities that had theological schools often became larger universities that incorporated medicine into their liberal arts education. Salerno, Montpelier, Bologna, Paris were the four main medical schools at the beginning of the thirteenth century, and they drew students from across Europe.

Church restrictions to heighten the level of prestige adapted what started as a guild of masters in Paris or a guild of students in Bologna into *studium general* meaning the school attracted or at least invited students from all parts of Europe, it was a place of higher education for one or more of the specialized fields such as medicine, and that the faculty had a teaching staff of masters.\(^{35}\) Though the universities were no longer Christian schools like the cathedral schools, instruction was in Latin, Jews and women were excluded from earning degrees, and some schools still received papal support.\(^{36}\)

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\(^{36}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 37.
restricted who could study, how long one must study, minimum age requirement, and licensure for medical students and instructors. In the statutes for 1270 to 1274, there were two ways to achieve a medical license, either have been licensed in the arts and studied medicine for five years six months or have no arts license and have studied six years.\(^{37}\)

Though the universities were independent of the church, the high clergy still controlled aspects of education. The bishop and his chancellor-controlled licensing, with approval of the master instructor, and the statute of 1270 required the master who taught the student to testify as to his fitness.\(^{38}\)

Christianity controlled the curriculum in university medical schools. At times anatomy, surgery, and dissection were deemed inappropriate by the church and were regulated throughout the Middle Ages. Greek writings on anatomy were used as part of the curriculum beginning of the Middle Ages but no new anatomical study was done until the medical school at Salerno. Salerno was the first school to incorporate anatomy into medical study in the West since Roman times through the use of animal dissection. This animal dissection in conjunction with the previously allowed anatomy texts led to the first Christian anatomy treatise, *Anatomia Porci.*\(^{39}\)

While anatomy was studied in restricted form from the twelfth century, there is no record of surgery being taught in universities until the thirteenth and fourteenth centuries. The Fourth Lateran Council in 1215 forbid surgery performed by clergy believing that

\(^{37}\) Bullough, *Universities, Medicine and Science in the Medieval West,* 35.

\(^{38}\) Ibid., 37-38.

\(^{39}\) Ibid., 9.
cutting, or burning a patient was unholy for a member of a clerical order. This edict carried over to secular medical teaching as well. Though different medical schools enforced the ban with different severity it appears the church’s influence was strong. Surgery was first recorded in lectures and curriculum at the medical school in Bologna nearly 200 years later, in 1405, when Galen’s Cirugia, Ibn Sina, and Almansor were taught and disputed. The addition to surgical lecturing in medical education opened the door to dissection as part of teaching curriculum. The church strictly influenced dissection due to debate of when the spirit leaves the body and the sanctity of the body. The church did recognize the usefulness of dissection in the form of autopsy. Acting as a theological and political authority, Pope Innocent III organized post-mortem dissections when a death was considered suspicious. As faculty of medical schools performed post-mortem dissections for legal purposes, acceptance of human dissection spread from the legal foundation to medical teaching. Dissection was regulated individually by medical schools and while Bologna and Montpellier had public dissections in the fourteenth century, Paris, on the other hand, did not have dissection until 1407. Dissection became a less taboo form of medicine and as the church tried to eliminate uneducated medical practitioners it slowly progressed anatomy in the Middle ages. In 1316 Mondino dei

40 Tanner, ed., Decrees of the Ecumenical Councils, 245.

41 Bullough, Universities, Medicine and Science in the Medieval West, 50.


43 Bullough, Universities, Medicine and Science in the Medieval West, 44.
Luzzi wrote *Anathomia*, the first modern work on anatomy, after performing public human dissections at Bologna.\(^{44}\) Though medical practice had become institutionalized and more academic, the argument of the soul, sanctity of the body and in anatomy, surgery, and dissection shows that the foundation of Christianity was still a driving force in medical thought.

**Islamic Medical Education**

Islamic medical learning was not as regulated or driven by theological hierarchy. It was, however, deeply driven by The Qur’an and Hadith, which valued education and acquiring knowledge. Islamic medical scholarship started in the eighth and ninth centuries with translation of ancient Greek medical texts. By the tenth century, Islamic scholars shifted their attention from translation efforts to producing new medical scholarship through treatment and observation.\(^{45}\) This focus on treatment and hands-on observation featured prominently in medical education as well. There was less institutionalization of medical learning in the Islamic East, where there were multiple ways to become a physician.

