Stopping Stigma

Behavioural Conditioning and Changes in Attitudes Toward Disease Employing Leprosy and HIV/AIDS as Case Studies

Ph.D. Dissertation

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Abstract

Why do we behave the way we do? Can behaviour be modified? This thesis explores these questions by looking at behavioural and neuropsychology and how we control two basic emotions: fear and disgust. As this thesis will demonstrate, these two emotions compel us to avoid danger and go to extreme lengths to keep "safe." Using leprosy as its first case study, it tracks the evolution of more positive attitudes towards people with leprosy. It explores what life was like in Western Europe's 11th to 13th centuries. It juxtaposes those positive attitudes against later negative attitudes. It examines the stigmatization of diseases and disabilities, asking what fear and disgust are and how they affect human behaviour. This sets the stage for discussing HIV/AIDS, compared to leprosy, to demonstrate similar behaviour. The focal point of attitudes towards leprosy and HIV/AIDS is behavioural conditioning, a technique for retraining the brain to reinterpret a stimulus to mean something else. This thesis argues that this method can reduce fear, disgust, and stigma in most attitudes and behaviours about diseases and disabilities.

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Introduction

"*What strange ideas people have about leprosy, doctor." "They learn it from the bible like sex." "It's a pity people pick and choose what they learn from the Bible*."
~ Graham Greene, *A Burnt-out Case*

Many infectious diseases and disabilities are associated with stigma. A mark of disgrace and shame characterizes stigma. It results in shunning or exile from society and involves violence in extreme cases. There is potential for the cessation of stigmatization. This thesis demonstrates this in late antique and medieval Christians regarding leprosy and modernity in changing attitudes towards HIV/AIDS. The shift in perspective, this thesis argues, came from behavioural conditioning, not unlike cognitive behavioural therapy, such as cognitive reappraisal and repeat exposure. Chapter 2 employs behavioural and neuropsychology to help explain these phenomena. Chapter 3 explores HIV/AIDS and the factors that influenced more positive shifts in the reception of the disease in current years in Canada and the USA compared to the 1980s. It also looks at applying behavioural conditioning to all infectious diseases and disabilities to reduce stigma. It argues that behavioural conditioning is an effective method for stigma reduction in Canada about health matters. Behavioural conditioning and behavioural therapy could be done via public service announcements, handing out flyers, posters, commercials, radio announcements, public events, etc. Before this analysis, it sets a foundation of historical precedents in medieval Christianity in Western Europe, where Christians exhibited more positive attitudes towards people with leprosy.

What is Leprosy?

Leprosy mainly affects the skin, peripheral nervous system, and bones. It is a chronic, infectious disease. Gerhard A. Hansen discovered the *Mycobacterium leprae* that causes leprosy in 1871, and the modern disease is now known as Hansen's Disease. For this thesis, since it addresses events that took place during the Middle Ages (and earlier) when the disease was referred to as leprosy (or other terms such as *elephantiasis,* the term "leprosy" will be collectively used), the disease discussed in this thesis is referred to as "leprosy." Mirko Grmek explains that the disease is very slow to evolve, but leprosy is inexorable without modern treatment of chemotherapy. He states that the ultimate result is deformities and mutilations that "provoke communal disgust."[1]

There are four types of leprosy in modern medicine. First is (1) indeterminate leprosy that evolves into either (2) lepromatous or (3) tuberculoid leprosy. Lepromatous leprosy is the most severe and crippling form of leprosy. Grmek writes:

> It is characterized by (1) papules and nodules (lepromas) that are distributed fairly symmetrically over the face, on the inner surfaces of the limbs, and over the rest of the body, (2) diffuse mucocutaneous infiltrations, and (3) erythematous or coppery, polymorphous macules that may contain anesthetized zones. The skin infiltrations and nodules can give the face an appearance that evokes the head of a lion (*leonitiasis* or *facies leontina*); general swelling, erythrema, pronounced wrinkles, ears becoming full of nodules and detaching, hypertrophied lips and nose, loss of beard and eyebrows.[2]

[1] Mirko D. Grmek, *Diseases in the Ancient Greek World*, Translated by Mireille Mueller and Leonard Mueller (Paris: The Johns Hopkins University Press, 1998), 152.
[2] Ibid., 153.

The term often used to describe Tuberculoid leprosy is "relatively benign," however, I would argue that someone suffering from tuberculoid leprosy would not share this opinion. This form is characterized primarily by areas of discolouration that become numb, damage to the peripheral nerve causing bilateral pain, loss of feeling, muscle weakness, ulcerations, and resorption of bones. (4) Intermediary or borderline leprosy presents features between lepromatous and tuberculoid leprosy.[3]

The World Health Organization (WHO) describes modern leprosy as:

> A chronic infectious disease caused by a bacillus, Mycobacterium leprae. M leprae multiplies slowly and the incubation period of the disease, on average, is 5 years. Symptoms may occur within 1 year but can also take as long as 20 years or even more… mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes. In modernity, the disease is curable with multidrug therapy. Leprosy is likely transmitted via droplets, from the nose and mouth, during close and frequent contact with untreated cases. Untreated, leprosy can cause progressive and permanent damage to the skin, nerves, limbs, and eyes.[4]

Leprosy is contagious through human-to-human contact but requires prolonged, repetitive contact with a leprous person or fomites (objects contaminated with leprosy bacteria) to spread the disease. The Centers for Disease Control and Prevention (CDC) emphatically state~~s~~ on their website that "prolonged close contact with someone with untreated leprosy over months is needed" to contract leprosy in modernity. Besides the

[3] Grmek, *Diseases in the Ancient Greek World*, 153.
[4] World Health Organization, "Leprosy," Leprosy (who.int)., accessed January 15, 2022,

invention of antibiotics and chemotherapy, modern and medieval leprosy remain similar in DNA and transmission.[5]

The languid progression of *M. leprae* is due to the slow multiplication rate of the leprosy bacillus outside the body. For example, the E. coli virus doubles every 20 minutes, whereas *M. leprae* replicates every 13 days. Considering that many people (in modernity, 95% of people) have natural immunity, or their immune system can fight off the invading bacteria during its prolonged latent period of five to ten years, leprosy is not a severe threat to most of the population.[6] These statistics are the case today and were likely the case in medieval Europe. However, leprosy is a valid concern if someone is immuno-compromised or in prolonged contact with people with leprosy or items leprous people touch. If an infection occurs, following a latent period free of symptoms, one factor determining which form of leprosy a person presents is their immune system and immunological response to the bacillus. Low resistance to the infection typically resulted in lepromatous leprosy, whereas a more robust immune system often generated tuberculoid leprosy.[7]

Today, treatment is available, and leprosy is curable. WHO explains the history of therapy writing:

> The first breakthrough occurred in the 1940s with the development of the medicine dapsone. The duration of treatment lasted many years, often a lifetime, making compliance difficult. In the 1960s, *M. leprae* started to develop resistance to dapsone, the only known anti-leprosy medicine at that time. In the early 1960s, rifampicin and clofazimine

[5] Center for Disease Control and Prevention, "Transmission| Hansen's Disease (Leprosy)," Transmission | Hansen's Disease (Leprosy) | CDC., accessed on December 30, 2022,
[6] Ibid.
[7]Keith Manchester, "Tuberculosis and Leprosy in Antiquity: An Interpretation," Medical History 28 (1984): 167.

> were discovered and subsequently added to the treatment regimen, which was later labelled as multidrug therapy (MDT).[8]

In the 1980s, WHO developed new treatments with even greater success rates. WHO goes on to explain:

> In 1981, WHO recommended MDT. The currently recommended MDT regimen consists of medicines: dapsone, rifampicin and clofazimine. This treatment lasts six months for pauci-bacillary and 12 months for multi-bacillary cases. MDT kills the pathogen and cures the patient. Since 1981 WHO has provided MDT free of cost. Free MDT was initially funded by The Nippon Foundation, and since 2000 it is donated through an agreement with Novartis until 2025.[9]

What was medieval leprosy?

By the 11th century, leprosy had already been in Western Europe for over a millennium, as DNA and osteological data show in Chapter 1. At this point, concerns for contagion were low but not entirely nonexistent. There was a reduction in fear of leprosy in medieval Europe because most of the population subscribed to the humoural theory, which dictates that the cause of leprosy during this period was melancholy and a surplus of black bile and burnt blood. The Greek humoural theory describes four types of leprosy attributed to the corruption of blood, phlegm, yellow bile, and black bile in the human body. Regarding causation, "divine will, hostile planetary forces, poor diet, corrupt air, dirt, sexual misconduct, prolonged contact with the leprous and heredity were among the many factors deemed likely to trigger or aggravate such conditions."[10]

[8] WHO, "Leprosy."
[9] Ibid.
[10] Carole Rawcliffe, *Leprosy in Medieval England*. (Woodbridge: Boydell Press, 2006), 4.

According to Carole Rawcliffe, some believed that certain forms of leprosy were curable, while some patients could only expect palliative care. I suggest that this could be because many skin diseases often fall under the diagnosis of *lepra* or because, according to Rawcliffe, tuberculoid leprosy could remain mild and heal spontaneously in its early stages, leaving its victim free of *Mycobacterium leprae*. The formerly infected were still vulnerable to secondary infections, like gangrene and septicemia.[11]

Elma Brenner counters this statement. As early as the Middle Ages, advanced cases of leprosy were recognized as incurable.[12] However, her qualifier that "advanced cases" could not be cured leaves room to debate her stance on healing the early stages of the diseases. From a biomedical standpoint, Grmek also disagrees with Rawcliffe, asserting that in the absence of modern chemotherapy, the progress of the disease is unstoppable. Considering modern leprosy requires antibiotic treatment or chemotherapy to cure the sick of their condition, I surmise that medieval leprosy functioned in much of the same way. What may have contributed to the healing and appearance of leprosy patients may have been that patients would have been diagnosed with other skin conditions besides leprosy in error that could have healed. Thus, it would have appeared as if people were being cured of leprosy when they were recovering from other, less severe conditions, psoriasis, for example, eczema. Therefore, as Rawcliffe explained, the medieval belief was likely one of hope in the possibility of a cure based on witnessing some patients being cured of their diseases. While in fact, Brenner and Grmek are correct that,

[11] Rawcliffe, *Leprosy in Medieval England*, 3.

[12] Elma Brenner, *Leprosy and Charity in Medieval Rouen*. (Woodbridge: The Boydell Press, 2015), 91.

without modern medical intervention, there is no cure for leprosy and leprosy does *not* heal itself.[13]

To address the issue of medieval leprosy and its similarities to modern leprosy, the following DNA data demonstrates a compelling connection. Verena J. Schuenemann et al. assert that through DNA array capture, genome sequences have been obtained from five medieval skeletons with *M. leprae,* which they compared to 11 modern strains, which demonstrate two conclusions for this thesis; (1) there were multiple genotypes of leprosy spanning geographic regions in the Middle Ages, and (2) the comparisons revealed remarkable genomic conservation during the past 1000 years.[14] In other words, there were multi forms of leprosy in various regions. However, those forms have mostly stayed the same in the past 1000 years. Thus, modern leprosy is still genotypically similar to leprosy from the 11th to 13th centuries, although regional differences may vary to some extent. To be clear, medieval leprosy and modern leprosy are very similar genetically. What is meaningful about this is that modern leprosy can give us a glimpse at what leprosy may have been like in the 11th to 13th centuries, which helps understand the lived experience and progression of the disease.

Stigmatized diseases past and present

As far as records show, leprosy has always been stigmatized. Leviticus is evident in its instructions for the exile of any person judged to have incurable marks on the flesh that were

[13] Rawcliffe states tuberculoid leprosy has been known to do so but there is no evidence of this.
[14] Verena J. Scheunemann et al., "Genome-Wide Comparison of Medieval and Modern Mycobacterium Leprae," *Science* 341 (2013), 341.

believed to be indications of immorality. Leviticus explains how a priest determines if a person has a leprous disease or a different skin disease that is not considered unclean. If the person is determined to be leprous, Leviticus 13.45-46 explains that:

> The person who has the leprous disease shall wear torn clothes and let the hair of his head be disheveled; and he shall cover his upper lip and cry out, "Unclean, unclean." He shall remain unclean as long as he has the disease; he is unclean. He shall live alone; his dwelling shall be outside the camp.[15]

This is not to say that all leprous people were damned to live in exile. Leviticus 14 explains how the leprous can be integrated back into the community and even cured. Leviticus 14.5-7 directs that:

> The priest shall command that one of the birds shall be slaughtered over fresh water in an earthen vessel. He shall take the living bird with the cedarwood and the crimson yarn and the hyssop, and dip them and the living bird in the blood of the bird that was slaughtered over the flesh water. He shall sprinkle it seven times upon the one who is to be cleansed of the leprous disease; then he shall pronounce him clean, and he shall let the living bird go into the open field.[16]

In ancient Greece and Rome, there is evidence of the exile of people with leprosy; however, there also exists documentation of some physicians, such as Hippocratic physicians like Galen, treating people with leprosy.

In the fourth and fifth centuries in the Eastern Roman Empire, Christian Bishops preached about charity and compassion towards people with leprosy, which spurred a wave of positivity towards leprosy and inspired the housing and treatment of people with leprosy in facilities

[15] The Harper Collins Study Bible: Fully Revised and Updated New Revised Standard Version (NRSV) Including Apocryphal Deutocanonical Books with Concordance, ed. Harold W. Attridge et al., (San Francisco: HarperOne, 2006), Leviticus 13.45-46.
[16] Ibid. 14.5-7

called leprosaria.[17] Some of these "acts of charity and compassion" could be considered in modernity as extreme, such as eating and drinking the scabs and pus of leprous bodies.[18] These acts were not uncommon in the Middle Ages, even after the peak of positive attitudes toward people with leprosy in the 11th to 13th centuries in Western Europe.

For instance, Rawcliffe pointedly uses the example of Abbot Walter de Lucy of Reading (d. 1171), who was prone to self-abasement with a particular incline toward people with leprosy, for whom he had profound compassion. Out of deep sympathy and righteousness, the abbot would frequently minister to them by washing their hands and feet and kissing them gently.[19] Rawcliffe remarks that:

> The charitable works of Robert the Pious king of France (d. 1031), and Theobald the Great, count of Blois and Champagne (d. 1152), are for example, described in almost identical terms. Like their kinsfolk across the Channel, leading members of the Anglo-Norman nobility have learned to venerate the *Christus quasi leprosus*.[20]

The term *Christus quasi leprous* refers to people with leprosy imitating Christ. Imitation was performed through similarities such as injured bodies (like Christ's crucified body), the leprous' power of expiation, and being chosen by God. The leprous also imitated Christ because they suffered in this life and escaped purgatory, transcending directly to Heaven. This "washing" will be elaborated on in Chapter 1.[21] One social role for people with leprosy positions them as

[17] Susan R. Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχὶας.'" *Harvard Theological Review* 92 (1999), 303.
[18] Molly Morrison, "Ingesting Bodily Filth: Defilement in the Spirituality of Angela of Foligno," *Romance Quarterly* 50 (2003): 163.
[19] Rawcliffe, *Leprosy in Medieval England*, 106.
[20] Ibid.
[21] The existence of local leprosaria facilitated donating; this reciprocal relationship was mutually beneficial for healthy citizens and the leprous residents of leprosaria. This social requirement was likely associated with Christian

possessing the power of expiation and transformation.[22] Attaining expiation was possible via donating to a leprosarium or directly to a person with leprosy begging at the city gates or a crossroads while traveling.[23]

In Chapter 2, I contend that psychological and neuropsychological responses to fear and disgust contributed to shifts in attitudes toward stigmatized diseases in the Middle Ages. Christians acclimated to fear and disgust responses by repeat exposure to people with leprosy, such as bathing the ulcerated, pus-oozing, bleeding feet of people with leprosy and consumption of scabs and purulent matter. I argue that some people enjoyed and sought out such activities because their brains released feel-good chemicals during activities such as fear or disgust-inducing behaviours, according to some.

Chapter 3 looks at responses by communities in Canada and the United States of America (USA) from the 1980s onwards. It begins with an introduction of what HIV/AIDS is, its origin, and how it came to be a pandemic. It then explores the HIV/AIDS epidemic in the 1980s and its associated stigma. In tandem with this examination, it weaves in how leprosy mirrors the HIV/AIDS epidemic. It also looks at methods by which it examines elements that caused shifts in medieval Christian communities that resulted in more positive attitudes towards people with leprosy, which could be found in combatting discrimination and stigmatization against people with HIV/AIDS. This chapter also suggests that healthcare systems could instruct the propositions made in chapters 2 and 3 on diseases and disabilities to reduce stigma in their

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beliefs promoting the compassionate care of people with leprosy, which caused many people to engage in caring for sufferers to obtain spiritual credit for doing good deeds (expiation).

[22] Touati; Rawcliffe; Demaitre; Brenner.

[23] Brenner, *Leprosy and Charity in Medieval Rouen*, 40.

regard. It argues that the method that medieval Christians and advocates of people who have HIV/AIDS applied is behavioural conditioning, such as cognitive behavioural therapy (CBT). These methods could include cognitive reappraisal or repeated exposure, for example. Theoretically, the government of Canada could distribute public service announcements, posters, flyers, and present commercials, sermons, public events, etc. I have chosen to examine attitudes toward HIV/AIDS in Canada and USA because first, there is ample medical and cultural material addressing the subject available in English, which alleviates the need for translation; second, if my thesis is correct and there is a method that could be applied to reduce discrimination and stigmatization which I would like to make it available in Canada immediately. I am including the USA to examine how American attitudes, at times, juxtapose Canadian perspectives, at other times, mirror Canadian responses, and often magnify and bolster Canadian data. Future research should be able to manipulate the methodological approach put forward in this thesis to dismantle the stigma toward HIV/AIDS in Europe, Africa, Asia, and South America. However, this chapter will focus on Canada and the USA.

Methodologies

This thesis utilizes social history, grounded theory, and disability studies methods. It examines archeological, osteological, hagiographical, and sermonic evidence, civil records, the geographical distribution of the disease, and literary text to illustrate social attitudes toward leprosy in Western Europe in the 11th to 13th centuries.

Social history uses an intersectional approach to examine race, gender, class, religion, and disability simultaneously, which offers a holistic understanding of the multidimensional lived

experiences of people with leprosy. This method argues that medicine influences society and, in return, culture influences medicine, which helps understand how all diseases function within a community and how they affect the sick and the healthy alike. With leprosy, there are factors such as upper-class sufferers getting better access to doctors, leprosaria with more funding, and superior treatment. The disparity between the treatments and the charitable outreach between the wealthy leprous and the poor resulted in a more outstanding quality of life and, at times, reduced disease progression. More impoverished sufferers might have been exiled, forced to beg for food, etc. With HIV/AIDS in modern Canada and the USA, similar factors influenced the sick: access to treatment/medication, societal shunning, hate crimes, stereotyping, discrimination, and stigmatization due to fear and disgust. The assumptions are that 1) a given disease will affect a particular social group differently (ex. leprosy affects the poor differently than the wealthy) and 2) there will be subgroups within the primary social groups (ex. Leprous people as one group can be subdivided into poor/wealthy, men/women, young/old). Steps for this methodology included 1) anecdotal documentation and records from leprosaria and the government (royal donations) were collected; 2) data for behaviours towards the sick were analyzed; 3) shifts in attitudes were noted; 4) how behaviours and shifts affected the sick and healthy alike were paid attention to; 5) conclusions were drawn based on analyses of these influences.

Grounded Theory is a methodology that produces theories through analysis of data. This is most beneficial for Chapter 2, which primarily examines data such as research on emotional responses, behavioural psychology, and neurobiology to understand how the brain works and why Christians behave the way they do. The process begins with the close coding of a small set

of data. This thesis was a series of articles and books coded for keywords such as fear, disgust, amygdala, insula, basal ganglia, etc. Further data is collected, and categories are formed. Once no additional categories can be formed, data collection is complete. Following this collection, I analyzed my data and entered it into my findings, articulated in Chapter 2. Steps for this method included 1) searching the University of Ottawa library and other databases for articles and books with the keywords; 2) sorting results by relevance by reading abstracts; 3) using crtl+F to find every instance of keywords in the articles and highlighting them; 4) organizing by relevance, selecting highlighted passages for citation; 5) inserting citations into the thesis to bolster claims.

Disability studies also benefit this analysis of the lives of medieval people with leprosy in the 11th to 13th centuries. Disability studies examine the meaning and nature of what is considered a disability from multiple perspectives (social, cultural, religious, medical, psychological, etc.) to comprehend the lived experiences of disabled people fully. This approach is similar to social history except that it narrows its focus to the lived experiences of disabled people, including the sick. It rethinks the treatment of people with disabilities in a particular society. Scholars of the history of disability have changed the vocabulary used to distinguish between disability (a social/cultural construct) and impairment (a physiological/biological characteristic). The assumption for this methodology is that people with leprosy are whole people with full lives who must be analyzed as such. We must factor in social, cultural, religious, medical, psychological, etc. elements and analyze their lives on a full spectrum to attain a truly accurate conceptualization of their lived experiences. Steps to complete this method included 1) collecting records for as many facets of the lives of people with leprosy as possible; 2)

analyzing data for consistency; 3) drawing conclusions about the lives of people with leprosy in many categories.

I want to use vocabulary that uses more socially conscious terminology and refer to people with leprosy as "people with leprosy" and not "lepers." The term "leper" among people with leprosy is derogatory and pejorative. For that reason alone, I believe changing academic vocabulary is worthwhile to avoid the term "leper" whenever possible. Furthermore, the word is totalizing in that it is as if nothing is worth noting about a person *except* their disease.[24] When I am citing other scholars who use the term "leper," I use the original wording; other than that, I use words such as "people with leprosy," "leprous, sick," and "suffering from the illness," as well as others. to try to be more compassionate toward modern people with leprosy. Monty Mokhayer of the International Federation of Anti-Leprosy Associations in Genova (ILEP) told me, "It is true that Leper is considered as a derogatory term and we disagree with its use."[25]

Science and religion

This introductory section outlines vital scholarship on the historical relationship between science and religion. The discussion of the literature that follows demonstrates the significance of selected sources in understanding medieval attitudes towards disease and contagion, specifically leprosy.

[24] Emma Anderson, personal communication, January 2023.
[25] Monty Mokhayer, International Federation of Anti-Leprosy Associations, mmokhaey@ilepfederation.org, contacted January 7, 2019.

Darrel W. Amundsen studies the relationship between science and religion throughout history, focussing on Christianity. He remarks that two themes stand out above all else: "(1) the disputed boundaries of Christianity and medicine; (2) respect for human life, that is, a principle of sanctity of human life (including the duty to treat or to attempt to sustain the life of the ill)."[26] I argue that this duty to treat or to attempt to sustain the life of the ill was grossly absent in the response to HIV/AIDS in the 1980s in Canada and the USA. Amundsen notes that tensions and compatibilities have always existed between the two domains of religion and medicine, classifying the relation between the domains of religion and medicine into four configurations. The second configuration, wherein religion and medicine are "partially separated," applies to the medieval era.[27] Accordingly, in the medieval era, seeking medical care when science was available in this configuration was appropriate, but religious care was equally acceptable. This theory that religious and scientific treatment was socially acceptable explains the presence of doctors and priests in treating leprosy in the medieval era.

Vivian Nutton addresses the missing pieces of medical history that still muddy our understanding of the history of science and medicine. In his 1983 article, he refers to the origin of the airborne or droplet contagion theories theory before Girolamo Fracastoro (1476-1553), known as the seed theory.[28] Nutton picks up where Karl Sudhoff left off in 1915, who

[26] Darrel W. Amundsen, *Medicine, Society, and Faith in the Ancient and Medieval Worlds*. (Baltimore: Johns Hopkins University Press, 1996) xi.
[27] Ibid., 3. The other configurations are 1) medicine is subsumed under religion; 3) medicine and religion are completely separate; 4) religion is subsumed by medicine.
[28] Vivian Nutton, "The Seeds of Disease: An Explanation of Contagion and Infection from the Greeks to the Renaissance." *Medical History* 27 (1983): 1.

hypothesized that Galen's idea of "seeds" of plague predated Fracastoro's theory of contagion by hundreds of years.

> In 1546, Fracastoro outlined his concept of epidemic diseases in "*De contagion et contagiosis morbis*" and speculated that each disease was caused by a different type of rapidly multiplying 'seed' and that these could be transmitted by direct contact, through the air, or on contaminated clothing and linens.[29]

Nutton maintains that historians have occasionally denied that doctors of antiquity knew about contagion because there was no theory of seeds of disease or germs. Nutton corrects this misconception. He explains that Galen wrote of invisible, living particles in the air that entered the body and grew into diseases. Before Galen, Lucretius, in 56 BCE., wrote of seeds; and the theory might go back as far as Epicurus (341-271 BCE.) or even the Pre-Socratic atomists Democritus and Leucippus (4th-5th c. BCE). Nutton demonstrates that multiple schools adopted this theory.[30] This discovery of a seed theory indicates that the contagion argument was already present during Galen's time. A later section will rely primarily of Nutton's, "Can a Greek Become a Latin," to show that from the second to 13th centuries in Western Europe Greek medical and religious texts from the East were being translated and taught in Latin in the West. Therefore, it is possible that this early theory of contagion was also present in Western Europe in the 11th to 13th centuries.

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[29] Boston University, "Ideas About Health," *The Evolution of Epidemic Thinking*, https://sphweb.bumc.bu.edu/otlt/mph-modules/ep/ep713_history/ep713_history3.html#:~:text=In%201546%2C%20Fracastoro%20outlined%20his,on%20contaminated%20clothing%20and%20linens., accessed May 1, 2023.

[30] Nutton, "The Seeds of Disease,"9-10.

This idea of disease transmission through air, not black bile, is significant because it establishes a possible theory for why some Christians may *not* have had positive attitudes toward people with leprosy that merits exploration. Based on DNA evidence of medieval leprosy and modern leprosy, we know that leprosy *typically* had low infectivity rates; however, leprosy could be more infectious at times. Misch et al. report that a 40-year study on host genes that influence the risk of leprosy acquisition and preference for different forms yielded insight into the varying contractability of the disease from person to person and over time and space.[31] Sporadic pockets of increased infectivity could explain some of the fear associated with leprosy and the concern healthy Christians had about been in contact with people with leprosy.

The fear of seeds could result in a desire to establish leprosaria where people with leprosy can be safely contained and well cared for at the same time. It could have been seen as a win-win situation for everyone. Therefore, medieval Christians often erected leprosaria close to cities. Christians could not have been too concerned about contagion, however, as people with leprosy would hold fairs, for instance, on feast days and sell produce they had harvested from their farms, and healthy people would come and interact with the leprous and enjoy food and drink with them. Rawcliffe explains that permission was granted to hold an annual fair lasting a week to earn money directly through the imposition of tolls and indirectly through people giving alms. The May fair, approved by King John in 1213, had been growing in site location through piecemeal property acquisition to sustain the fair. One most celebrated fair, the

[31] Elizabeth A. Misch et al. "Leprosy and the Human Genome," *Microbiology and Molecular Biology Reviews*, 7 (2010) 592.

Stourbridge fair, held every spring near Cambridge, had similar origins in a matching grant made by King John to the local leprosarium, just like St. Mary Magdalen of Ipswich.[32]

Fear and disgust

Psychological, sociological, anthropological, neuropsychological, and cultural responses to emotions such as fear and disgust are growing fields of interest across academic disciplines. How humans respond to these stimuli influences social norms and rituals, including responses to necrotic and purulent bodies. These emotions are compared in tandem in Chapter 2.

Mary Douglas is an influential social anthropologist who employed structural theory to categorize outliers from socially pure factors. William Miller explains that Douglas defines "the dangerous and contaminating" within a society as that which does not fit into the constructed categories of pristine or desirable.[33] He also notes that Douglas does not explicitly mention disgust but discusses how pollution can be understood as equivalent. As Douglas says, "[d]irt then, is never a unique, isolated event. Where there is dirt, there is a system. Dirt is the by-product of a systematic ordering and classification of matter."[34] People with leprosy are the "dirt" in medieval Christian society. Christians created a system of health as the ideal state based on descriptions of the angelic body and the perfect, indestructible bodies of saints such

[32] Rawcliffe, *Leprosy in Medieval England*, 314-315.

[33] William Ian Miller, *Anatomy of Disgust*, (Cambridge: Harvard University Press, 1997), 43. Miller claims that he had written his book as an homage to a time when psychology and experts in the field were less constricted than now, meaning that the field of psychology was not restricted to psychologists. It was still a field of study available to philosophers, anthropologists, sociologists, and other forms of academics, providing a more profound and robust understanding of phenomena that exist within humanity.

[34] Miller, *The Anatomy of Disgust*,43-44. Some examples of items that fit within the strict clean vs dirty system are things like food (edible or spoiled); plants (flowers or weeds); animals (alive or dead); in more extreme situations racism (white or non-white); homophobia (straight or gay).

as Antony. In his hagiography, Antony was the paragon of perfection, the never changing divine body, evidence of attaining spiritual perfection similar to the incorruptible bodies of saints after death in miracle stories. This separation of known and polluted created a system of "dirty," which included the sick and diseased, and leprosy was the epitome of filth and sickness in the minds of some Christians. Yet, another group of saints existed: the sick, rotting, pus-oozing saints who seemed to be more popular as their influence superseded the negative attitudes towards rotting bodies from the fourth century onward and inspired more positive attitudes towards people with leprosy. In short, responses to leprosy in this system varied throughout the centuries. During the 11th to 13th centuries, Western European Christians responded primarily with compassion and charity.

While Douglas theorizes that dirt is never a unique event and is an element of purity and danger, Susan R. Holman claims that, at least with leprosy in the ancient world, contagion (which would be caused by dirt) was *not* defined in terms of ritual purity and pollution; instead, it was described by "social terror."[35] Daniel Lord Smail looks at the brain chemicals that produce individual responses when exposed to triggering stimuli, including fear/terror, or, in Douglas' system, "dirt."[36] Smail explains that brain activity and hormones are triggered by the performance of specific actions meant to stimulate specific emotions and suggests that behaviours are inherited both via the passing on of genes throughout human history and the evolution of culture. He asserts that the neurological elements of behaviour and body function, such as the chemicals that influence brain function, are not universal and therefore trigger

[35] Susan R. Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχìας.'" *Harvard Theological Review* 92 (1999), 285.
[36] Chapter 2 will help clarify this fear response.

different behaviours in different people. Moreover, human behaviour can override genetic predispositions and chemical triggers to program the brain to react positively or negatively to a given stimulus, such as someone taking pleasure in looking at or eating disgusting objects. Hannah A. Chapman and Adam K. Anderson explain that disgust is believed to have expanded over time to include disease avoidance and biological threats, and ultimately social and moral components.[37] This concept of disgust responses explains why leprosy became a significant trigger, as it offended the borders of physical, social, and moral safety.

Holman remarks on fear and contagion in the fourth century in sermons on leprosy by Gregory of Nyssa and Gregory of Nazianzus. She states that while figures such as Aretaeus and Philumenus depict leprosy as contagious and possibly airborne, the Gregorys argued against this and supported physical interaction with the sick. They believed that by engaging with the sick, the healthy, and the spiritually diseased, they can be cleansed of their sin. This idea that the healthy can be spiritually healed by the leprous is rooted in the theory that the poor and the sick, especially people with leprosy, are chosen by God. Holman coins Nyssa's theory, "reverse contagion." [38] The idea stems from Nyssa preaching to the masses that they can be cleansed of their spiritual sickness by coming into contact with people with leprosy. The sermons Holman discusses are strong indicators that people with leprosy were afforded a certain degree of compassion and assistance. Even though people were acting compassionately,

[37] Hannah A.Chapman and Adam K. Anderson. "Understanding Disgust." *Annals of the New York Academy of Science* 12511 (2012): 71.
[38] Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχìας,'" 303.

it should be made clear that people were acting in self-interested ways in being kind to people suffering from leprosy.

In addition, she explains that some physicians had treatments they offered people with leprosy. Physicians such as Galen, Celsus, and Paul of Aegina recommended remedies, including eating viper and elephant meat, phlebotomy, purgatives, ointments, and baths. Unfortunately, many visibly symptomatic people had no cure; doctors could only recommend exile, due primarily to contagion, familial burden, and opprobrium for the physician.[39]

Why Leprosy?

A rather significant question looms over this thesis, evading any satisfactory answer. Why did Christians choose leprosy as their focal point for compassion and charity in the fourth century and again in the medieval era? One possible reason I would like to put forward is that Christians were trying to prove that their God and their religion were the most extreme and most powerful—the most compassionate and most charitable. Christians were the most capable of treating others with compassion and charity, and their God was the most powerful and kind. Thus, they could assert their authority by treating and curing the worst, most disgusting, and fearsome disease in the known world. Conversely, R.I Moore expresses that excluding the leprous from medieval society was nothing more than a general response to an objective

[39] Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχὶας,'" 292-293. Viper was eaten because the snake shed its skin and like the snake so too must the leprous shed their skin, it was a form of sympathetic magic. They ate elephant meat because the skin of the elephant resembled the skin of the leprous and it was thought that like could treat like. The opprobrium for physicians came from the shame and discredit that resulted from failing to cure a patient.

medical threat.[40] In brief, we don't have the data to understand the reasoning behind why these trends ebbed and flowed in detail and why Christianity focused on leprosy. Perhaps the Gospels were influential, but why wasn't leprosy a focal point between the first and fourth centuries? We can surmise and hypothesize, but we do not have any concrete answers.

One significant thing to hypothesize is who the key agents were: theologians or physicians. All contributed to the shifts in attitudes towards leprosy from negative to positive and vice versa, from Gregory of Nyssa and Gregory of Nazianzus and monastic hospitals that implemented Galenic medicine. Conversely, physicians helped "successfully" treat leprosy (cases ultimately misdiagnosed as other diseases such as psoriasis). This contributed positively to opinions of leprosy and leprous people as it did seem like a death sentence, and it allowed for hope. Unfortunately, access to physicians was limited due mostly to how expensive they were. This reduced the impact and influence physicians had on society.

Did Gregory of Nazianzus have leprosy?

Another reason Christians may have been inclined to receive people with leprosy more positively is because Gregory of Nazianzus may have had leprosy himself. Čelica Milovanović argues this point based on poetry and letters written by Nazianzus in the years leading up to his death. His writing is weighted with expressions of pain and anguish due to a failing body. In *De rebus suis* Nazianzus writes:

> Send Lazarus so that he may quickly refresh with his moistened finger
> my tongue that is parched in the flame… Drive out this miserable

[40] R.I. Moore, *The Formation of a Persecuting Society*, 2007, 56 n.96.

> leprosy; give the light to eyes that are blind and hearing to deaf ears. Make withered hand stretch out, loose the knot of the tongue, make a tottering gait of the feet… give life to the paralyzed limbs, raise to life the rotting corpse….[41]

At face value, this poem sounds like Nazianzus is describing himself as suffering from leprosy, but there are two main factors to consider here. There was still a stigma around leprosy and people who contracted it, and it is unlikely that Nazianzus would have been so open about his suffering from it. Second, this is a poem, and artistic license may explain his choice to use leprosy as an extreme example of the suffering he is in. It might be a metaphor, nothing more. Milovanović comes to a different conclusion from the outset noting verses such as "withered hand [arm], knot of the tongue, tottering gait, and paralyzed limbs" and loss of mobility as signs that he may have suffered from a stroke.[42] However, she admits that the description could be a literal description of leprosy. She writes:

> The "wounds", although alluding to the biblical story of the Good Samaritan, could also be interpreted as ulcers, typical of leprosy. The same goes for the "issue of blood" (actually, Gregory says "blood-like discharge"; in addition to alluding to the well-known biblical miracle of healing, it could also signify the discharge of sanies from the festering ulcers. The "paralyzed limbs" (the actual expression is "weighed down limbs" would reflect the general feeling of heaviness in the limbs and the extremities. The "tottering gait" and the "withered hand" could be the results of muscle weakness caused by nerve damage. And the "knot of the tongue", as well as the "tongue that is parched in the flame", might refer to some damage in the mouth/throat area, which would have caused the loss of voice, or rather the hoarse whispering typical of leprosy.[43]

[41] Čelica Milovanović, "'Here I Am a Breathing Corpse'": Did Gregory of Nazianzus Suffer from Leprosy?" *Analecta Bollandiana* 127 (2009), 274.
[42] Milovanović, "Here I am a Breathing Corpse," 275.
[43] Ibid., 276.

While Nazianzus's letters and poems may not have been public knowledge, posthumously, these letters were found. It is possible that church authorities inferred from them that Nazianzus suffered from leprosy; therefore, they may have thought that if such a holy man could suffer from this disease, it couldn't possibly be a mark of sin. These positive shifts about leprosy travelled as Christian literature spread. It spread to Western Europe, likely contributing to the more favourable treatment of people with leprosy in the 11th and 13th centuries. Still, Western Europe was also inspired by Arab-Islamic medicine, which borrowed from earlier Christian medicine and philosophies on leprosy. It was not until the second half of the 13th century that contagion became a factor. Luke Demaitre notes that with Bernard of Gordon and John of Gaddesden, Pietro of Abano in *Conciliator* pointed to "corrupted and pestilential air" as one of the predispositions to leprosy. Demaitre adds that after the burning in 1321 (discussed later), medical teachings intensified the fear of contagion, and the social role of scapegoat became a common theme.[44]

For this thesis, however, whether Gregory had leprosy in his later years or not would not have influenced why he and Gregory of Nyssa chose to advocate for compassionate care and interaction with people in the earlier fourth century before Gregory showed disease symptoms. It is possible, though, that due to prolonged contact with leprous people, Gregory contracted leprosy, and due to its long dormant period, he did not display symptoms until much later in life. Recall that leprosy is a very slow-replicating bacterium and can take up to 20 years to present. Gregory could have been infected with dormant *Mycobacterium lepra* for decades

[44] Demaitre, *Leprosy in Premodern Medicine*, 5.

without knowing it. While this is interesting, it is anecdotal and, unfortunately, does help explain why the Gregorys (among others) were so fascinated and moved to compassion towards leprosy in the fourth century in the East. However, this thesis does not propose to know the answer to this question. For this thesis, it suffices to explain that more positive attitudes towards leprosy began in the East in the fourth century and spread to the medieval era. A fact that is often overlooked in scholarship.

Transmission of Eastern medical knowledge to the Latin West

It has been argued that after the fall of Rome and up to around the ninth century, the people who would become Europeans regressed and lost the ability to read Greek. Therefore, Greek texts would have been useless to the medieval West. I argue that knowledge did persist; it was a period of discovery, and Western Europe continued to communicate with the Greek East, which led to innovative development.

Nutton, an authority on ancient and late antique medicine, examines the ability of Latin readers to translate Greek writing, positing whether the Latins knew Greek. His hypothesis is "Can a Greek become a Latin;" he clearly states:

> The obvious answer is yes, for the great majority of inscriptions are written in Latin, not Greek, and by Late Antiquity, several Greek texts had become fully assimilated into Latin, and Latin doctors, with Latin names like Cassius Felix, could write their own medical treatises that develop the ideas of Hippocrates.[45]

[45] Nutton, "Galen and Roman Medicine: Or Can a Greek Become a Latin," *European* Review 20 (2012), 540-541.

Nutton remarks on the transmission of Greek medicine to the Latin West, noting that traveling doctors spread various techniques the Roman empire adopted in the early centuries, which spread to Europe following the Fall of the Roman empire. Galen is cited in Latin by Gargilius Martialis in the third century. In Rome, 90% of doctors were Greek in the first century, 75% in the second, and 70% in the third, indicating a steady decline in Greek physicians in the West who were likely being replaced by Latin-speaking doctors.

To demonstrate the bilingualism of Greek and Latin speakers, Nutton notes that even the obstinate Galen has been caught employing Latin; he writes, "interestingly, the newly discovered tract, *On the avoidance of grief*, has Galen describe a purse with a Greek word derived from Latin, f*ascolion*."[46] More to the point, dating back to the first century, two prominent medical writers were already writing in Latin. Scribonius Largus (ca. 1-50) and Cornelius Celsus (ca. 25 BCE – 50 CE). Nutton reports that:

> Scribonius was a bilingual author, perhaps from Southern Italy or Sicily, traces of whose writings can be found in Greek as well as in Latin. Cornelius Celsus, the author of *De medicina*, the finest Latin work on medicine, has an extremely detailed and sophisticated knowledge of contemporary Greek medicine, and he may well have treated sick patients from time to time, particularly in his own household.[47]

This excerpt is evidence of bilingual, educated people in some regions of Rome (later Europe) who read and wrote in Greek and Latin.