Islamic physicians learned not in universities, but instead, through mentorship from a teacher or family member, self-tutoring, or through classes at a hospital. The Islamic hospital essentially functioned as medical school with much more student-patient interactions. Hospitals certainly had libraries that contained medical books were students could study medicine on their own or under the guidance of teachers and some also had

\(^{44}\) Ibid., 51.

\(^{45}\) York, *Health and Wellness in Antiquity Through the Middle Ages*, 33.
lecture rooms where hospital physicians taught students. Students at hospitals were able to interact with patients daily, and due to the nature of the Islamic hospital being very large and inclusive to many diseases and disorders students had access to many experiences. Medieval Islam’s emphasis on acquiring knowledge instead of restrictive hierarchy and control led to a much more experience based medical education and the absence of distinct formally organized medical institutions for learning.

The area that Islamic theology had the most impact on Islamic medicine of the Middle Ages was in the curriculum. There was no set curriculum for Islamic medical learning but there were some theologically controlled areas most notably dissection and pharmacology involving intoxicants. Ibn al-Nafis who made great advances in cardiac, pulmonary, and circulatory anatomy said that he avoided the practice of dissection because of the shari'a and his own 'compassion' for the human body. Whether Ibn al-Nafis advance anatomical knowledge through dissection or surgery is debated still, however, there were others in the twelfth and thirteenth century East that proposed the Qur'an’s belief in learning and gaining knowledge was of superior importance than the restriction on dissection. Islamic theologian, Al-Ghazali, encouraged the study of anatomy and use of dissections as a method of gaining knowledge of God's creation.

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48 Ibid., 110.
Islamic physicians were very concerned with the aptitude of medical practitioners, but instead of addressing quacks and uneducated practitioners through theological writing, Islamic medicine self-regulated to create a divide between educated physicians and practitioners who worked in the marketplace with little formal training or education. There were no bishops or chancellors granting licenses to competent medical practitioners instead the examination of physicians was done by market inspectors, muhtasibs, or the ruling authority in larger cities appointed a chief or head of medicine, ra’is al-atibba, who was a physician responsible for maintaining medical standards. Islamic medicine emphasized testing on not only theoretical and physical medicine, but also what was considered to be a good physician, which included, demeanor, appearance, and ethical practice. Islamic medical study of the Middle Ages focused on the treatment of patients in a very hands-on way, with much more emphasis on practical knowledge. Al-razi believed the student should be tested through oral exam on both theoretical and practical knowledge and if the student failed the theoretical he saw no point in examining him in practical knowledge. Islamic medical education was in total much more secular and less dependent on theological rules but grounded in the belief that knowledge of medicine was paramount to Islamic teachings and the medical profession should be regulated so that only competent physician practice.

Conclusion

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49 Pormann and Savage-Smith, *Medieval Islamic Medicine*, 87.

50 Peter E. Pormann, ed. *Islamic Medical and Scientific Tradition: Critical Concepts in Islamic Studies*, 175.
Our study of Christian and Islamic institutional structures of hospitals and medical schools concluded that each theology had very different perspectives on how theology should influence each institution. Christianity was a from-the-top hierarchy of control for early monastic infirmaries and medicant infirmaries of the friars, which led to conflicts of interest for medical clergy and restrictions on clerical medical practice. These restrictions, along with attempting to control practice by ignorant medical practitioners led ecclesiastical hierarchy to withdraw slightly from medical practice and support more secular hospitals and university medical schools. The church still governed curriculum and oversaw licensing of physicians emphasizing Christianity's top-down management of medical institutions.

Islam had a much more basic influence on medical institutions of the Middle Ages. Islamic hospitals were governed much more secularly from their insemination. Lay people controlled the business of hospital governance while physicians oversaw the medical care allowing less conflict. Instead of top-down management of theological hierarchy, Islamic hospitals and medical education were founded on the principles of Islam and then let to grow. Teachings of the Qur'an of charity and searching for knowledge led leaders to donate palaces and funds establishing hospitals and centers for medical education without religious leaders micromanaging all aspects of the medical field.
CONCLUSION

As this thesis comes to an end, our focus on the two major branches of the Abrahamic faiths during the Middle Ages highlights that despite their mutual foundation, Christianity and Islam developed different interactions with medicine throughout the Middle Ages. While both theologies influenced the way the sick and disabled were treated and the social and institutional structures that developed in each respective society, they did so through different levels of involvement and oversight. Ultimately, Christianity imposed restrictions on medicine while Islam allowed more organic less restricted growth.