[46] Nutton, "Galen and Roman Medicine: Or Can a Greek Become a Latin," 540.
[47] Nutton, "Galen and Roman Medicine: Or Can a Greek Become a Latin," 536.

Scott G. Bruce argues that Christians translated Greek Christian material throughout the second to 13th centuries.[48] This material would likely include sermons by famous church fathers such as Gregory of Nyssa and Gregory of Nazianzus. With their Sermons on the Poor addressing people with leprosy being among the most popular, they would most likely have been preached to Western medieval audiences. Heidi Marx and Kristi Upson-Saia argue that the so-called "dark ages" were not a period of regression but one of novel discovery.[49] Christian physicians such as Oribasios (320-430), Aetius of Amida (ca. 450-550), and Paul of Aegina (625-690) were developing new, outstanding medical procedures such as the tracheotomy, tonsillectomy, bladder catheterization, lithotomy, inguinal hernia repair, abdominal paracentesis for ascites to mention a few. Based on these developments, I argue that medieval Europeans likely continued to promulgate the knowledge learned in earlier centuries and persisted in developing new insights into the 11th century.

In Chapter 1, this thesis argues that the renaissance and renewed focus on medical theories of disease versus religious mandates for care and compassion toward people with leprosy may have been one factor that contributed to the cessation of compassionate care to the leprous in the late 13th century—later medieval centuries resulted in abandoning leprosaria and exiling people with leprosy from Western Europe. In its most extreme form, the neglect of the Christian imperative to provide charity and care to the leprous resulted in their torture and

[48] Scott G. Bruce, "The Lost Patriarchs Project: Recovering the Greek Fathers in the Medieval Latin Tradition," *Religion Compass* 14 (2020), 2.
[49] Heidi Marx-Wolf and Kristi Upson-Saia, "The State of the Question: Religion, Medicine, Disability, and Health in Late Antiquity." *Journal of Late Antiquity* 8 (2015): 258.

execution by fire in 1321 in the 1321 Leper Plot in southern France (discussed in further detail in Chapter 2), which ushered in a new era primarily of hatred, fear, and stigma.

Transmission of Greek Christian knowledge to the Latin West

Bruce explains that "between the second and 13th centuries, Latin translations of the works of almost 100 Christian Greek authors of late antiquity and early Byzantium found their way into the libraries of Western Europe.[50] Furthermore, he explains that many catalog entries show the influence of dominant Christian doctrine figures and authors, like Gregory of Nazianzus, John Chrystostom, and Ephrem the Syriac, all translated into Latin.[51] Dorothy Shepard turns her attention to the gospels to analyze Christian material being translated from Greek into Latin, and she writes that in the Latin West between 600 and 1200, the four books of the Gospels were the most copied Christian text besides the Psalms.[52] This further illuminates that Christian texts were being translated from Greek to Latin en mass and disseminated across Europe. Therefore, it is reasonable to assume that sermons about leprosy would be translated and preached in the West by Catholic Church Fathers, namely Gregory of Nyssa and Gregory of Nazianzus.

[50] Bruce, "The Lost Patriarchs Project,"1.
[51] Bruce, 3.
[52] Dorothy Shepard, "The Latin Gospelbook, c. 600-1200," in *The New Cambridge History of the Bible*, ed. Richard Marsden and E. Ann Matter, (Cambridge: Cambridge University Press (2012), *338.*

Fourth-century sermons: a shift in attitudes

In the fourth century, in Christian communities, there was a reduction in contagion fears and stigmata towards people with leprosy. Instead, there was a movement towards increasingly more positive attitudes towards people with leprosy and the advent of the hospital by Christians, which meant people with leprosy could receive medical care and housing. This shift in attitudes towards people with leprosy, including fear, disgust, and stigmatizing responses, was, arguably, the result of sermons by Gregory of Nyssa and Gregory of Nazianzus that preached against exiling or treating people with leprosy negatively and instead promoted charity and compassion towards sufferers.

On the matters of human anatomy and physiology, most scholars would agree that there was some overlapping of opinions between ancient physicians and early Christians; for instance, both groups generally accepted the humoural system as the foundation for understanding how the corporeal body functioned. However, what is most important for this thesis is how Christianity differed from ancient medicine. In this regard, Holman argues that the manner in which the non-Christian population treated leprous people was opposite to early Christian ideologies and attitudes of compassion and charity toward the poor and the sick (philosophies which were inspired by the life of Christ).

Holman explains that Aretaeus (c. 1st century CE, physician) argued that leprosy was caused by airborne contagion. This theory meant that people with leprosy were seen as dangerous and contagious. This triggered a reaction of fear and anxiety towards the diseased bodies of the leprous within their community. As a result, most people with leprosy were exiled

and forced to suffer on the margins of society. Holman draws from three late fourth-century sermons written by Gregory of Nyssa and Gregory of Nazianzus,[53] which address some Christians' concerns regarding the common fear of contagion. They also make clear that despite some anxieties, the moral imperative to imitate Christ by serving the needy and healing the sick was more critical. For instance, Gregory of Nazianzus espoused that "Basil's care was for the sick and the relief of their wounds, and the imitation of Christ, by cleansing leprosy not by word but in deed."[54] This quote serves to demonstrate that some Christians still subscribed to the popular view that leprosy was dangerous; but the moral mandate was clear, namely, it was the duty of all Christians to help the needy; and, in the fourth century, the personification of "the needy" were the leprous.

As such, Gregory of Nyssa and Gregory of Nazianzus argued against the theory that leprosy was contagious. Instead, they agreed that leprosy was caused by putrid humours that are *not* contagious. By removing the labels of contagion and danger from this disease, Christianity safely established a new and more positive social role for people suffering from leprosy. While other communities exiled their sick based on social anxieties regarding the spread of disease, Christianity re-appropriated illness as an opportunity to imitate Christ. Holman remarks that "Like Nyssen, Nazianzen exhorts his audience to enter into physical contact with the leprous to fulfill the moral mandate of a *philanthropia* that, in turn, may open

[53] These include one sermon from Gregory of Nazianzus entitled *Oratio 14*, and two sermons from Gregory of Nyssa entitle *De pauperibus amandis: Oratio duo*. Together these sermons make up the περ'ι φιλοπτωχια, or "On the Love of the Poor."
[54]Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχìας,'" 285.

one to receiving spiritual healing."[55] In this manner, the disease became a tool for purifying the soul through charity and demonstrating one's devotion to Christ.

My Master's Thesis thoroughly explains "reverse contagion," noting Holman's argument. She explains that while contagion theory puts forward the idea that physical contact with the sick will cause the spread of disease, "reverse contagion" dictates that through physical contact with the leprous, one can be healed of one's sins. Holman summarizes this concept by asserting that:

> Although Gregory of Nyssa argues that leprosy is exclusively internal and not contagious, he deliberately uses the image of contagion to argue for spiritual healing based on a type of "reverse contagion." That is, he suggests that goodness and salvation are also contagious. This contagion of holiness may be "caught" through direct contact with lepers, those channels of divine sanctity who are "always able to run to God." The persons who assist them may receive healing of their own "diseases" of wealth and greed. In this way, the church needs contact with lepers in order to cure spiritual diseases. Yet, lepers also need contact with the healthy to relieve their own very physical suffering.[56]

What is noteworthy here is that Holman is stating that people with leprosy have "goodness and salvation" and heal people of "wealth and greed." This goes back to the concept of expiation.

In this manner, Gregory of Nyssa creates a positive social role for the diseased people with leprosy that mutually benefits the sick and the healthy. This mutual relationship is comparable to the relationship between the viewers of the suffering saints' bodies and the saints themselves. In this vein, saints often depended upon alms for all their physical needs, while the crowd relied on the saints' power to advise them, teach them and heal them of their

[55] Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχίας,'" 295.
[56] Holman, 303.

sins. As such, suffering is significant because it seems to imbue the sufferer with spiritual power and the ability to benefit the healthy through miraculous deeds. This suffering was cultivated by sick and rotting saints, which will be discussed throughout this thesis.[57]

Transfigurations and functions of holy rotting bodies

The necrotic diseases that afflicted saints were able to rapidly transform the physical body from human into something altogether novel. It is possible that Christians connected the ravaged bodies of saints and people with leprosy, which may have contributed to the belief that people with leprosy were spiritually powerful, gifted, or chosen by God. In this vein, with the soul in control of the body and its senses, the body could perfectly harmonize with all its parts. Gregory of Nyssa, in his *Great Catechetical Oration*, on the topic of the incarnation and divine nature of all humans, wrote:

> For who is so simple-minded as not to believe, when he considers the universe, that the Divine Being is in every thing, clothing Himself with it, embracing it, and residing in it. If, then, all things are in Him and He [Jesus] in all things, why are they ashamed of the plan of our religion which teaches that God came to be in man, seeing that we believe that not even now is He outside man. For if the manner in which God is present in us is not the same as it was in that case, yet it is none the less admitted that now, as then, He is equally in us, *now* He is commingled with us, in that He maintains nature in existence. Then He mingled Himself with our nature in order that by this mingling with the Divine Being our nature might become divine, being delivered from death and set free from the tyranny of the adversary. For His return from death becomes to this race of mortals the beginning of the return to the immortal life.[58]

[57] Penner, 56.

[58] Holman, "Healing the Social Leper in Gregory of Nyssa's and Gregory of Nazianzus's 'περί Φιλοπτωχὶας,'" 305.

This text agrees with my original argument in my Master's Thesis that the Divine Being is in all things made by God, that God exists within all humans, and that he mixes his Divine Being with humanity to instill human beings with a divine nature. It is interesting to note here that this excerpt implies that any human being, saint or not, has the potential to cultivate their divine soul through this interaction with God. Transfigurations of this sort could simultaneously be ugly and beautiful, but it was always positive as it was evidence of spiritual power and a deeper connection to God.[59]

I would argue that leprosy and its effects on the body could be interpreted similarly. This is apparent in the recounting of when Symeon's disciples lay their eyes upon his brutalized body, and they see only a figure of beauty. Susan Ashbrook Harvey contends that Symeon's "reality has been transfigured from the squalor of his suffering to his perfection of god's beloved through his ascetic practice and the disfigurement of his body."[60] Harvey demonstrates that:

> In Symeon we are presented with a *Life* of true philosophy by means of physical discipline, in pursuit of the higher virtue of the soul…the "savagery" of his asceticism (as one monk called it here), was the means by which he enabled his soul to ascend ever upward in its quest for god…So perfect is Symeon's exercise of discipline, Theodoret tells us, that he has surpassed human nature. He lives the Angelic life.[61]

Andrew Crislip explains that "the Syriac poet Jacob of Serug (c. 451-521) turns [Symeon's transformative] rot into an object of aesthetic (and ascetic) transcendence, comparing the

[59] Heather Penner, *Necrotic and Purulent Infections in the Ancient and Early Christian World*, Master of Arts Thesis, University of Manitoba and University of Winnipeg, (2017) 63.
[60] Susan Ashbrook Harvey, "The Sense of a Stylite: Perspectives on Simeon the Elder," *Vigiliae Christianae* 42, (1988): 384.
[61] Ibid., 379.

stylite Simeon's rotting, gangrenous foot to 'a tree, beautiful with branches.'"[62] In the case of Syncletica's worm ridden jaw, her rotting flesh also becomes a mode of self-transformation, "adapting the Pauline dialectic of weakness and strength (2 Cor.12:10)."[63] Her rotting body functions as a ruse against the Devil making her seem weak when in reality the perceived weakness of illness is her arcane strength.

My Master's Thesis states that "the presentation of the saints' rotting bodies as beautiful in hagiographical texts served two functions. First, it rewrote the script on what was to be viewed as beautiful by distinguishing the Christian community as a distinct social group via its embracement of physical suffering and the rebuke of traditional Graeco-Roman concepts of beauty."[64] It goes on to state that on this matter, Geoffrey Harpham writes, "for the Christian ascetic, pagan beauty was thematized as the demonic. At the same time, the disfigured was figured as desirable."[65] In his book On Ugliness, Umberto Eco refers to St. Augustine's sermon on the deformity of Christ to make the point that ugliness was made beautiful through Christ's death. In this sermon, Augustine espouses:

> In order to maintain your faith Christ deformed himself, while he remains eternally beautiful…He was reviled and His position was deformed; a man covered with sores, one who has experienced every weakness…Had he not wished to be deformed, you would have never reacquired the divine form that you had lost. Therefore, He was

[62] Andrew Crislip, *From Monastery to Hospital: Christian Monasticism and the Transformation of Health Care in Late Antiquity*, (Ann Arbor: University of Michigan Press, 2005), 2.
[63] Ibid., 101-102.
[64] Heather Penner, *Necrotic and Purulent Infections in the Ancient and Early Christian World*, Master of Arts Thesis, University of Manitoba and University of Winnipeg, (2017) 65.
[65] Geoffrey Halt Harpham, *Ascetic Imperative in Culture and Criticism* (Chicago: University of Chicago Press, 1987), 27.

> deformed when He hung on the cross, but His deformity constituted our beauty.[66]

In this manner, early Christians adopted a perspective on deformed and decaying bodies that allowed them to view such bodies as beautiful and beneficial. Because of the saints' desires to imitate Christ, they took up the roles of broken, beaten, and deformed beings who suffered for the sins of others.[67] Similarly, the rotting bodies of people with leprosy may have also been seen as Christ-like and possessing divine power. As a result, Christians overcame disgust responses because of their desire for access to divine power. Accounts of festering flesh became evidence for Christians that rotting saints possessed the ability to ascend above the human realm, an ascension made visible by the fetid, putrefying bodies of saints and their ability to perform miracles. The status and visibility of such saints blurred the ontological line separating the human from the divine. This division is most evident with saints such as Symeon the Elder, who drew in massive crowds with his transfigured, mutilated body and ability to perform miracles.

In this manner, extreme acts of self-mortification and the resulting illnesses and infections were employed by holy people to harness the power of the resurrected and Adamic body. The saints believed this energy was possible to attain in this life. Peter Brown describes how saints felt that if the body was kept in "ideal conditions, " they could idle indefinitely. He writes about diet, noting:

> The ascetics of late antiquity tended to view the human body as an '*autarkic*' system. In ideal conditions, it was thought capable of running

[66] Umberto Eco, *On Ugliness*, trans. Alastair McEwen (New York: Rizzoli International Publications Inc., 2007), 43.
[67] Heather Penner, *Necrotic and Purulent Infections in the Ancient and Early Christian World*, Master of Arts Thesis, University of Manitoba and University of Winnipeg, (2017) 66.

> on its own 'heat'; it would need only enough nourishment to keep that heat alive. In its 'natural' state- a state with which the ascetics tended to identify the bodies of Adam and Eve – the body had acted like a finely tuned engine, capable of 'idling' indefinitely. It was only the twisted will of fallen men that had crammed the body with unnecessary food, thereby generating in it the dire surplus of energy that showed itself in physical appetite, in anger, and in the sexual urge.[68]

It was in this manner, and with this logic, that ascetic saints with rotting flesh trained and transformed their bodies into something more than human, possibly into something pre-fall.

Inspiration for the saints to engage in acts of physical suffering as penance for their own sins and the sins of humanity came from the exemplary life of Jesus Christ. Christ's crucified body was tortured and beaten, mutilated by the stigmata, marked by open wounds. Ultimately, he lay as a corpse before he rose again, like Lazarus, patron saint of the leprous. His resurrected body became a symbol of the power that comes from one's willingness to suffer for the sins of others through God's will. This is not unlike the notion in the 11th to 13th centuries that people with leprosy sustained in this life in return for the divine gift of avoiding purgatory and could provide the healthy with expiation.

With Christ as the pinnacle of spiritual perfection, the saints were inspired to continue and suffer selflessly according to God's will. Umberto Eco argues that accepting the "ugliness" of the disabled and deformed Christ on the cross was present yet not immediately accepted. He writes:

> True, there was a page in Isaiah in which the Messiah is portrayed as disfigured and suffering, and this mention has not escaped certain Fathers of the Church, but then Augustine reabsorbed this scandalous

[68] Peter Brown, *The Body and Society: Men, Women, & Sexual Renunciation in Early Christianity* (New York: Columbia University Press, 1988), 223.

> evidence into his pancalistic vision, stating that Jesus certainly appeared deformed when he was hanging on the cross, but through that superficial deformity He expressed the inner beauty of his sacrifice and the glory it promised us.[69]

The notion that the deformed body of Christ is both ugly and beautiful substantiates my claim that it is more accurate to look at health and illness in the lives of saints as complementary elements, as opposed to opposite states of being as certain conditions, came to represent strength and power. This concept is comparable to how many Christians viewed the saints' broken, bloodied, rotting, worm-infested bodies, not as ugly but as expressions of their beauty and sacrifice to God for all humanity. Furthermore, suffering was not for the weak; it took great strength to live an ascetic life, and it required God's support to surpass the normal limits of the human body. Therefore, if a saint could maintain such an arduous lifestyle, it indicated they were in God's favour and doing the Lord's work. These onerous lives are detailed in hagiographical texts and contain descriptions of numerous saints living with necrotic infections, skin diseases, open wounds, oozing ulcers, and decaying bones.

Early Christianity put forward a theology of illness that states that illness and decay, as they pertain to the human body, were the direct results of humanity's ejection from the Garden of Eden. Crislip writes that while the Genesis description of this event only vaguely touches upon illness, pain, and death, "the popular and widely translated para biblical *Life of Adam and Eve* makes the connection between the Fall and illness painfully clear."[70] The *Life of Adam and Eve* dates back to the first century CE and marks the fall as the primary cause of illness, death,

[69] Eco, *On Ugliness*, 49.
[70] Crislip, *Thorns in the Flesh*, 3.

and decay. This is one manner in which early Christianity differentiated itself from the rest of the ancient world. This hagiographical account of Adam and Eve cannot be used as the primary source of evidence, however, as its origin is possibly Judaic or Pagan and not uniquely Christian. As such, it should be used in tandem with sources such as Augustine, who argued that illness is punishment. Samatha Elizabeth Thompson remarks that Augustinian thought on sin and punishment refers to the disease of suffering in two ways: 1) it is a self-inflicted condition because sin is inherently self-damaging, or 2) God inflicts suffering in response to sin.[71] This understanding of the cause of illness places the blame on the actions of the sick. It is because the sick have sinned that they are sick/diseased, be it through the self-damaging nature of sin or God's desire to inflict suffering upon sinners. The previously mentioned autarkic system described by Brown is also evidence of a desire for a disease-free Adamic body. Later this thesis with address the hagiographical accounts of Antony (the paragon of the Adamic body as an ideal in Christianity) and an alterative death account of Judas (suggesting disease was a negative state and form of punishment in the first century).

Unlike other ancient concepts of the causation of illness, such as nature, humoural imbalances, or jealous gods, early Christians understood disease as punishment for humanity's sins and a debt that must be paid for all eternity.[72] Illness was neither natural nor demonic, it was and still is the punishment humanity must endure because of its inherited Original Sin. Crislip notes that:

[71] Samatha Elizabeth Thompson, "Augustine on Suffering and Order: Punishment in Context," Department of Philosophy, University of Toronto (2010), 142.
[72] Crislip, *Thorns in the Flesh*, 3.

> In early Christian tradition illness, bodily decline and decay, and pain, as Elaine Scarry and Teresa Shaw have variously argued, were understood as direct consequences of the first humans' ejection from Eden and god's curse upon the pair and their descendants.[73]

In the case of Syncletica, Crislip states that disease becomes a remedy for the ills of humanity's fallen existence. Her hagiography depicts a moment when her diseased flesh is directly responsible for healing the souls of the women around her. It takes place when Pseudo-Athanasius declares that "in the longer run benefit was conferred, for the women contemplated her suffering with their own eyes, they were strengthened in their will; the wounds in her body healed their afflicted souls."[74] As such, the saint's rotting body becomes the impetus for the spiritual healing of her followers. Crislip discusses the need for healing on a cosmic scale, noting:

> The popular *Life of Adam and Eve* thus elaborates on the curse [of illness, death and decay] implied in the biblical account. Disease and decrepitude are neither "normal" components of the human body nor diabolical ruses by jealous gods unleashed in humanity (as in Hesiod's version of the Pandora's jar myth) but just punishment for humanity's sins, punishment that must be paid out throughout the generations, forever.[75]

Taking this concept further, I hypothesize that some Christians subscribed to a theology that the saints possessed an ability to suffer in a way that purified their souls and the collective souls of all Christians. It is possible to conceive that Christians could also view the suffering of people with leprosy as beneficial to the collective souls of Christians.

[73] Ibid.
[74] Pseudo-Athanasius, *The Blessed Life of Syncletica*, 110. It is a hierarchy of merit, a fountain or merit that is being described here.
[75] Crislip, *Thorns in the Flesh*, 3.

In contemplation of this role of illness in the lives of saints, an early twentieth-century scholar E. M. Cioran, in *Tears and Saints*, makes plain that the part of the saints' bodies and of Christian asceticism (which he terms "saintliness") was to function as the response to humanity's collective disease. Moreover, he argues that illness is the primary factor connecting this earthly world with the heavens. He writes:

> Had there not been any illnesses in the world, there would not have been any saints, for until now there has not been a single healthy one. Saintliness is the cosmic apogee of illness, the transcendental fluorescence of rot. Illnesses have brought Heaven close to Earth. Without them, Heaven and Earth would not have known each other. The need for consolation went further than any illness and, at the point of intersection between Heaven and Earth, it gave birth to sainthood.[76]

What is significant here is that Cioran contends that illness and the saint became indicators of a connection between Heaven and Earth and functioned as a method of communication between God and humanity. Like Christ, who suffered and died so that the sins of humanity could be forgiven, the saints demonstrate this theology in their lives, re-enacting the same sacrifice on a smaller scale. This socially valuable activity elevated sick saints to a higher level of spirituality and social position in the eyes of other Christians. The more a saint suffered through the rotting and decaying of their flesh, the more humanity benefited and the more successful their fight against the devil was perceived to be. For this reason, Anchorites and Coenobites suffered by making themselves sick by mastering ascetic practices. As such, the sickly saints were cleansed of their sins through ascetic technique and the resulting illnesses. Similarly, the leprous were

[76] Cioran, *Tears and Saints*, 22.

guaranteed a direct passage to Heaven for eternity in return for a lifetime of pain on Earth.

Continuing this investigation, Chapter 1 analyzes leprosy in the medieval European West.

Chapter One | Leprosy in Western Europe in the 11th to 13th Centuries

Until the 1990s, scholarship tended to argue that lepers were socially excluded and stigmatized, and that leprosy was a punishment for sin… [rather they were] especially believed to have been chosen by God to be redeemed, and were thus the objects of sympathy and compassion (Brenner, 1-2).

Recent scholarship has discovered that attitudes toward people with leprosy were often positive during this period. For instance, the notion that clappers were used to warn people that a person with leprosy was coming so they could get away has now been replaced with the theory that it was to alert people of their presence. This was to facilitate the collecting of alms due to a belief that giving to a person with leprosy benefited both parties. This thesis argues that the peak of positivity towards people with leprosy occurred during the highest period of the population of people with leprosy in Western Europe. This period began during the 11th and 12th centuries in Western Europe and continued into the 13th century. It was in the 13th century that change truly began to take place, culminating in obviously negative attitude and policy changes in the 14th century and after.

This thesis examines four interwoven subjects about leprosy to illuminate (1) the origin of leprosy, (2) the medical and religious causation and treatment of the disease, (3) social support through the erection of leprosaria and funding via donations, (4) how things changed after the 13th century and why. First, it argues that DNA and osteological evidence indicate that leprosy spread from East to West via human travel and was in Western Europe as early as the fourth

century BCE. Second, it examines secular medical and Christian thoughts on and attitudes toward leprosy, such as contagion theories at that time, diagnosis techniques, and *imitatio Christi*. Third, this chapter discusses the role of 11th to 13th-century leprosaria and hospitals that cared for people with leprosy. These were positive and compassionate places for leprous people to live and receive spiritual and physical care. In contrast, later centuries were characterized by fear of contagion and negative disgust responses, which increased significantly after the 13th century in Christian and non-Christian facilities. Fourth, to demonstrate the uniqueness of the periods, this chapter juxtaposes it against starkly opposing negative attitudes in later centuries and addresses reasons why leprosy may have become less of a concern in Europe and why it disappeared from Europe altogether.

The Humoural System: A Brief Overview

Based on Greek humoural medicine, medieval theories contended that four different types of leprosy were attributed to the corruption of blood, phlegm, cholera (yellow bile), and melancholia (black bile) within the human body. Divine will, planetary forces, poor diet, corrupt air, dirt, sexual misconduct, prolonged contact with the leprous, and heredity were among the many factors deemed likely to trigger or aggravate such conditions.[77] Demaitre reports that this period (1st c. CE to 19th c. CE) was primarily dominated by humoural medicine inspired by Galenic and Hippocratic medicine. It should be noted that Christians accepted humoural medicine as a dominant medical theory and was generally viewed as the primary medical

[77] Rawcliffe, *Leprosy in Medieval England*, 4.

system from the first to 19th century in the common era until germ theory replaced it circa 1860.[78]

Humoural medicine dominated medieval medicine stipulating that the body is composed of fluids (blood, phlegm, yellow bile, and black bile) that must remain in balance, or disease will occur. Conditions were believed to have a natural course that physicians must know thoroughly. They were thought to be caused by a disturbance in the composition of the constituents of the body; nature tries to bring these disturbances to normality through "innate heat," which "concocts" the "crude" humours of the body. There are "critical days" and "fixed days" and a crisis; if the morbid elements are not concocted, the patient dies.[79] With this theory in mind, good doctors should know what to expect throughout a disease and keep the patient comfortable. Still, they could not surpass nature's forces if a patient were to succumb to their affliction ultimately.

There is an issue in Hippocratic medicine regarding whether or not to intervene in nature's destiny and what precisely the role of a doctor was in extreme cases. This discord was of great importance in treating patients suffering from leprosy. In, *Incurability and Hopelessness: In the Hippocratic Corpus*, Heinrich von Staden presents numerous accounts from the Hippocratic Corpus that argue for intervening in terminal cases as other accounts that support abstaining from taking action in cases where death is inevitable, and interfering could

[78] In 1861 Louis Pasteur published his Germ Theory. He disproved the miasma theory by proving that microbes in the air caused decay. By 1876 Robert Koch identified bacterium causing anthrax, in 1878 he identified tuberculosis bacteria and cholera in 1883. With the discovery of disease-causing bacteria, it was undeniable that humours were an outdated theory for disease-causation.
[79] W.H.S. Jones, Hippocrates: Ancient Medicine, (Harvard: Harvard University Press, 1957) xvi.

only a) cause more damage or b) damage the doctor's reputations for their failure. However, the doctors who support intervention argue that if you can provide assistance, and the patient will die without treatment, what is there to lose by trying? Von Staden opens his paper with two contradictory passages from Hippocratic writings that summarize the binary approaches to "impossible" cases in humoural medicine; those being: (1) To make all those who are diseased healthy is impossible (Prognostics). (2) No [disease] is unmanageable or without a means of overcoming it (On the Sacred Disease).[80] Thus, the humoural approach was open for interpretation, and the writings of the Hippocratic corpus were broad. This argument regarding the treatment of the sick would directly impact the treatment of people with leprosy, which changed over the years from a philosophy that all deserve care to a policy of exile.

To bolster the humoural approach, François Olivier Touati emphasizes factors that varied over time 1) not everyone thought leprosy was contagious 2) there was a "revolution in charity" leading to the erection of numerous leprosaria to exalt the poor and imitate Christ, and 3) people with leprosy possessed a social position as "gifts from God." Elma Brenner notes that people with leprosy used to rank below the religious authority along with other sick people and therefore were given special treatment above the common folk. After the fourteenth century, Touati now classes them with prostitutes, beggars, and vagrants. His final vital conclusion is that society's morals influenced medical writings, and society's opinion of leprosy shifted from

[80] Heinrich von Staden, "Incurability and Hopelessness: The Hippocratic Corpus," In *La maladie et les maladies dans la collection Hippocratique*, (Québec: Éditions du Sphinx, 1990), 103.

God's chosen ones to sinful leches.[81] Furthermore, he warns us to remember that medical writings are never objective or neutral.

Evidence and prevalence of leprosy in Western Europe

One method of determining leprosy's prevalence in Western Europe is the incidence of paleo-osteological records. However, this evidence can be scarce because of several complexities of bioarchaeology. Burial conditions are often so poor that bodies (even though they can survive thousands of years) are often deteriorated to skeletons and lose much information, including DNA.[82] Furthermore:

> Internal factors might include the person's age: younger people's bones are smaller, more fragile, and less well developed and may not survive as well as an adult's bones. Diseased bones are also weaker and more susceptible to decay. External factors include a huge range of variables, including the pH of the burial soil (acidic soils are not good for preservation), the depth of the burial (the deeper the better for the best preservation), and the activities of scavengers within the burial environment (insects, rodents, etc.). External factors also include how well the skeleton was excavated and how much care was taken when cleaning it before analysis. Thus, the quality of preservation can be affected by what caused the person's death, what happened to the body after death, how it was laid to rest, and what happened during the burial period before excavation. For example, the funerary ritual of cremation leads to very fragmentary bones in the archaeological record, making them hard to identify and analyze.[83]

V. Mariotti et al. describe a skeleton they found that they believe is the oldest osteological evidence of leprosy in Western Europe. They summarize their findings as follows:

[81] Leche, meaning lustful.
[82] International Textbook of Leprosy, "Introduction," https://internationaltextbookofleprosy.org/, accessed March 13, 2022.
[83] International Textbook of Leprosy, "Introduction,"

> Examination of the skeleton of an adult male from the Celtic necropolis of Casalecchio di Reno (Bologna, Italy; 4th–3rd century BC) revealed some lesions on the feet, especially bilateral acro-osteolysis of the metatarsals, and on the tibia, fibula and hand. The morphological and radiographic characteristics of the bones are consistent with a diagnosis of leprosy. Other features of the rhinomaxillary region support this diagnosis. As far as we know, this case could represent the oldest skeletal evidence of leprosy in Europe, indicating the early spread of this disease toward the Western world.[84]

In, "Osteological, Biomolecular and Geochemical Examination of an Early Anglo-Saxon Case of Lepromatous Leprosy." Sarah A. Inskip et al. present osteological data describing skeletons exhibiting signs of lepromatous leprosy. They note that:

> We have examined a 5th to 6th century inhumation from Great Chesterford, Essex, UK. The incomplete remains are those of a young male, aged around 21–35 years at death. The remains show osteological evidence of lepromatous leprosy (LL) and this was confirmed by lipid biomarker analysis and ancient DNA (aDNA) analysis, which provided evidence for both multi-copy and single copy loci from the Mycobacterium leprae genome.[85]

Rubini et al. examine new skeletal evidence from Italy in their article "Tuberculosis and leprosy in Italy. New Skeletal Evidence" and explain that in the early Middle Ages, there were three individuals from central Italy from the Morrione cemetery (7th–8th century CE) in Molise that show signs of leprosy. Dating back to the 13th century, two skeletons with evidence of leprosy, both from southern Italy (Fornaciari et al., 1999), indicate leprosy's presence in Western Europe from the 11th to 13th centuries.[86] Rubini et al. also postulate that the origin of

[84] Mariotti et al., "Probable Early Presence of Leprosy in Europe in a Celtic Skeleton of the 4th-3rd Century BC (Casalecchio di Reno, Bologna, Italy)," *International Journal of Osteoarcheology* 15 (2005), 311.
[85] Inskip et al., "Osteological, Biomolecular and Geochemical Examination of an Early Anglo-Saxon Case of Lepromatous Leprosy," *PLos ONE* 10 (2015), 1.
[86] Belcastro et al., "Leprosy in a Skeleton from the 7th Century Necropolis of Vicenne-Campochiaro (Molise, Italy)," *International Journal of Osteoarcheology* 17 (2005, 440-443; Mauro Rubini, Paola Zaio, and Charlotte Roberts. "Tuberculosis and Leprosy in Italy: New Skeletal Evidence." *HOMO* 65 (2014), 28.

leprosy in the west stems from human movement across land and use an absence of leprosy in Sicily as evidence that leprosy was not, or was seldomly, spreading across water routes. They conclude that:

> The absence of these diseases in ancient Sicily could indicate that [tuberculosis] and especially leprosy preferred an overland route of transmission from the East to Europe. With regard to leprosy, a similar model of spread was proposed on a biomolecular basis by Monot et al. (2005). In the future more skeletal data for these two infectious diseases and extensive application of newer analytical techniques (e.g., biomolecular analysis) could be helpful in understanding the dynamics (increase, spread, possible cross-immunity and decline) of these diseases in ancient times.[87]

Verena J. Shuenemann et al. explain that, based on identifying ancient *Mycobacterium leprae* through the genome in Western Europe, they have discovered some forms of *M. leprae* originated in and spread from Europe. This proposes an "out of Europe" theory for the selected *M.leprae* genomes identified. Their argument goes as follows:

> Many controversies surround leprosy, which is one of the oldest recorded diseases of humankind. The origin and past spread of its main causative agent, *Mycobacterium leprae*, remain unknown although many attempts have been made to reconstruct its past from historical and archeological sources. Analysis of ancient *M*. *leprae* genomes reconstructed from archaeological remains can contribute greatly to reconstructing the origin and evolution of this pathogen. With a new set of ancient *M*. *leprae* genomes from Europe, we traced back a so far unrecognized past diversity, which places Europe as a key region for the early spread and worldwide dissemination of leprosy. Our results hint to the potential dynamic changes in the prevalence of different *M. leprae* strains in Europe during Antiquity, and highlight the need to study ancient pathogen genomes in order to better understand our past.[88]

[87] Rubini et al., 28.

[88] Verena J. Schuenemann, "Ancient Genomes Reveal a High Diversity of Mycobacterium Leprae in Medieval Europe," *PLoS Pathogens* 14 (2018), 1.

This is interesting because it places leprosy in Western Europe for the origin of *Mycobacterium leprae*. This would contradict the theory that leprosy spread from the East to the West from the fourth century to the 11th century. This does not, however, preclude this thesis' theory that more positive attitudes towards the disease spread in this manner.

Based on the DNA, genomic, and osteological evidence, leprosy has existed in and has been infecting people since before the common era in Western Europe. There are multiple theories on where the bacterium originated and when. It is generally understood (although there are other theories, such as the out-of-Europe theory described above) that leprosy originated in the East and spread through humans to the West. It is debated whether it was a result of wars, unhygienic conditions, social/health issues, existing health disparities, or something else contributed to the spread of leprosy in Europe, unequal morbidity and mortality rates (with a spike during the 11th to 13th centuries), and the eventual gradual declining in the late Middle Ages due to the Black Death, a rise in urbanization, a tipping point in the stigma, persecution, and ostracization of people with leprosy, and other phenomena acting in tandem. Rubini et al. and the World Health Organization (WHO) concur that urbanization contributed to the decline in leprosy in Western Europe. Rubini et al. write:

> According to some authors, leprosy is a disease that in the past (Manchester, 1984; Manchester and Roberts, 1989) like today (Kerr-Pontes et al., 2004) is present in populations in rural areas and for this reason declined with urbanization. Even today, countries with a significant presence of leprosy, like India and Brazil, show a greater incidence of the disease in rural regions.[89]

[89] WHO, "Leprosy," Rubini, et al. "Tuberculosis and Leprosy in Italy," 29.

This may be because there is more TB in urban areas; Shirley Penner, a retired tuberculosis (TB) nurse, explains that there would be higher TB concentrations in urban areas that would offer protection from active infection of leprosy because TB suppresses leprosy.[90] Keith Manchester explains that having (TB) would suppress and prevent the infection of leprosy and that urbanizing contributed to the increase of TB infection. He writes:

> [T]he increased tuberculous infection in the community, probably of the human-type pulmonary lesions, induces an immunity in the survivors which prevented the superinfection by allied *Mycobacterium leprae*. In the past, just as today, the majority of individuals, mostly young children, would overcome the primary tubercle invasion, would recover, and would henceforth be immune to leprosy. Pulmonary tuberculosis, being a population density-dependent disease, owes its medieval increase to urbanization or at least to the development of aggregate population groups. Both diseases, therefore, may owe their changing incidence in medieval England to a phenomenon of human social development… That [tuberculosis and leprosy] were of collective and individual significance in earlier communities is without question. It is proposed that these two infectious diseases were closely interrelated in antiquity.[91]

This coincides with historical demographic data regarding the populations of Europe in the 11th to 13th centuries. Circa 1215, Europe was comprised of multiple hamlets making a living off subsistence farming. It was said that "one could walk from France to Poland without ever seeing the sun. That's how dense the forest was."[92] Then, there was a shift in the climate that raised the temperature in Europe by one to two degrees Celsius called "the little optimum," which led to flourishing agriculture, a population boom (around double), and urbanization of

[90] Shirley Penner, "Telephone Interview from Ottawa, Canada to Mesa, USA," 42-55 minutes, conducted on April 27, 2023.

[91] Manchester, "Tuberculosis and Leprosy in Antiquity, 173.

[92] Dorsey Armstrong, *Years That Changed History: 2015*, Great Courses Signature Collection (Amazon Prime: Purdue University), accessed February 17, 2023, 10-29 minutes.

Western Europe over the next decades.[93] I suggest this climate change and resulting urbanization contributed to the decline in leprosy after the 13th century as leprosy thrived in rural regions and declined following urbanization.

Santacroce et al. explain that osteo-archaeological data now proves leprosy was present in India 4000 years ago and that leprosy followed humans as they migrated out of Africa. Manchester argues that documentary evidence from India and China may suggest they are the "cradle of the disease" (Manchester, 168). Santacroce et al. determine that leprosy dates to prehistoric times and existed at the same time as early *homo sapiens* in Africa. They write:

> For the first time, leprosy has been described in osteo-archaeological remains founded in India and dated to 2000 BC [5]. Molecular studies have shown that the disease spread following the migration paths of the first human groups from East Africa towards Asia and established itself in eastern and central Europe as well as in the Mediterranean Basin about 40,000 years ago and in the Americas in the last 500 years [6, 7]. This result suggests that even the last Neanderthals and the first Homo sapiens had contact with *M. leprae*.[94]

What they do not mention is when leprosy spread to Western Europe. Previously mentioned osteological evidence, however, should suffice to establish that leprosy was in Western Europe at least as early as the third to fourth centuries BCE. Therefore, we can date the existence of leprosy back millions of years to our early ancestors.

[93] Armstrong, *Years That Changed History: 2015*, 10-29 minutes.

[94] Luigi. Santacroce et al., "*Mycobacterium leprae*: A Historical Study on the Origins of Leprosy and its Social Stigma," *Le infezioni in medicina* 29, 624.

Attitudes during the 11th to 13th centuries

Medieval doctors

Not all doctors were made equal; Salerno produced the most refined and skilled physicians in the West at the Schola Medica Salernitana.[95] Montpellier also possessed a great reputation but was always second best. Demaitre explains that "Gilles de Corbeil (ca. 1140-1224) may have composed his versified handbook on the signs and symptoms of diseases while at Montpellier [and] he devoted 89 of its 3,358 lines to leprosy. An excerpt from those lines is as follows:

> The diet produces a surplus of unclean blood when an earthy humour, produced by a coarse diet, corrupts the nourishment of the organs. First to be mentioned are the meats of donkeys and goats; cabbage, milo, beans, lentils. [The disease] arises from food that blackens the burnt blood… with unwavering and unyielding reason, consider the place, time, lifestyle, strength, and appearance of the patient.[96]

Medieval doctors could study medical authorities like Hippocrates and Galen through earlier translations of Greek texts to Latin and through the highly influential contributions of Avicenna, which would have been becoming available in Latin translation in the 11th century. Avicenna also translated Galen and was greatly influenced by his vast contribution to medicine. Still, Avicenna revised and contributed his knowledge to his translations providing new knowledge on the subject. Brenner writes:

> This new knowledge, by the 13th century, if not earlier, provided physicians and surgeons the skills to perform diagnostic examinations.

[95] Demaitre, *Leprosy in Premodern Medicine*, 3.
[96] Ibid.