Christianity and medicine established a contentious relationship early in the Middle Ages and this continued consistently throughout. Christianity fought medical science from its inception with scholars and medical practitioners being more resistant to accept the Greek predecessor's medical scholarship, because they opposed the pagan roots of the Greek texts. Instead of looking past the pagan wording and acknowledging the treatments prescribed, Christian hierarchy in Europe closed the school in Athens, and therefore delayed medical study and development in Europe for hundreds of years.

Christianity not only conflicted with the foundational medical texts but also fought against the idea that God wanted Christians to seek medical treatment. The belief that the Christian God was benevolent and omnipotent detracted from individuals’ seeking medical care because curing illness, to the devout, was in God’s hands alone. Christian theological source texts like the Bible and St. Augustine’s Confessions focused on the miraculous healing of God and the saints instead of acknowledging healing as an
act of God through human healers. This conflict of spiritual healing versus physical healing became the defining discourse in Medieval Christian medicine.

The dualism of body and soul dictated not only who sought treatment but also who treated the sick. Legislation required monastic and mendicant healers to obtain confessions before performing any physical medical treatment to those under their care. At all times the belief that spiritual health was superior to physical health and appeared irreconcilable to the Christian hierarchy dictating medical care. The connotation that moral sickness was underlying any physical sickness led Christian society to ostracize the weakest members of society in the lepers, mentally ill and to a lesser extent the physically disabled.

Medical practitioners in monasteries and friaries were constantly working around, avoiding, or ignoring consular and papal legislation to continue medical scholarship and practice, as shown by the volume of restrictions that were issued and re-issued to restrict their practice. Christian hierarchy increasingly limited and it ultimately forbade clergy from attending university and performing medical procedures. The focus of Christian hierarchy was not on providing better physical care for the patient but on the soul.

The most positive outcome of Christianity’s interaction with medicine was the establishment of Christian charity. The belief that entire groups of people such as those suffering from leprosy were completely rejected from society induced a movement of charity, not only towards lepers but also the poor and other marginalized members of society. Christian development of social support services for the poor and sick as well as elevating medical knowledge in universities showed a balance of religious authority and medicine.
Islam translated and accepted Greek medical texts earlier and with less prejudice to their pagan origins. Islamic scholars had a subtle understanding of Greek medicine and didn’t reject it in black and white fashion. This acceptance of the pagan writing by crediting the medical knowledge while adapting wording to the monotheistic beliefs set up the tradition of Islamic medicine being more secular and less regulated by religious hierarchy of the Middle Ages. This separation allowed medical science to flourish without the constant friction of fighting through religious detractors and creating a more harmonious field.

Islamic source texts promoted the understanding and advancement of medicine, saying that medical knowledge was second only to the words of the Prophet in importance of understanding. Medical knowledge was not hidden, practiced or studied secretly-it was praised. Islam as a religion and legal foundation promoted rituals that emphasized hygiene and preventative care that improved overall health of the society and promoted interaction between citizens and medical practitioners who practiced in or around bath houses. Restrictions on who could learn the profession were not regulated by religious hierarchy nor were they intended to eliminate persons who could not afford medical education, because medicine could be studied with books alone. Instead of focusing on the separation of the religious personnel and medical personnel, Islam, tried only to limit the quacks and unskilled from treating patients.

Islamic society did not associate all illness and disability with sin and moral sickness as their Christian counterparts. By removing moral deficiency from cases of leprosy, mental illness, and physical disability Islamic society deemphasized shame and ostracism and was much more inclusive medically and socially. Islamic balance of more
secularized medicine was much more inclusive treating people of different religions and allowing Jewish and Christian physicians to practice in Islamic hospitals.

In conclusion the Middle Ages brought about a change in the relationship between theology and medicine through the monotheistic lenses of Christianity and Islam. The blending of medicine in theology was more contentious in Christianity, but by the end of the Middle Ages Christianity, through the establishment of university medical schools and elimination of the higher clergy from medical practice, finally found the balance of medicine and religion it had been fighting for throughout the time period. Islam’s more inclusive, less theologically restricting approach to medicine led to great advancements, especially in pharmacology that would later be implemented by Christian Europe. As this paper shows, the two theologies influenced medical care, societal views of the ill, and institutional structures while above all establishing that theology and medicine were constantly intertwined. As Jesus says in Mark 5, “Daughter your faith has made you well; go in peace, and be healed of your disease” (Mark 5:34).
BIBLIOGRAPHY