> The *iudicium leprosorum* ("judgement of lepers") was a legal procedure whereby a person suspected of having leprosy would be examined and it would be determined if they were leprous or not. These exams took place in many places across Western Europe.[97]

Between the 12th and 15th centuries, conceptions of and practices in medical care, diagnosis, and public health began to shift. Efforts to isolate people with leprosy were already noticeable in the 12th century but were not as predominant as they would be by the 15th century. Brenner notes whether people with leprosy in Rouen were being relocated to leprosaria due to contagion or because they could receive physical and spiritual care there. I would add that this thesis does not suggest that there was no fear of contagion during the 11th to 13th centuries. I would agree that some Christians were concerned about contagion.

Gerard of Cremona translated Avicenna's medical texts before 1187 which introduced the concept of contagion, corrupt air, and the proximity of people with leprosy. Constantine the African translated Haly Abba's *Pantegni* circa 1098, which stated that leprosy "could be contracted through the inhalation of noxious air (miasma) emanating from sick bodies, and through living and speaking with lepers."[98] As such, the idea that leprosy could be contracted via miasma was present in Western Europe. Whether the notion spread to the masses or remained among the educated and literate who had access to these texts is unclear.

However, the predominant belief (among people who believed in contagion versus a strictly humoural origin) is that prolonged exposure to a leprous person can result in infection. I agree that the shift in attitudes towards intense fear of contagion that resulted in the harmful

[97] Brenner, 103; Demaitre, 35-41.
[98] Brenner, 99.

treatment of people with leprosy after the 13th century did not happen overnight. It evolved progressively over centuries, and therefore it would be safe to assume that glimpses of these theories can be seen in earlier centuries. Brenner continues to explain:

> The bodily care of the leprous was shaped by medical theory, particularly the concepts of the humours and the non-naturals, and reveals that concerted efforts were made to alleviate the suffering of the lepers and to make them comfortable. Records of diagnostic examinations highlight the importance of identifying cases of the disease, and shed light on the activities of medical practitioners in Rouen.[99]

As diagnostic examinations became more common, physicians and surgeons began to pay more attention to people with leprosy inside and outside leprosaria. Physicians and surgeons were only available to a limited group of people with leprosy, as their services were expensive. A further limiting factor to treatment was the stage of the patient's disease. If the patient died, it would tarnish the physician or surgeon's reputation, impacting their income. This concern goes back to Hippocratic medicine. The treatment of leprosy had not changed much from Hippocratic medicine either. The patient was treated with changes in diet, baths, purgatives (to expel bad humours), ointments and poultices for ulcers, herbal remedies, bloodletting, and cauterization. Rawcliffe explains:

> It might, indeed, be argued that the struggle to combat *lepra* reveals the healing profession at its most inventive and pragmatic. A tendency on the part of previous generations of medical historians to deride these holistic measures, along with the diagnostic techniques adopted by practitioners, as 'superstitious' and 'primitive' now seems both misplaced and anachronistic.[100]

[99] Brenner. 108.
[100] Rawcliffe, *Leprosy in Medieval England*, 356.

In other words, ancient, late antique, and medieval doctors were not all charlatans; some of their approaches to and treatments of leprosy were useful and intelligently deduced.

In the 13th century, apothecaries were also present and trading in potions, spices, and unguents. They often entered abbeys to sell their remedies to monks. The archbishop forbade such activity, which suggests it was common among abbeys. For instance, apothecaries sometimes worked with physicians, and Eudes Rigaud ca. 1258 explained that the monastic community as a whole, not just the infirmary staff, was interested in the products offered by apothecaries.

Like the Christians in Western Europe, another Arabic medical writer, who based his knowledge of leprosy on Greek sources, also understood the possibility of hereditary leprosy due to the corruption of the humours. In this vein, the doctor, al-Majūsī, writes of *iʿ dā'* when he describes elephantiasis and explains that it is when the black-bilious humour is dominant in the blood. It breaks up, and since the semen originates in the blood too, "corruption" also spreads to it, and the illness is transmitted to future generations.[101]

Christian attitudes

Some early Christians were engaging with the meaning and function of illness in a way that allowed them to see grotesque abscesses and festering flesh as divine enhancements which elevated corporeal and spiritual status. Thus, the ability to suffer with equanimity and

[101] Manfred Ullman, *Islamic Medicine*, (East Sussex: Edinburgh University Press, 1997), 87. It is worth noting that it is the male who transmits the disease which is typical of a patriarchal society. For instance, Aristotle is quite clear that it is the woman's inability to properly "cook" the fetus that creates female babies aka undercooked or failed male babies.

overcome pain indicated that God's divine power strengthened some chosen rotting corporeal bodies (saints and people with leprosy). This contradicts ancient medical schema that portrays necrosis and pus as caused by an imbalance of humours and fluids into or away from afflicted body parts. Based on this understanding of rotting flesh, ancient physicians predominantly viewed necrotic infections as harmful diseases warranting medical treatment, whereas some Christians believed that the bodies of people with leprosy were examples of *imitatio Christi*, imitating Christ's battered and abused body on the cross.[102]

Because many saints desired to imitate Christ from His death to the late medieval period, they took up the roles of broken, beaten, and deformed beings who suffered for the sins of others. Some physically suffered through extreme asceticism, some through horrifying disease, and some through behavioural conditioning to rise above the fear and disgust factors associated with leprosy. Behavioural training is essential to note as this thesis argues that it is through behavioural conditioning that people can change their attitudes and behaviours towards diseases and disabilities in modernity and that people were doing the same thing in the past. There is a good reason why acts of extreme asceticism and horrifying diseases may have been positively received because Christians were a community of sufferers.

Moreover, to imitate Jesus Christ, Christians were compelled to live austere lives. As such, many Christians from the time of Christ to the 13th century saw people with leprosy as gifted and chosen by God to suffer to an extreme like the tormented Christ, which would allow them

[102] Penner, 2. While all necrotic and purulent infections are negative the presence of pus could be interpreted as positive in the sense that pus could be implemented as a method for cleaning a wound or draining the body of bad humours. This category of pus was referred to as "laudable pus" and even though it could produce positive outcomes it should be noted that laudable pus was still indicative of the presence of a humoural imbalance or a traumatic wound.

to go directly to Heaven, bypassing purgatory because they have suffered for their sins in this life. As a result, Christians during this period wanted to provide charity and care for people with leprosy because it was like giving charity to Christ. Thus, "the close identification between Christ and the leprous made by prominent figures such as Queen Matilda (d. 1118) and Hugh of Lincoln (d. 1200) prompted a fashion for conspicuous acts of abasement [including kissing leprous faces, washing ulcerated, pustulating feet] before the most physically repugnant individuals."[103]

Queen Matilda, for instance, among her many devotional acts towards people with leprosy, was washing and kissing the ulcerated, purulent feet of several leprous beggars in the royal apartments of her brother King David, when he walked in and was disgusted by the sight. Although he had great compassion for people with leprosy, the sight of her lips on their pustulating feet overcame him with horror. He asked her what her husband King Henry would think if he knew the same lips that kissed him kissed these rotting feet. To which she replied, "Who does not know that the feet of the eternal king are preferable to the lips of a king who must die?" Notably, the Queen is making a connection between the feet of the leprous being equivalent to the feet of Jesus. Brenner addresses this situation with the Queen and adds an account of when she sold her silk mattress upon which she birthed her son, recovered from a prolonged illness, and donated all the money to a leprosarium. Brenner states that Mont-aux-Malades (a well-funded leprosarium in Rouen) could have been the beneficiary of this "valuable and symbolic" gift due to its association with the birth of her son and healing.[104]

[103] Rawcliffe, 6.
[104] Brenner, 25-26.

In the case of Hugh of Lincoln, his hagiographer compares him to Saint Martin of Tours because he kisses residents at leprosaria infected with the disease at varying stages. Hugh retorts that Saint Martin cured people with his kisses, whereas the sick he kisses healed *him* of spiritual sickness (like Holman's reverse contagion).[105]

King Louis IX of France (1226-1270) was said to have asked his friend Jean Joinville whether he would instead commit one mortal sin or become leprous, to which he answered he would instead commit thirty deadly sins than become leprous. Louis IX was disappointed. He explained to his friend that physical leprosy ended at death, whereas spiritual disease followed you through all eternity, including into the depths of hell.[106] Louis IX's thoughts on leprosy become more evident in Bouquet's description of his frequent visits to a particularly deformed monk at a leprosarium. Rawcliffe describes how "The good king comforted his patient and said that he bore his sickness with admirable patience and that it was his purgatory on Earth; and that it was better that he suffer such a malady here than that he suffers something else in the world to come."[107] This highlights the medieval belief that suffering with leprosy "ate up" earthly sin which would forego the need to stay in Purgatory. Instead, people with leprosy went straight to Heaven, like the saints and the martyrs.

God had saved a special place in Heaven for the leprous, his chosen ones. I contend that records of donations to leprosaria from royals, elites, and lay Christians, which will be presented shortly, are evidence that providing alms to people with leprosy was commonplace

[105] Rawcliffe, 145.
[106] Ibid., 55.
[107] Ibid.

(although the amount of the donation varied depending on financial status). The reason for this was the belief that God chose people with leprosy to suffer like and live Christ-like lives. This belief benefitted everyone as people with leprosy were provided with care, and Christians (born sinners due to original sin) had a method of expiation that might get them a ticket to Heaven.

A further issue for Christianity regarding leprosy was what to do about spouses when one partner contracts leprosy, takes residence in a leprosarium, and the other is left alone. According to Rawcliffe, there was an initial willingness on the part of the papacy to allow divorce, but ultimately the decision was that marriage was insoluble. She cites a letter ca. 1175 from Pope Alexander III to the archbishop of Canterbury, which states:

> It has come to our attention that, whereas by general custom those who are afflicted by the disease of leprosy are separated from the society of men and transferred out of cities and towns to solitary places, wives are not following their sick husbands, nor are husbands following their sick wives, but are presuming to remain behind without them. Since man and wife are one flesh and ought not to live without each other, our command is that you should not delay in earnestly inducing the wives and husbands who are afflicted with leprosy, and husbands of wives, to follow them, and minister to them with conjugal affection. If they cannot be induced to do this, you should strictly order both of them to remain continent for the rest of their lives. And if they refuse to obey your command you must excommunicate them.[108]

Rawcliffe continues to explain that clerics who kept abreast of medicine became concerned in the 13th century. Raymond de Penafort, writing ca. 1234, urged couples where one was leprous to refrain from sex immediately as there was a threat that any progeny may be diseased. Henri de Suse (1235) also said the disease *might* be transmitted from parent to child.

[108] Rawcliffe, 268.

The notion of leprosy being a hereditary illness was likely inspired by Graeco-Roman and Arabic medical texts that would have been available to and popular for educated Christians. For the laity, Rawcliffe espouses the suggestion that leprosy could be passed on to children through sex was enough to motivate a cessation of this behaviour.[109] Marriage was a significant concern when a spouse contracted leprosy. Still, another factor involved in treating leprosy in the 11th and 13th centuries took place in 1054, which had important implications for Europe. The Great Schism occurred between the Roman Catholic and Eastern Orthodox churches in 1054, resulting in a series of theological and pastoral disputes related to the Holy Spirit, the Eucharist, and the role of the bishop of Rome, among others.

The Great Schism brought with it extensive brutality. The Truce of God (*Treuga Dei*) forbade violence on holy days, and clerics and peasants were granted immunity from attack by the Peace of God (*Pax Dei*). While violence plagued the land, monastic life flourished. The efficiency of cenobitic rule and the stability of the monasteries made some estates very productive. Monks were raised to nobility and were free to study various topics. Monasteries became storehouses and producers of knowledge. This would likely include sermons of the Church Fathers such as Gregory of Nyssa and Gregory of Nazianzus and their speeches addressing the positive, compassionate care of people with leprosy through charity, especially charity involving contact with the sick. Thus, this is one factor in the promulgation of sermonic literature on the more favourable treatment of leprosy and the calling for charity and

[109] Ibid., 268-269. To clarify, having sex with a leprous person can't create a child with leprosy, also leprosy is not an STI, you cannot contract leprosy via sex. If you were having sex regularly with someone you could contract sex through prolonged exposure to droplets from their breath and secretions, but it is not an STI. It would not be the sex that caused the infection, it would be the prolonged close contact.

compassion for the sick. With the rise in the authority of the Catholic Church in Western Europe, increased readings on feast days and other occasions of rotting saints would augment the fascination with necrotic and purulent bodies, further adding to the more positive reception of leprous bodies in society.

The scent of people with leprosy plays a significant role in Christian attitudes toward leprosy. People with leprosy produce a strong, foul odour adding to the disgust and aversion of people's reactions. Preachers and literature teach Christians, however, to overcome this foul odour, embrace people with leprosy, and provide them with charity, kindness, and tolerance for the disgust related to leprosy. For example, when the body of St. Edmund of Abingdon (ca. 1240) was exhumed for translation in 1247, it produced a Heavenly scent and was physically incorruptible. Etheldreda and Cuthbert led a leprous nobleman on pilgrimage to their shrine of St. Edmund as it appeared to enhance the power to halt disease progression.

Additionally, those who overcame the fetid stench were told they would be appropriately rewarded. A tale on the theme of *Christus quasi leprosus* recounts a pious noblewoman defying her husband by offering their bed to someone with leprosy. The husband returns, and forces open the door in a rage, but he is confronted by a blissful aroma so powerful he thought he had been transported to paradise.

Conflicting views

Grzybowski et al. argues for a more negative treatment of people with leprosy from Christians (perhaps all religions), stating that "during the first millennium, leprosy was rapidly inscribed in the system of religious prohibitions — the disease was a punishment by God for

wrongdoing, and the disease was associated with the lower spheres of the society."[110] Crislip paints the picture of a compassionate, caring approach that does not blame the sick for their illness. He writes:

> The sick cannot get better on their own but rather need help. In other words, the sick monastic did not bear the responsibility for his or her illness. The "responsibility" here is twofold. First, the sick do not bear the responsibility or blame for causing their illness. Second, the sick cannot be expected to recover on their own; they need the assistance of others in order to return to health.[111]

What, if any, was the relationship between class and contraction of leprosy? I think it is fair of most diseases that social status, access to better hygiene, physician care, and the ability to take time off work to rest all create a disequilibrium between upper and lower classes. That being said, upper class, wealthy people were contracting leprosy, and we can see this in the records of property donations to leprosaria. Furthermore, it is clear that leprosy was divided by upper and lower-class patients because of the stark difference between well-funded, elite leprosaria like Mont-aux-Mallade and leprosaria housing people of lesser means.

A further issue with the article by Grzybowski et al. is that it is not always clear what period they describe. In their abstract, they clearly reference the first millennium and then the fourteenth to nineteenth centuries; however, when they begin the body of the paper, it sounds like they are describing modern leprosy discussing employment and psychiatric issues

[110] Andrej Grzybowski et al., "Leprosy: Social Implications from Antiquity to the Present," *Clinics in Dermatology* 34, 8-10. I disagree with this perspective and further argue that this is an outdated theory for an article that was published in 2016 when Crislip had already published his book From *Monasteries to Hospital: Christian Monasticism and the Transformation of Health Care in Late Antique* that masterfully illuminates how early cenobitic monks and their Rules for treating sick monks influence the development of the hospital and shaped how Christians came to understand and treat illness in the first millennium and beyond.
[111] Crislip, *Monastery to Hospital*, 76.

compared to other skin disorders.[112] They then address stigma and ostracization but still do not mention which period they are addressing. To reiterate, my thesis argues that negative attitudes (although some existed) were not the dominant attitudes toward people with leprosy until after the 13th century. Grzybowski et al. write:

> It was also visible in the sanctioned system of warning, including bells, rattles, knockers, and bright robes marked with the yellow cross or a letter L, from the Latin word *leprosus.* Finally, to avoid being touched, they were armed with the sticks, as well as being given different and separate communication tracks, including separate entrances and windows for receiving meals. Deprived of many rights (eg, not being allowed to marry) and rejected by their families, lepers were forced to stay in leprosaria, peculiar ghettos known as leper colonies, which, however, had a strong and profound epidemiologic justification, taking into account extreme infectiousness of the leprosy.[113]

This passage is rife with errors. First, leprosy is not highly infectious as detailed numerous times in this thesis. Most people have a natural immunity to the disease, the bacillus is incredibly slow to multiply, and according to WHO, it requires prolonged (even months) exposure to the sick to be at risk of infections. Additionally, popular/common belief is now that bells, rattles, knockers, and clappers could have been used to make the person with leprosy's presence known so that people could donate alms to the leprous. One common belief before the fourteenth century was that leprous people were touched by God, chosen to suffer in this life to earn a special position in Heaven, similar to Christ. Providing alms to a person with leprosy or donating to a leprosarium were ways that lay people could benefit from the leprous gifted children of God. It should be noted, however, that Grzybowski et al. are not entirely wrong as some people did

[112] Grzybowski et al., 8.
[113] Ibid., 9.

believe that leprosy was caused by sinful behaviour such as sexual misconduct but scholars such as Touati have recently argued that the majority of people viewed them as being closer to God.[114]

Furthermore, continuing to correct the article's errors, the stick may not have been to fend off approaching people to avoid touching them. It is more likely that due to the progression of the disease and the effects it has on the nervous system, the stick was likely used as a support. The segregation probably stems from the fact that, although fear of contagion was minimal during the period I am addressing, there was still confusion about how the disease spread. Unfortunately, some people also didn't want to look at them. This will be addressed further in Chapter 2, discussing disgust. What is most essential and stigmatizing, however, is the claim of leprosy being "extremely infectious." According to Holly Pevzner and Jane Yoon Scott, "More than 95 percent of people worldwide are naturally immune to '*M. leprae,*' making leprosy a rare disease."[115] Typically, your own immune system is strong enough to fight it off. Immune responses were likely different in the Middle Ages, though. Keeping that in mind, Rawcliffe writes that "we should bear in mind that levels of immunity to *Mycobacterium* appear to have risen as the community built up its resistance, although the impact of this process is hard to judge.[116] If immunity was present in England, it could be assumed that humans had immunity, to some degree, throughout Western Europe and that,

[114] Simon Roffey, "Medieval Leper Hospitals in England: An Archaeological Perspective," *Medieval Archaeology* 56 (2012), 204.
[115] Holly Pevzner and Jane Yoon Scott "What is Leprosy? Symptoms, Causes, Diagnosis, Treatment, and Prevention," *Everyday Health*, What Is Leprosy? Symptoms, Causes, Diagnosis, Treatment, and Prevention | Everyday Health, accessed October 13, 2022.
[116] Rawcliffe, 5.

therefore, leprosy was not "extremely infectious." However, if a person did present visible features of leprosy, they were often removed from public spaces. They became wanderers, beggars at the city gate, or took up residence in a leprosarium or hospital where they could receive care.

Leprosaria and Hospitals

The distinction between a hospital and a leprosarium for this thesis is simple. Other scholars have varied definitions; some use "leprosarium" and "hospital" interchangeably. For this thesis, a hospital is a facility that treats many patients with various conditions and may have kept an area for caring for people with leprosy, such as in a monastic hospital. A leprosarium was a long-term residence for people with leprosy that provided medical and spiritual care. Donations funded both, and both were originally Christian inventions based on the mandates of philanthropy and charity.

The advent of the hospital demonstrates the importance of healing in Christianity and is a significant representation of the phenomenon of the Christian concept *philanthropia.* Ferngren explains that Christian philanthropy was founded on charity and compassion and was thus distinct from pagan philanthropy.[117] Pagan philanthropy stemmed more from a desire to please a deity who would grant the charitable person favour. Philanthropy in the ancient Graeco-Roman world also meant accruing honour and recognition. It differed, in theory, from Christianity, where the goal was to provide care for the poor and the sick as Jesus would have

[117] Gary B. Ferngren, *Medicine and Health Care in Early Christianity*, (Baltimore: The Johns Hopkins University Press, 2009), 13.

out of a mandate to care for the sick through charity and compassion. This charity and compassion reached beyond those in the Christian community and compelled Christians to care for the sick regardless of the ill person's faith. Such a motivation to care for the sick *en masse* spurred the need for facilities to house those seeking aid. Riva and Cesana remark that hospitals did precisely that. They cared for the poor, the marginalized, and the rich equally and were models of Christian charity.[118]

Scholarship suggests that Christians established the first hospitals in the fourth century. Nutton states that the earliest hospital facility was built by the bishop of Antioch Leontinus, around 350 C.E. in Antioch but does not describe the establishment's inner workings. Then, several years later, Eustathius of Sebaste/Pontus had a "poorhouse" built in which those "marked by disease" could find help. Although Nutton holds that "hospitals in the sense of public institutions for the medical care of exclusively sick people are not encountered before the fourth century…."[119] He also notes that before the hospital, there did exist facilities for caring for the poor such as pagan healing shrines, Christian hostels, and Jewish institutions (There were also, of course, pagan and Jewish physicians). What was unique about Christian hospitals was their scale and organization and that they treated Christians and non-Christians alike. This was not seen until the fourth century. The advent of the hospital is significant for the socio-medical treatment of leprosy. It created a location for the congregation of the sick that, in turn, generated new social norms. Hospitals provided outcast people suffering from leprosy

[118] Michele Augusto Riva and Giancarlo Cesana, "The Charity and the Care: The Origin and the Evolution of Hospitals," *European Journal of Internal Medicine* 24 (2013) 1.
[119] Vivian Nutton, "Healer and the Act of Healing in Classical Greece," *European Review* 7 (1999), 27.

lodging, food, and medical treatment previously unavailable to them.[120] Inside and outside hospitals and leprosaria, Christians were practicing medicine to alleviate the suffering of others. Early Christian medicine can be divided into two categories for study: medical and spiritual, although there is much overlap. Medical treatments included treatments based on the humoural system, to which many Christians adhered, including Christians in charge of monastic hospitals and leprosaria. Spiritual healing had treatments such as prayer, anointment, and miracles. Both medical and spiritual treatments could be and were used to treat leprosy.

As Crislip observes in his study of monastic hospitals, Basil of Caesarea firmly supported the use of Hippocratic and Galenic medicine in monasteries.[121] Furthermore, Shenoute enforced a rule that monks were to seek a doctor's help for a visible disease, such as a pustule, but were to employ prayer or spiritual healing for a hidden illness, such as a headache. Records show that people with leprosy were supposed to be offered shelter and treatment.[122]

Riva and Cesana explain the Christian hospital was the model for the later Arabian hospital established in Damascus by Caliph el Welid in 707 and later facilities. These hospitals would later serve as what could be compared to modern teaching hospitals, where students from Europe and the Far East, regardless of religion, could come for an education. These teaching hospitals were called *bimaristam*.[123] In Christianity, the hospital spread into Medieval Europe. As early as the sixth century, churches funded, established, and supported hospitals in

[120] Crislip, *Monastery to Hospital*, 111.
[121] Ibid., 27.
[122] Crislip, 2005; Ferngren, 1992, 2009; Horden, 2000, 2005; Riva, 2013; Roffey, 2012
[123] Riva and Cesana, "The Charity and the Care," 2.

Europe. By the 12th century, Riva and Cesana state that wealthy donors were funding hospitals in cities. They provide two examples as follows:

> In 1174 St. Gerard (c. 1134-1207), who came from a wealthy family of dyers, inheriting the property of the death of his father, established a hospital at Monza, near Milan. Similarly, in 1288 the rich banker Folco Portinari (died 1289) founded the "Santa Maria Nuova" hospital in Florence.[124]

Positive places versus imprisonment of the infected

During England and France's 11th to 13th centuries, leprosaria and hospitals were not warehouses to store people with leprosy to get them off the streets and away from healthy. At some leprosaria, the infected were free to leave and do various activities that might bring them into contact with the healthy. Leprosaria were as much for the sick as they were for the healthy. It does seem that the healthy preferred that leprous people spend most of their time outside the city or town. This was likely due to their unpleasant appearance and stench. That being said, the healthy, during the 11th and 13th centuries, benefitted from the presence of people with leprosy because the healthy could offer the sick alms. Regarding leprosaria being positive additions to the treatment and lives of people with leprosy, Rawcliffe writes:

> … activities such as begging, pilgrimage, horticulture and visits to friends and family meant that hospitalized lepers were a common sight in the streets and lanes of medieval England. Whereas more remote, rural houses reflect a desire for the eremitical life, far from the temptations of the world, suburban hospitals were closely integrated in the economic, social and religious fabric of neighboring towns and cities…Measures for both physical and spiritual care were clearly important to the founders and early benefactors.[125]

[124] Riva and Cesana, "The Charity and the Care," 2.

[125] Rawcliffe, *Leprosy in Medieval England*, 8.

Moving into a leprosarium was not a death sentence either. Debatably, some people with leprosy were even expected to be cured, while others could only be offered palliative care. Rawcliffe suggests that some people with leprosy were deemed cured, whereas Brenner clearly states that leprosy was not curable in the Middle Ages. I agree with Rawcliffe on this issue as the appearance that leprosy was being healed in the 11th to 13th centuries was likely due to the misdiagnosis of various skin conditions as being leprosy and the difference between tuberculoid leprosy and lepromatous leprosy described in the Introduction. Brenner, however, is correct that, technically, confirmed cases of leprosy in the medieval period could not have been cured. The notion that some people had faith that people with leprosy could be healed in this time (after the ascension of Christ) by natural means and through prayer must have inspired a feeling of hope in society and further reified the notion that people with leprosy are chosen children of God.

By the 15th century almshouses, hospitals, and leprosaria were all being commanded to no longer admit people with leprosy and to eject any leprous residents they may have due to the danger of contagion. I argue this is also due to increased stigma towards people with leprosy due to their deformities, fear of leprous attacks, and other negative responses to people with leprosy that developed since the late 13th century. Chapter 2 will demonstrate how a pocket of a few Christians who never adopted positive feelings towards leprous people could have insighted mass panic in most Christians in the 14th century through brain responses to facial expressions explained by neuropsychology and neurobiology as well as behavioural psychology and behavioural conditioning theories like cognitive behavioural therapy.

Furthermore, just as a reinterpretation of scripture by Gregory of Nyssa and Gregory of Nazianzus led to a societal shift in attitudes towards leprosy to inspire Christians to provide charity and compassion to the sick, a change in theology away from the traditional liturgy and onto new concepts and thinking likely provoked a shift in focus from leprosy back onto contagion. For this Demaitre explains that, in the 14th century, there were popular associations with "wickedness" and leprosy that were "fomented most intensely by the metaphors and moralizations of preachers," but it may have even been reinforced by a medical textbook which emphasized the "evil in the causes, essence, and consequences on the disease."[126] Thus there was a clear shift in attitudes in the laity but also in the clergy and professionals after the 13th century.

Moreover, after the 13th century, hospital statutes directed that no one with marked skin that could be a sign of leprosy be admitted. Archbishop Henry Chisele insisted that all the almsmen at Higham Ferrers should be "clene… of their bodies, without botches, bile [boils] or blanes [sores]', lest they prove 'noisome' to their companions."[127] This shift from establishing hundreds of leprosaria across England and France in the 11th to 13th centuries for the compassionate physical and spiritual care of leprous people was funded by donations. I argue it indicates the development of the stigmatization and discrimination of people with leprosy by the 15th century.

[126] Demaitre, *Leprosy in Premodern Medicine, 6.*
[127] Rawcliffe, *Leprosy in Medieval England*, 277.

Even the faithful, charitable Christian bishops were losing faith in their mission to care for the leprous like Christ did. Instead, they too seemed unable to tolerate the disgusting qualities so many seem to come to hate in the late centuries which ultimately leads to attempts to drive the leprous out of Western Europe. Upon expelling a person with leprosy from his monastic complex, Bishop Godfrey of Asaph explains why he was compelled to such action. He states:

> The tuberous face, weeping eyes, balding eyebrows, the spreading ulcers on the arms and thighs, which penetrated to the very bones, provoked nausea. His hoarse voice was barely audible to those standing near to him; his bandages had to be changed every day, or at least on alternate days, because of the flow of matter. All these deterred others from living or conversing with him.[128]

As such, life with leprosy after the 13th century was rife with suffering. Turning back to the lifestyles of the leprous during the 11th and 13th centuries, some people had significant freedoms such as day passes to visit friends and family in town, have their husband or wife come live with them, host elaborate festivals on feast days where the sick and the healthy intermingle (which will be addressed in a later section); farm animals and crops, enjoy fishing, that being said; life at a leprosarium could still be harsh on a day-to-day basis.

Life in a leprosarium

While much evidence of life inside medieval leprosaria is lost, some remain in the form of archival and architectural data.[129] Brenner contributes a significant amount of information on life inside a leprosarium. She remarks that in Rouen, a group of people with leprosy may have

[128] Rawcliffe, *Leprosy in Medieval England*, 278.
[129] Brenner, *Leprosy and Charity in Medieval Rouen*, 19, Roffey, "Medieval Leper Hospitals in England," 222-227.

formed a small community that became the Mont-aux-Malades leprosarium. From about 1106-1135, this community enjoyed royal patronage.[130] Roffey furthers this claim writing that communities likely also existed in other areas in Western Europe, such as St. Mary Magdalen leprosarium outside Winchester in the 11th century.[131] Some leprosaria are found in idyllic locations, in unpolluted and tranquil settings. This may have reflected a desire to care for people with leprosy and provide them with a peaceful and sanitary living space to encourage healing or palliative care for those who could not be cured. Their location outside of cities, on hilltops, and at crossroads may also suggest an effort to cohere with the biblical injunction that people with leprosy should be physically separated.[132]

Conversely, Brenner suggests more positive/practical reasons why leprosaria may have been built outside the city, including that the land was cheaper and more readily available, there was a more reliable water supply, the community of people with leprosy needed land to farm, and their locations allowed them to collect alms from passing travellers.[133] This offers some insight into life in a leprosarium. It suggests that they were places primarily where people with leprosy communed with each other and enjoyed self-sustaining lives. Even though some leprosaria were fortunate to be self-sufficient in food, clothing, building material, water, etc., they also received funding from royal patronage, the elite, and the laity (including travellers).

[130] Brenner, *Leprosy and Charity in Medieval Rouen*, 20.
[131] Brenner, *Leprosy and Charity in Medieval Rouen*, 20; Roffey, "Medieval Leper Hospitals in England," 203.
[132] The Harper Collins Study Bible: Fully Revised and Updated New Revised Standard Version (NRSV) Including Apocryphal Deutocanonical Books with Concordance, ed. Harold W. Attridge et al., (San Francisco: HarperOne, 2006), Leviticus 13-14.
[133] Brenner, *Leprosy and Charity in Medieval Rouen*, 21.

Some leprosaria were less fortunate, had less sustainable establishments, and were much more destitute, receiving far less (if any) donations. These leprous poor survived by begging.

Rawcliffe, Brenner, and Roffey all provide detail into the inner workings of leprosaria in Western Europe. Rawcliffe explains that along with people suffering from leprosy, and religious figures, there were a variety of other people living in leprosaria, including the spouses of people with leprosy.[134] This would change after the 13th century. By the late 1460s, Rawcliffe writes that records show that one merchant's wife demanded her husband be immediately dispatched to a leprosarium and their marriage dissolved. Her husband's lawyer spelled out her moral and conjugal obligation that her husband can stay in the house until "such time as hospitalization seemed unavoidable."[135] This is noteworthy because of the earlier centuries' concerns with passing on leprosy to offspring through infected semen. Research outside the scope of this thesis could determine a shift in attitude toward hereditary leprosy after the 13th century. Ultimately, marriage was determined as a sacred bond that could only be dissolved by death.[136] Alternatively, and more predominantly in lower social classes, some wives sought to and were allowed to follow their husbands into *leprosaria*. A lack of opportunities to make a living and acquire necessary resources, as well, perhaps, as lower levels of anxiety about the contagiousness of *lepra*, meant that individuals at the bottom of the social hierarchy frequently appear to have stayed with diseased spouses.[137]

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[134] Rawcliffe, *Leprosy in Medieval England*, 269; Brenner, *Leprosy and Charity in Medieval Rouen*, 48-52; Roffey, "Medieval Leper Hospitals in England," 217-218.
[135] Rawcliffe, *Leprosy in Medieval England*, 269.
[136] This decision took place circa 1460, see Rawcliffe, 269.
[137] Ibid.

There are two things worth elaborating on in this statement. First, why did "individuals at the bottom of the social hierarchy…[have] lower anxiety levels and the contagiousness of *lepra*?" Those in Western European society who were of the lower class would likely have been illiterate; therefore, most of their education came from the Church. During this period, it seems the Church was preaching compassion and charity towards people with leprosy, not contagion. As this thesis has argued, that shift came in later centuries, which will be elaborated on shortly. More importantly, the lower class was already down in the trenches and regularly exposed to various vicious diseases, including yellow fever, syphilis, smallpox, plague, and starvation; a clean leprosarium, with daily meals, might have been a welcome opportunity.[138]

Second, were husbands and wives allowed to stay together, or did they reside in segregated areas (perhaps coming together for activities such as farming and eating)? Timothy Miller and John Nesbit write that in leprosaria in the East, male and female residents were kept on separate floors. They write, "we find the same arrangement to separate the sexes in some of the better documented [leprosaria] of the medieval West."[139] This is probably due to the perceived danger of leprosy's hereditary nature, which meant that sex could result in leprous children, which would understandably be something to avoid if possible.[140] Furthermore, some leprosaria were already segregated, such as Salle-aux-Puelles in Rouen, which was a women-only leprosarium.

[138] This is almost like how for some people today life in prison is predictable, and safer in some ways, at least they are guaranteed food, shelter, and health care (Anderson, personal communication, 2023).
[139] Timothy S. Miller and John W. Nesbit, *Walking Corpses: Leprosy in Byzantium and the Medieval West*, (Ithaca: Cornell University Press, 2014), 82.
[140] Manfred Ullman, *Islamic Medicine*, (Edinburg: University of Edinburg Press, 1997), 87.

Treatment

The acute symptoms, such as ulcers or lesions, were treated by humoural remedies such as ointments, unguents, plasters, and bathing. Palliative care included dietary regulation, exercise, clean clothes, shelter, phlebotomy (bloodletting), and cauterization (according to humoural instruction). The location of a leprosarium also contributed to the care of its patients. In medieval medicine, the quality of the environment, physically and psychologically, directly impacted healing. Brenner explains, for example:

> The lepers at Monte-aux-Malades lived in an unpolluted and tranquil setting, features which may well have been seen as beneficial to their palliative care. The *leprosarium*'s location may thus reflect the idea about how the leprous could best be cared for, as well as cohering with biblical injunction that they should be physically separated.[141]

Thus, caregivers in leprosaria aimed to prevent the worsening of the disease in patients with mild symptoms (such as may be found in the early stages of tuberculoid leprosy) and avoid suffering in those with advanced stages of illness. Brenner notes that because Rigaud's statutes for Salle-aux-Puelles in 1249 mentions both "the more sick" and the "the more gravely ill" among the leprous sisters that this is evidence that contemporaries were aware of varying degrees of leprosy (perhaps stemming from the four humours and their unique leprosies) and degrees of severity. As a result, less severe leprosy, and end-stage leprosy were treated differently.

[141] Brenner, *Leprosy and Charity in Medieval Rouen*, 90.

Food

People with leprosy were encouraged to eat mild, moist food based on their humoural imbalance. Good options were eggs, freshly baked bread, fresh fish, chicken, "good" pork, and light wine. This is likely why they farmed pigs, hens, cattle, and some had access to fresh water to fish in.[142] Circa 1258 Rigaud's instructed that "non-leprous clerics and the sisters should share the same food, unless a change needed to be made for a reason such as the offering of hospitality to guests."[143] This was the diet plan found at Salle-aux-Puelles.

On February 18, 1297, Prior Richard issued a charter regarding provisions for monks at St. Ouen, Rouen's largest abbey, at Mont-aux Malades. Monks had a diet of daily wine and bread and were provided with various meats, eggs, and herring. Salle-aux-Puelles and Mont-aux-Malades, however, were two affluent establishments; there were also poor leprosaria that relied on donations such as Salle-aux-Puelles donating its leftover and excess food to leprosaria that relied on their charity. Furthermore, some people with leprosy still had to beg for food even though they found shelter. This depended on which leprosarium they could make a dowry for, if they made a dowry at all, and how self-sufficient and well-funded that leprosarium was.

Women's Roles

Women played a significant role in caring for the sick in leprosaria (as women have and continue to in many situations throughout history). Brenner explains that:

[142] Rawcliffe, *Leprosy in Medieval England*, 213-214. It is worth noting that at least this leprosarium and likely others received guests and enjoyed communal dinner with them.
[143] Brenner, *Leprosy and Charity in Medieval Rouen*, 96.

> Women's attention to the sick formed part of their broader preoccupation with physical, domestic activities such as caring for children, preparing food, attending women in childbirth and laying out the dead. As Carole Hill argues, 'Women's domain, as officially endorsed by the Church and understood by custom, was service of the body.'"[144]

At La Madeleine certain lay women took over specialized duties within the hospital. Brenner does not state whether or not these were leprous lay women or healthy women who did not have medical training. She does write that the lay women provided a dowry upon entry that typically consisted of a property rent.[145] Brenner goes on to write:

> The lay women at La Madeleine came from relatively affluent backgrounds: they provided a dowry upon entry to the hospital community, usually consisting of property rent. Among them, certain women took on specialised roles in the hospital. The nurse oversaw the sick ward, assisted by two chambermaids. The woman responsible for beds and bedding received the poor when they arrived at the hospital, taking their clothes and giving them sheets and covers. The pittance and the cellarer were charged with distributing food to the poor. The midwife cared for women giving birth and abandoned infants received at the hospital, who were fed by four wetnurses.[146]

Regardless of whether the women were leprous or healthy, the women at La Madeleine cared for their residents by providing clean clothes and linen, serving as midwives to the pregnant, providing wetnurses to abandoned infants, providing food to the residents, and distributing food to the poor.[147]

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[144] Brenner, *Leprosy and Charity in Medieval Rouen*, 90.

[145] Brenner, *Leprosy and Charity in Medieval Rouen*, 90. It is interesting, to note that the women provided the service of wetnurses when there was a concern of hereditary leprosy. It would go to reason that infants may have leprosy. This further suggests that these women had leprosy themselves, but why would leprous women nurse babies if there was a chance that they may be healthy? Even humoural medicine should dictate that leprosy can be spread through the ingestion of fluids.

[146] Ibid.

[147] Ibid. Brenner does not make it clear if the food is being distributed to the poor people with leprosy or if the women are *also* handing out food to the poor, but based on the fact that she has already mentioned that the women have distributed food to the leprous I conjecture that the women are additionally distributing food to other poor people.

Canons, rules, and laws

In 1159, emperor Fredrick usurped the name of Pope Victor IV and was enjoying great authority and war for a long time. A serious schism had arisen out of this conflict. Ultimately, Pope Alexander gained victory and promised the emperor he would summon a general council to end the schism within the Church and the quarrel between the papacy; it was summoned by Pope Alexander in 1178. In 1179, at the Third Lateran Council, Canon 23 dictated that:

> *Cum dicat Apostolus, abundantiorem honorem membris infirmioribus deferendum, econtra quidam, quae sua sunt, non quae Iesu Christi, quaerentes,* ***leprosis*** *qui cum sanis habitare non possunt vel ad ecclesias cum aliis convenire, ecclesias et coemeteria non permittunt habere nec proprii iuvari ministerio sacerdotis. Quod quia procul a pietate Christiana esse dignoscitur, de benignitate apostolica constituimus, ut ubicumque tot simul sub communi vita fuerint congregati, qui ecclesiam, cum coemeterio sibi construere et proprio valeant gaudere presbytero, sine contradictione aliqua permittantur habere. Caveant tamen ut iniuriosi veteribus ecclesiis de iure parochiali nequaquam exsistant. Quod enim eis pro pietate conceditur, ad aliorum iniuriam nolumus redundare. Statuimus etiam ut de ortis hortis et nutrimentis animalium suorum decimas tribuere non cogantur.*[148]
>
> Although the Apostles says that we should pay greater honour to our weaker members, certain ecclesiastics, seeking what is their own and not the things of Jesus Christ, do not allow **lepers**, who cannot dwell with the healthy or come to church with others, to have their own churches and cemeteries or to be helped by the ministry of their own priests. Since it is recognized that this is far from Christian piety, we decree, in accordance with apostolic charity, that wherever so many are gathered together under a common way of life that they are able to establish a church for themselves with a cemetery and rejoice in their own priest, they should be allowed to have them without contradiction. Let them take care, however, not to harm in any way the parochial rights of established churches. For we do not wish that what is granted them on the score of piety should result in harm to others. We also

[148] St. Andrew's Abbey, Valyemo, California, "The Third Lateran Council (1179)," http://ldysinger.stjohnsem.edu/@magist/1179_Lateran3_ec11/02_lateran3.htm, accessed January 4, 2023.

> declare that they should not be compelled to pay tithes for their gardens or the pasture of animals.[149]

That the care and role of people with leprosy in medieval society in Western Europe by the Church is being addressed in a canon at the Third Lateran is evidence of the importance of the leprous Christians during this period. At this time, people with leprosy were still considered part of the Christian community. This changed after the 13th century when the Church began to see people with leprosy as burdens instead of equal parties in reciprocal, positive relationships. It is also worth noting that this canon states that some people were not abiding by this canon's rule, or it would not have had to be addressed and made law.[150]

In the 13th century, although there were still exceptions and these laws had not yet taken root in society or in the courts, laws were beginning to enforce negative attitudes towards people with leprosy. In England, like in Wales, as early as the 1220s, laws were enacted to force people who were significantly deformed due to leprosy to live in leprosaria, and as a result, they gave up their legal rights to plead, inherit, and make contracts.

In Wales, this was known as 'the civil death.'[151] Western European leprosaria offered safe spaces for the leprous to live that offered healing for the sick and removed their unsightly bodies from the view of the healthy, which fostered a positive symbiotic relationship between the healthy and the sick which was repaid via donations to leprosaria. However, not all leprosaria were created equally, and not all enjoyed the high status of Mont-aux-Malades or

[149] Papal Encyclicals Online, "Third Lateran Council – 1179 A.D.: Council Fathers 1179 A.D.," https://www.papalencyclicals.net/councils/ecum11.htm, accessed January 4, 2023.
[150] Laws are made to stop behaviours that are a problem, not behaviours that are not occurring.
[151] Rawcliffe, *Leprosy in Medieval England*, 272.

Salle-de-Puelles in France or St. Mary Magdalen in England. Yonville or St. Gervais, St. Sever, St. Léger-du-Bourg-Denis, and Bois-Guillaume were leprosaria at the gates of Rouen in the 14th and 15th centuries, which were relatively poor establishments whose residents would receive alms at the doors of the cathedral or were dependant on alms from begging. While a spectrum of poorly funded and well-funded leprosaria in the 14th and 15th centuries do not necessarily indicate a shift in attitudes from the 11th to 13th centuries, the attitude of the Church, I would argue, does. Brenner states that "on 14 April 1478, the cathedral chapter had decreed that lepers could not gather at the doors on Sundays and feast days: otherwise, their monthly alms distribution would cease."[152] This is significant because Sundays and feast days would be the most popular days for people to attend church and therefore the most lucrative days for people with leprosy to beg for alms. Banning people with leprosy from the church steps on these days would drastically impact their ability to sustain themselves and further demonstrates a lack of compassion and a growing stigma that people with leprosy are not deserving of charity.

Rawcliffe notes that "legal 'death' was thus a relative concept, and moreover one liable to change over time. As late as 1170, for example, the sale and purchase of property by confirmed lepers did not pose any difficulties."[153] Conversely, anecdotal cases of men such as Adam de Gaugy, "smitten with leprosy," chose to remain in seclusion in his home rather than enter a hospital and in 1279 he was allowed to inherit his late brother's estate and pay homage to the King's steward.[154] By the turn of the 14th century, in medieval England, royal justice still took no

[152] Brenner, *Leprosy and Charity in Medieval Rouen*, 80.
[153] Ibid., 272.
[154] Ibid., 273.

issue with a leprous plaintiff claiming inheritance as long as they waited outside the court and appointed an attorney to plead the case on their behalf. Furthermore, "the revised statutes of St. Julian's hospital (1344) assumed that each brother would not only enter the house with moveable possessions 'to ease his infirmity,' but would be free to bequeath a third upon any person of his choice."[155]

Moreover, the cathedral emphasizes that it will withhold monthly alms if disobeyed as if people with leprosy are petulant children not deserving of assistance. During this period, any charity should be counted as lucky versus a Christian mandate to provide compassion and care to people with leprosy. Brenner remarks that "in a period in which there was also increasing anxiety about the transmission of disease, and growing hostility towards the vagrant poor, the leprous and other categories of the sick and destitute became less of a focus of Christian charity during this period."[156] In essence, as it seems to have always been and continues to be, the wealthy and clean elicit sympathy and assistance whereas the dirty and poor evoke disdain and contempt. This is not a matter of attitudes towards leprosy, I argue this is an attitude of elitism.

Similarly, as early as the 12th and 13th centuries, "official" rules created laws that dictated that people labelled *leprous* could not inherit or purchase new property or wealth. At this point, people with leprosy were, however, still allowed to keep the property and wealth they already possessed. Ralph Glanville (ca. 1190), founder of the leprosarium at West Somerton, outlines this law in his collection of laws and customs of England titled, *De legibus et consuetudinibus*

[155] Brenner, *Leprosy and Charity in Medieval Rouen,* 273.
[156] Ibid., 16.

Angliae.[157] Thus, in the 13th century, people with leprosy were still afforded rights and options under the law. By the 14th and 15th centuries, however, those infected faced much harsher attitudes and charity was limited.

Recorded donations and establishments

William le Gros (ca. 1179) in his later years became devoutly religious and established two Cistercian monasteries which treated and housed people with leprosy in Meux (Yorkshire) and Vaudey (Lincolnshire). He also founded another near his house in the borough of Hedon Holderness.[158] Rawcliffe goes into detail regarding William's establishment of a leprosarium at Newton Garth in 1170, Rawcliffe writes:

> As his foundation charter reveals, it was a handsome endowment, comprising a substantial amount of land stocked with five hundred sheep, twenty-four oxen (three plough teams), six bulls, twelve cows, twenty pigs, a hundred hens and sixty geese. To this he added a neighbouring mill at Preston, then worth 66 [sous] 8 [denier] a year, as well as the right to hold an annual fair, recently confirmed by the crown, which took place in the last week of July around the feast of the Magdalen. The grant was to support a hospital for twenty lepers and a number of servants, along with two priests and two clerks to celebrate the divine office.[159]

It seems evident from this donation to establish a leprosarium that at least some Christians who could afford to do so were choosing to fund leprosaria and ensure the care of people with leprosy. Many leprosaria do not have founding records but "a bare minimum of 320 *leprosaria*

[157] Ibid., 271.
[158] Rawcliffe, *Leprosy in Medieval England*, 104-105.
[159] Ibid., 105.

were established in England between the close of the eleventh century and the Dissolution, most being in existence well before 1350."[160]

Like William le Gros, Hugh, Earl of Chester (ca. 1118) and Sir David Latimer founded leprosaria after people they cared about (his knight and his daughter, respectively) fell ill with leprosy. They established extensive facilities to house and care for multiple people with leprosy and ultimately house multiple leprous patients.[161] While nobles and royals donated en masse and often funded the erection of new facilities between the 11th and 13th centuries, the donations of lay folk were meagre and scattered. This would be expected, however, considering the laity's income in medieval England and France was significantly less than the elites' income. The gap between the lower and upper classes was vast, and the lower class seemed to be donating what it could afford.

Another benefit of donating to a leprosarium was political. For Anglo-Norman nobles, their lords, and their vassals, charity to particular leprosaria was a method to reinforce bonds and loyalty. Furthermore, with the royal family, it could strengthen family ties often by dedicating endowments to deceased ancestors. Just like making a donation or endowment to a deceased loved one today like a park bench or hospital wing. This appears to have begun with the establishment of the first leprosaria in Western Europe, Mont-aux-Malades in 12th century Rouen by Henry I and his wives Matilda of Scotland (queen from 1100-1118) and Adeliza of Louvain (queen from 1121-1135).[162] Queen Matilda, in her exalted benevolence and

[160] Ibid., 106.
[161] Rawcliffe, *Leprosy in Medieval England*, 108.
[162] Brenner, *Leprosy and Charity in Medieval Rouen*, 24-25.

compassion toward people suffering from leprosy, donated bread, ale, cod, salmon, cheese, and butter to the St. Nicolas, York leprosarium each year on June 29th to celebrate the feast of Saints Peter and Paul.[163] She donated primarily to selected affluent leprosaria and neglected poorer less well-known leprosaria. In the 13th century, Salle-aux-Puelles was funded by Anglo-Norman kings and popes, but it appears it was disproportionately so. In 1210 Philip Augustus granted only two *sous* to Salle-aux-Puelles whereas he provided Mont-aux-Malades with 8 *livres*, 2 *sous*, 8 *deniers* and La Madeleine with 40 *livres*.[164] Brenner notices that Salles-aux-Puelles is much smaller than its counterparts, nonetheless, the difference is substantial.[165]

Segregation

Contrary to the rule that people diagnosed with leprosy were to be removed from society and live in a leprosarium, people with leprosy from the 11th to 13th centuries were still intermingling with healthy society regularly without issue. Prior to segregation, the accused infected had to be proven to be afflicted with the disease. This typically meant an examination by members of the accused's immediate circle, although it could escalate to the extreme of the *iudicium lerosorum* which was a formal examination and judgment by the city's medical and religious authorities. Writing in the 14th century, French physician and surgeon Guy de Chauliac wrote that great attention must be paid when examining and performing the judgment of the leprosi, for it is extremely unjust to sequester those who are not ill and send the infected among the people.[166] This could suggest that some physicians and surgeons were mis-

[163] Rawcliffe, *Leprosy in Medieval England*, 287.
[164] One *denier* equaled one shilling/penny/*sous,* 20 *sous* equaled one *livre* or pound.
[165] Brenner, *Leprosy and Charity in Medieval Rouen*, 67.
[166] Demaitre, *Leprosy in Premodern Medicine,* 40.

diagnosing or underdiagnosing leprosy in Europe circa the 14th century and that healthy people were being sequestered to leprosaria and leprous people were being allowed to walk free depending on the skills of the doctor performing your *iudicium*.

Sequestering people with leprosy to leprosaria or to beg at city gates in one sense marginalized the sick, separating them from society. Still, leprosaria were often established outside cities and towns or at busy crossroads so that the healthy and the sick could still interact. People with leprosy engaged in various forms of agriculture and often traded with the healthy, suggesting little to no concern for contagion. Brenner explains:

> The positioning of Rouen's leprosaria outside the city, as was the case for other Western European urban centres, undoubtedly signifies the spatial marginality of the residents of these institutions, and could suggest that an impulse to distance and confine lepers helped to motivate charity for them. Nonetheless, several leper houses, particularly Mont-aux-Malades, remained in relative proximity to Rouen and well-connected by transport routes. A location within reach of the city facilitated the transportation of agricultural produce and other supplies to and from a leper house, and also offered greater protection in times of war.[167]

She concludes that in considerable extent the social and religious status of people with leprosy resulted in the marginalization of people with leprosy, she claims that this is highly "nuanced and flexible." For instance, leprosaria were filled with people suffering from leprosy and participating in society in varying ways. This added nuance and flexibility to how healthy society received and treated these people. During this time people with leprosy socialized with the healthy at shrines and on pilgrimages. The itinerant people with leprosy were offered food and

[167] Brenner, *Leprosy and Charity in Medieval Rouen*, 133.

overnight accommodations every Maundy Thursday (whether on pilgrimage or not) at the Leprosarium of St. Mary Magdalen at Garywood. Pious households would even receive some of the more reputable sick.[168]

Mont-aux-Malades had a fair every year on the feast of St. Giles (September 1st). The fair was established by Henry II (1154-1189) and continued into the 18th century and was an event of local importance. It took place at the leprosarium itself where healthy patrons engaged with the infected, demonstrating little concern about contracting the disease and minimal fear of the deformities of the sick. The holy feast united the sick and the healthy as a community of Christians.[169] The Southbridge Fair was the grandest of all fairs and began in 1211 on the road leading to Cambridge in a meadow. The fair was held for three days to three weeks in September. Helen Weinstein explains:

> The fair at its peak must have been a truly amazing sight. Picture the scene. Silks all the way from Italy float in the breeze. Horse-drawn coaches bringing flocks of excited merrymakers from London and the Continent. The musky scent of oxen carrying spices from exotic locales. Spanish iron clinking across the meadow, as dancers prance and jesters joke. People everywhere sampling gourmet goods--pungent cheeses, oysters the size of horses' hooves, wine and mead ladled into tankards. Try to imagine the excitement that the locals, many of whom may never have left Cambridge, got to experience the tastes, sounds and smells of different lands.[170]

It wasn't only the leprous leaving the leprosaria and coming into contact with the healthy, lay people entered them without permission. For instance, "in March 1249 Rigaud was concerned that: 'here and there lay people enter the cloister, the kitchen and the workrooms,

[168] Rawcliffe, *Leprosy in Medieval England*, 287.
[169] Brenner, *Leprosy and Charity in Medieval Rouen*, 133.
[170] Helen, Weinstein, Leper Chapel, Creating My Cambridge, http://www.creatingmycambridge.com/history-stories/leper-chapel/, accessed May 5, 2023.

they go among the sisters and speak with them, without having obtained permission.'"[171] Why people were entering these establishments is a matter of speculation. Perhaps they had friends or family inside that they wanted to visit, or they had lovers inside. Perhaps they were curious about what went on inside a leprosarium and wanted to see for themselves, or maybe they had other motives for sneaking in.

It appears clear that during the 11th to 13th centuries, the segregation of most leprous people was not adhered to in all cases; in many cases, people with leprosy came into close contact with the healthy, which did not seem to be an issue. Interaction with the healthy seems to have been encouraged in certain instances for the physical care of leprous and the spiritual benefit of the healthy. In death, the leprous and the non-leprous continue to share communal space in cemeteries at some leprosaria.

Simon Roffey presents archeological data for a cemetery at the St. Mary Magdalen Winchester Hampshire leprosarium dating to the decades following the Norman conquest. He describes how:

> This cemetery, to the north of the medieval chapel, represents a discrete burial area, separate from the main and later cemetery to the south. In the N cemetery, analysis indicates skeletal evidence for leprosy in the majority of examples as well as evidence for tuberculosis, possible palliative treatment and the burial of a pilgrim.[172]

Data from another leprosarium, St. John's Timberhill, Norwich, where only a fifth of the skeletons presented evidence of leprosy, the burials of the 18 skeletons were carbon-dated

[171] Ibid., 74.
[172] Roffey, "Medieval Leper Hospitals in England," 206.

with a 95% probability to have been used from 980-1050 CE.[173] At Winchester, a burial, skeleton SK8, provides later evidence. It was carbon-dated with a 95% probability from 1010 to 1160.[174] Thus, in the medieval era, when *ad sanctum* in death was so important, and death rituals were evolving to be more concerned about where and how bodies are buried, burying leprous bodies near healthy bodies was not always a concern.[175]

Where did Western European leprosaria go?

After the 13th century, the founding of leprosaria ceased, and they began to be repurposed for other means, such as general hospitals. This stemmed from the shifting of attitudes towards leprosy. Previously positive attitudes toward Christian community members gave way to negative attitudes brought on by fear of contagion and the view that people with leprosy need to be removed from Christendom. People with leprosy were once again being driven from the land and exiled from healthy society. This was not a universal shift, however. In a time when many leprosaria ceased treating people with leprosy or it began to disappear entirely. *Philanthropia* continued briefly in the 14th and 15th centuries in Norwich. Leprosaria in Norwich were still being viewed as preferred recipients of charity. Inevitably, fear of contagion and miasma loomed as a growing threat over Western Europe and people with leprosy no

[173] Ibid., 210.
[174] Roffey, "Medieval Leper Hospitals in England," 211.
[175] Philippe Ariès, *Western Attitudes Toward DEATH: from the Middle Ages to the Present*, (Baltimore: The Johns Hopkins University Press, 1975), Chapter 1 and 2. *Ariès* addresses periods of changing attitudes toward death. He explains that, for a millennium, people lived in a period of "tame death" where death was understood as a natural end to life, an inevitable fate not to be feared by accepted as a fact. All one could hope for was a "good" death, and no one made much fuss about it. Then, right around the time that these skeletons would have been flesh-covered and moving about, philosophies were shifting to a new period in which people were much more concerned about their own deaths and, in general, were obsessive about death. This was a period in the medieval era that produce lots of poetry on death and death-related art. Thus, it is fascinating that healthy people would have been willing to be buried near/with the leprous since leprous bodies were polluted.

longer had a Christ-like role of expiation, or if they did it was not worth the risk of contracting leprosy.

After the 13th century

Before examining post 13th century leprosy in Western Europe, it is necessary to look at a phenomenon that began in 12th century and culminated in Europe's mid-late 13th century and 14th century. In the 12th century, Monica H. Green explains, there was a renaissance of translations of Galenic medical texts that renewed Western Europe's knowledge of Galenic medicine. By the mid to late 13th century, a veritable treasure trove of Galenic material was being taught, learned, and practiced. Galen suggested treating some cases of mild leprosy with treatments such as eating viper meat or applying unguent to the skin. He also directed doctors to propose exiling more complex issues as they were lost causes, because if doctors failed to cure these patients, the result would be shame in their medical skills. This attitude stems from the Hippocratic medicine that Galen practiced. In fact, the Hippocratic physicians may have been obligated *not* to treat hopeless cases. *On the Art of Medicine* states that a physician should not treat a patient that has been "overpowered" by their disease or when the medical art is powerless. If Western Europeans were following Galenic directions, they might have opted to exile people with leprosy having deemed them untreatable. Suppose they were more interested in medical knowledge. In that case, they may have foregone their Christian calling for compassion and charity and chosen instead to subscribe to a medical perspective resulting in the abandonment of people with leprosy and the ejection of the leprous from their respective countries.

Galenic and Hippocratic medical material translation did not always come straight from Greek. Brian Long addresses the role of Arabic translations of Greek literature, specifically Galen, and how influential these translations were to Latin Western Europeans. He focuses primarily on Constantine the African who "purported to convey the authentic teachings of Galen and Hippocrates, knowledge that – at least according to Constantine's prefaces – he had painstakingly gleaned from classical medical works."[176] Long writes that Constantine's writings (like many Greek medical texts first translated into Arabic) were popular in the Latin West and considered valuable. The point is that some Greek medical texts were not translated directly from Greek to Latin but from Greek to Arabic to Latin.

Anna Maria Urso explains that between the era of Oribasios and the Arab conquest of Alexandria (642) a selection of Galen's works was used for a medical training curriculum for the first time. She writes, "this was the first step in the cultural process of acquisition, organisation, and interpretation of the thinking of the master from Pergamum, known as Galenism, which would only take root in the West at the height of the Middle Ages."[177] Thus, the significance and ubiquity of Galenic medicine in the Roman, Byzantine, Arabic, and later medieval centuries in Europe becomes clear. It is therefore reasonable to believe that Western Europeans shifted their approach to treating leprosy from a religious methodology to a medical one.

Also, near the end of the 13th century and by the 14th century, the idea that leprosy was a humoural condition was replaced with the notion that it was a contagious disease transmitted

[176] Brian Long, "Body and Soul: The Production and Reception of Medical Translations from Arabic in the Long Twelfth Century," Ph.D. dissertation, University of Notre Dame (2016), 343.
[177] Anna Maria Urso. "Translating Galen in the Medieval West: the Greek-Latin Translation," in *Brill's Companion to the Reception of Galen* ed. Petros Bouras-Vallianatos and Barbara Zipser, (Boston: Brill, 2019), 359.

through direct contact and miasma or "bad air." This is likely partly because of Galen's influence and writing on contagion and seed theory in particular. Even still, not everyone became concerned with contagion immediately.[178] Rawcliffe draws our attention to *De secretis mulierum,* which provides an example of airborne contagion pertaining to leprosy composed in the 13th century in England that states that menstruating women emit toxic exhalations.[179] Lemay writes, "when men go near these women they are made hoarse, so they cannot speak well. This is because the venomous humours from the woman's body infect the air by her breath, and the infected air travels to the man's vocal cords and arteries, causing him to become hoarse."[180]

Not everyone was hostile towards people with leprosy. In 1420, in England, a reprimand to the sheriff of Lincolnshire due to his "repeated failure" to examine John Louth, a mercer from Boston accused of having leprosy, it is notable that Louth is able to walk free and intermingle with healthy people. That these healthy people did not seem concerned about contracting leprosy from Louth as they repeatedly engaged in close contact with him is significant and telling, but the court is distressed about this behaviour. The text of the writ describes the leprous Louth, who:

> …commonly mingles with men of the aforesaid town and communities with in public as well as private places and refuses to remove himself to a place of solitude, as is customary and as it behoves him to do so, to

[178] Rawcliffe, *Leprosy in Medieval England*, 6.
[179] Ibid.,81.
[180] Helen Rodnite Lemay, *Women's Secrets: A Translation of Pseudo-Albertus Magnus's* De secretis mulierum *with Commentaries*, (Albany: University of New York Press, 1992), 130.

> the serious danger of the aforesaid men and their manifest peril on account of the contagious nature of the aforesaid disease.[181]

I contend that this is indicative of varying and shifting attitudes towards leprosy after the 13th century in which some lay folk still understood leprosy to be non-contagious and may have believed that acts of charity and kindness towards people with leprosy were beneficial for Christians and got them good spiritual credit. Meanwhile, more elite, erudite members of society, in part because of the research of and advancement in medical science, believed that leprosy was contagious and that people with leprosy needed to be, once again, exiled from society and kept far away from healthy people.

Concerns about miasmas provoked unease in England. Edward III's edict of 1346 ordered that people with leprosy be removed from within the walls of London. Attitudes at the time began to convey a belief that people with leprosy were deliberately seeking to infect healthy citizens by infecting people with their breath, the characteristic foul odour the leprous emitted, or through sexual transmission with healthy women (often via rape). All leprous persons were to exit the country within 15 days and anyone who sheltered them was threatened with forfeiture.[182] With future events such as the Black Death (1348 CE) which disproportionately infected and killed people with leprosy and the urbanization of Europe (increasing TB rates), the population of people with leprosy decreased significantly. The International Leprosy Association explains that "leprosy began to decline in Europe between the 14th and 16th centuries, perhaps as a result of the Black Death and the rise of tuberculosis."[183]According to WHO, the prevalence

[181] Rawcliffe, *Leprosy in Medieval England*, 273.
[182] Ibid., 275.
[183] International Leprosy Association, "History of Leprosy," Europe | Area | Geographical Region | International Leprosy Association - History of Leprosy (leprosyhistory.org), accessed December 20, 2022.

of leprosy in Europe as of 2020 is <0.1, the number of registered cases in all of Europe is 42, the number of new cases is 27, the new cases detection rate (per million population) is <0.1.[184]

Roffey is more conservative in his analysis of the 14th century, suggesting that leprosaria were in decline. It is not clear if this indicates a decline in the disease. The impact of the Black Death and changes in charitable patronage may be contributing factors but this cannot be confirmed. However, there were only two known examples of skeletal leprosy in England post-1550, at Bristol and London.[185] It is further supporting a decline in leprosy in Europe compared to skeletal finding in Chapter 1.

Following the 13th century, Western Europe was a growing petri-dish of infectious diseases, with more to come. By the 13th century, Western Europe already had to worry about malaria, flu, smallpox, and tuberculosis to name a few potentially fatal illnesses. Diphtheria may date back to the Hippocratic period, and syphilis is argued to have arrived via Christopher Columbus's return from the New World or has always existed in the Old World based on the pre-Columbian theory. There is no consensus on which theory is more likely as evidence exists for both. It is possible that outbreaks and epidemics of these new and old diseases may have required a great deal of attention and funds. As a result, caring for people with leprosy and funding leprosaria simply could not be maintained or was no longer a priority.

[184] World Health Organization, "Global Leprosy (Hansen Disease) Update, 2020: Impact of COVID-19 on Global Leprosy Control," *Weekly Epidemiological Record* 96 (2021), 421-444, 422.
[185] Roffey, "Medieval Leper Hospitals in England," 207-208.

Conclusion

The 11th to 13th centuries were unique in that it was during these centuries that leprosy cases were at their peak. It was also the period in which the most leprosaria were functioning in Europe with hundreds of leprosaria in both England and France. This period also shows a heightened level of compassion and charity to people with leprosy and minimal fear of contagion based on the continuous interaction between the healthy and the leprous for a variety of reasons.

Using DNA and osteological evidence this chapter has shown that leprosy has plagued humankind since the time of early *homo sapiens* in Africa and spread to Asia and ultimately Europe. It has also addressed dynamic attitudes towards leprosy in Christianity, demonstrating that the dominant attitude was positive. Furthermore, this chapter has detailed the function of and life of people with leprosy at leprosaria in England and France, illustrating an image of a positive lifestyle of spiritual and physical care from the monks, nuns, and lay people who lived with them to care for them. This thesis examines the role of fear responses as a human response that transcends centuries. The following chapter will explain and demonstrate how fear and disgust function in the mind, in behaviour, and society. It does so with behavioural and neuropsychology and neurobiology to understand how and why our brains work the way they do and how we evolved to experience and condition fear and disgust.

Chapter Two| Fear & Disgust

Even though I walk through the darkest valley,

I fear no evil;

for you are with me;

(Psalm 23.4 NRSV).

We… washed one of the lepers [who was] festering and in an advanced stage of decomposition. Then we drank the very water with which we had washed him. ~ Saint Angela of Foligno

Introduction

Fear and disgust are basic emotions and have been throughout human history. [186] In the 11th and 13th centuries, Christians found pleasure in fear and mitigated disgust through the conditioning of fear stimuli such as leprous bodies, hagiographies about rotting bodies and saints consuming the necrotic/purulent excretions of leprous people, as well as accounts of saints including elites "kissing lepers." This chapter examines how medieval Christians found pleasure in fear through fear conditioning and adaption to fear of contagion. It uses a

[186] Andrew Calder, Andrew D. Lawrence, and Andrew W. Young, "Neurology of Fear and Loathing," *Neuroscience* 2 (2001), 352, explain that "Exponents of the category-based approach [of emotions] posit that a limited number of emotions (that generally include happiness, sadness, anger, fear and disgust) have a 'basic' status, and that signals for the basic emotions are identified by activating discrete category representations (one for each emotion)."

comparative method to compare fear to disgust to determine if these two emotions are similar and how medieval Christians coped, managed, and manipulated them over time in response to people with leprosy. For analysis, it applies a grounded theory. This chapter also explores how disgust works and how attitudes towards disgust shifted across time and space. First, it looks at behavioural psychology to understand why medieval Christians behaved in the manners described in this chapter; later, it explores neuropsychology and biology to comprehend how the brain functions.

Anne-Marie Dillens contributes to the conversation of managing the emotion of fear in the book *La peur* in which she writes:

> Depuis la fin de la guerre froide, les politiques de la peur n'ont pas disparu. Au contraire. Leurs sources n'ont cessé de se multiplier, au point d'en faire un des adversaires les plus redoutables des démocraties libérales contemporaines. Certes, comme le rappelle Jean Delumeau, la peur est de tout temps. Si l'affect qu'elle représente connaît son déploiement le plus varié dans le cœur et l'esprit de l'homme, ses formes et ses défis se renouvellent de génération en génération. Aujourd'hui, ses objets et moyens de propagande sont d'une complexité et d'une ampleur inédites. Quant à sa gestion, elle est des plus problématiques : la confiance moderne dans la gestion scientifique des risques et des menaces est fortement ébranlée depuis le milieu du siècle dernier. En sorte qu'il n'est pas exagéré de dire qu'un des enjeux majeurs de nos sociétés est d'assurer en même temps la gestion éclairée des peurs et le contrôle social de ce qui est censé y remédier : les compétences (see footnote for my translation.)[187]

[187] Anne-Marie Dillens, La Peur (Presses de L'université Saint Louis, Bruxelles :2006) 235. "Since the Cold War, the politics of fear have not disappeared. On the contrary, their sources have multiplied. Making it one of the most formidable adversaries of contemporary liberal democracies. As Jean Delumeau reminds us, fear has always existed. While the affected it represents is at its most variable in the human heart and soul, the challenges of fear are reborn and recreated in every generation. Today, its objects and means of propaganda are of unprecedented complexity and scope. As for its management is highly problematic: since the middle of the last century, modern confidence in the scientific management of risks and threats has been severely shaken. So much so that it is no exaggeration to say that one of the major challenges facing our societies is to ensure both the enlightened management of fears and the social control of what is supposed to remedy them: competencies."

Behavioural Psychology of Fear and Disgust

Daniel Lateiner and Dimos Spartharas suggest that "when Christians redefined what disgust was, they redefined what was morally and socially acceptable and to your point of marginalized."[188] They offer multiple reasons to study the emotion of disgust, including that this perturbing emotion can serve as an indispensable heuristic tool that allows us to investigate ancient mentalities, potent cultural understandings, and normative considerations. Despite the immense intricacies involved in the definition of emotions, emotions are cognitive phenomena requiring reflection, consideration, and contemplation rather than instinctive, "irrational" responses to external stimuli. Disgust is indeed a reflexive emotion centering on particularly embodied cognition. By visceral nature, disgust constructs social hierarchies by imposing prohibitions and projecting aversive physical experiences.[189]

Smail looks at brain activity and hormones triggered by the performance of specific actions and suggests that behaviours are inherited via genes and cultural evolution.[190] He employs deep history, a grand historical narrative that links the Paleolithic to the Postlithic. His research centers partly on the continuous interplay between human culture and the human brain, behaviour, and biology.[191] Geertz once described this continuous interplay as the "reciprocally creative relationship between biology and culture."[192]

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[188] Donald Lateiner and Dimos Spatharas, "Introduction," in *The Ancient Emotion of Disgust*. Ed Donald Lateiner and Dimos Spartharas (Oxford: Oxford University Press, 2007), 2.
[189] Ibid., 1.
[190] Daniel Lord Smail, *On Deep History and the Brain*, (Berkley and Los Angeles: University of California Press, 2008), 117.
[191] Ibid., 8.
[192] Ibid.

Smail asserts that the neurological elements of behaviour and physiological responses, such as the release of chemicals that influence brain function, are not universal and therefore trigger varying behaviours in people. Smail explains that following exposure to a given stimulus—in this case, the image of a leprous body—a "thrill is provided by a wash of epinephrine, dopamine, serotonin, endorphins, and other neurochemicals that flood the brain."[193] These chemicals wash over the body, causing feelings of pleasure and excitement that are reproduced repeatedly. Moreover, human behaviour can override genetic predispositions and chemical triggers to program the brain to react positively or negatively to a given stimulus.

Support for this approach can be found in the critique leveled by Michael Laffan and Max Weiss against modern analyses of historical fear responses. Countering Darwin, who wrote that fear was expressed in the past in almost the same manner as it is now, Laffan and Weiss suggest that an unchanging understanding of how fear responses function "fails to account for smaller-scale changes in the quality of emotional experience, to say nothing of the existence or emergence of local variations."[194] In other words, fear responses change over time and space. Therefore, it would be reasonable to assume that previously negative attitudes towards leprosy before the fourth century shifted to more positive attitudes and traveled from Byzantium to France and England, continuing to ebb and flow in positivity.

Behavioural psychology also involves the conditioning theory of two primary theories: classical and operant. Studies on conditioning (behavioural conditioning) are explored in detail in

[193] Smail, *On Deep History and the Brain*, 117.
[194] Michael Francis Laffan and Max C Weiss, *Facing Fear: The History of an Emotion in Global Perspective*, (Princeton: Princeton University Press, (2012), 3.

the section on neuropsychology and biology to also address brain function in tandem with subjects like the Pavlovian response. Presently, it will suffice to cite Kirsch et al. in their definition of classical and operant conditioning and to explain how it relates to leprosy and HIV/AIDS. Kirsch et al. write:

> Classical conditioning used to be viewed as a type of learning that involves the acquisition of elicited responses (i.e., responses, like the defensive eye blink, that are preceded reliably by an identifiable eliciting stimulus and that are experienced phenomenologically as automatic or reflexive). Similarly, instrumental (operant) conditioning was regarded as a type of learning that involved the acquisition of emitted responses (i.e., responses like a wink of the eye, that can occur in the absence of reliable or well-defined antecedent stimuli and are experienced as voluntary).[195]

Kirsch et al. conclude, "Classical and operant conditioning are two of the means by which response sets are formed, but they also can be acquired vicariously th[r]ough observation and through the provision of verbal information."[196] Therefore, Christians could have conditioned themselves through observing others being kind to people with leprosy or observing leprous people and recognizing that they are not dangerous. They could have also conditioned themselves through verbal information such as sermons (as stated numerous times) and conversations with each other. Medieval Christians did not live in a vacuum. They socialized and talked to each other; it is not unreasonable to surmise they spoke about how to manage leprosy in the community. This is also true about HIV/AIDS in the 1980s in Canada and the USA.

[195] Irving Kirsch et al. "The Role of Cognition in Classical and Operant Conditioning." *Journal of Clinical Psychology* 60 (2004): 370.
[196] Ibid., 386.

Behavioural conditioning is the crux of this chapter's theory of why Christians were able to view leprous people positively and provides the foundation of behavioural theory to begin exploring the subject further. More to the point, it is the primary thesis of my dissertation in which I am arguing that behavioural conditioning is the key to reducing stigma, fear, and disgust attitudes towards people with infectious diseases and disabilities among other health issues.

Fear and disgust

A working definition of fear for this thesis is borrowed from Ralph Adolphs who wrote that "fear is an intervening variable between sets of context-dependent stimuli and suites of behavioral responses."[197] For example, a house at night might be frightening (context-dependent stimulus). Your behavioural responses may vary from going in alone, calling a friend, getting a weapon, etc., depending on the variability of the intervening fear. This thesis contends that multiple types of fear belong to two primary categories: pleasurable and negative. Pleasurable fear releases feel-good endorphins in the brain, as discussed above by Smail, and negative fear is unwanted fear, such as terror and panic. Disgust, like fear, is a cross-cultural emotion. They are also both basic emotions, meaning everybody feels them to some extent. The "principal support for this model comes from the finding that these basic emotions are pan-cultural and that the same distinct facial musculatures across different cultures represent facial expressions of each emotion."[198] Disgust is harder to define; it has more nuance. William Miller

[197] Ralph Adolphs, "The Biology of Fear." *Curr Biology* 23 (2013): 1.
[198] Calder et al., "Neurology of Fear and Loathing," 352.

explains that there are many forms of disgust, and it can attract and repel. Miller notes, "And even as the disgusting repels, it rarely does so without capturing our attention. It imposes itself upon us. We find it hard not to sneak a second look or, less voluntarily, we find our eyes doing 'double-takes' at the very things that disgust us."[199] In this vein, disgust is a compelling force for positive or negative attention. Based on this, due to disgust responses, Christians were drawn to leprous bodies for better or worse. Furthermore, many fear and disgust responses are intertwined and triggering, such as in the case of disease-avoidance disgust that triggers fear/anxiety responses. For these reasons, it is reasonable to examine fear and disgust simultaneously.

Fear as pleasure

James B. Twitchell argues that fear from exposure to horror, such as rotting bodies in horror movies or leprous bodies begging for food, can be interpreted pleasurably. This may explain late antique and medieval Christians' more positive outlook on leprosy.[200] Twitchell explains that exposure to horrifying experiences offers a counterphobic desensitization to fear by confronting and overcoming the fear of death, pain, and deformity through repeated exposure.[201]

Twitchell compares horror to riding a rollercoaster; it is pleasurable because it frightens you while ensuring you won't get hurt. This association is substantiated by David Frankfurter's claim

[199] Miller, *Anatomy of Disgust*, x.
[200] James B. Twitchell, *Dreadful Pleasures: An Anatomy of Modern Horror*, (New York: Oxford University Press, 1985), 217.
[201] Ibid., 220.

that martyrologies "allowed their audiences to contemplate in safe form scenes that were so fascinating, even titillating, that they could not legitimately be enjoyed otherwise."[202] In the case of horror films, consider the graphic torture in Saw movies or the anxiety-inducing scene in Silence of the Lambs when Clarice is stumbling through Buffalo Bill's pitch-black house. The audience watches through night vision as Buffalo Bill stalks Clarice room to room while she stumbles, unaware. Even though the audience knows Clarice will ultimately triumph, there is still a heightened sense of panic and fear.[203] There are different types of fear although they are all part of the same system. Aldophs recognizes fear, anxiety, and panic as distinct emotional responses to stimuli, and this could explain the shifts in attitudes seen in later Christians. Aldophs writes that "A yet fiber-grained classification makes distinctions between anxiety, fear, and panic, three varieties of fear that each are associated with particular packages of adaptive responses yet can all be mapped also onto a continuum of threat imminence (respectively, from distal to more proximal)." Whereas Christians during the 11th to 13th centuries were experiencing milder anxiety and fear later Christians were in a state of panic and needed the leprous much further away to feel safe.

The vivid and repetitive images of monsters, gore, violence, and other fear-inducing images excite viewers. They can cause physiological responses such as fear, disgust, or concern about contamination, even though the viewer knows the images are mere representations of these dangers. These movies show how a spectator, knowing they are safe, might enjoy

[202] David Frankfurter, "Martyrology and the Prurient Gaze," *Journal of Early Christian Studies* 17 (2009), 217.
[203] Adolphs, "The Biology of Fear," 3.

watching acts of violence and suffering. Twitchell argues that the horror attraction can be understood in three ways:

> (1) as counterphobia or the satisfaction of overcoming objects of fear; (2) as 'the return of the repressed' or the compulsive projection of objects of sublimated desire; and (3) as part of a more complicated rite of passage from onanism to reproductive sexuality.[204]

The first and second points apply to people with leprosy because it defuses the repressed urge to look upon otherwise deformed bodies. An analysis of "overcoming objects of fear" or the "compulsive projection of objects of sublimated desire" could compare this behavior to modern cognitive-behavioral therapy (CBT). CBT is an evidence-based psychological treatment that is proven to be one of the most effective treatments for managing anxiety and fear. [205] It can be done without a therapist in a group or alone (making it ideal for a community of or an individual Christian). It is based on the *meaning* we assign to the situation that affects how we act, not the problem itself. Thus, it is the meaning Christians attribute to leprosy that matters, and as that changes, their behavior changes. A couple of techniques of CBT that Christians may have unknowingly used include repeat exposure (e.g., such as when saints repeatedly expose themselves to the pus oozing sores of the sick so they can consume their bodily fluids) and behavioural action – baby steps – or modifying behaviour (e.g., engaging with leprous people incrementally). Christians wanted to be compassionate and charitable to people with leprosy, but they were disgusted and negatively fearful of them. They essentially used CBT to alter their behavior to be less disgusted and to find pleasure in their fear. This was done by altering how

[204] Twitchell, *Dreadful Pleasures*, 65.
[205] Anxiety Canada "What is Cognitive Behavioural Therapy (CBT)?," What Is Cognitive Behavioural Therapy (CBT)? - Anxiety Canada, accessed April 16.

they interpreted people with leprosy to be. They no longer viewed them as contagious based on sermons and likely conversations they would have had about sermons about leprosy, the role of leprosy in the community, and what to do about leprosy people. Their desire to overcome contamination fear, like modern OCD patients, would apply to CBT. This thesis is not arguing that medieval Christians had OCD. It is simply making the case that Christians were behaving similarly to what today may be called OCD and that modern methods like CBT may be analogous with behaviours occurring during this period. This is *not* a retrogressive diagnosis, and this thesis is *not* attributing any modern labels to medieval people. Later when major events like when the 1321 Leper Plot (where thousands of leprous people were burnt alive as scapegoats which will be discussed later) evoked panic across southern France and the Black Death wreaked havoc on Europe, those events forced behavioural conditioning, which led once again to negative fear and disgust and ultimately to hatred of people with leprosy.[206] The result was the exile and murder of people with leprosy from Europe during this purge period (ca. 14th-15th c.).

A further similarity between life at a leprosarium and the horror genre is that they offer the viewer a prescriptive outlook on the dos and don'ts of "proper" living in various ways. Horror accomplishes this by juxtaposing the ideal behavior of the survivors against the counter-cultural actions of the victims and the monster.[207] Moreover, horror art and leprosaria offer a counterphobic desensitization to fear by helping the viewer confront and overcome the fear of

[206] For more information on retrospective diagnosis see Piers D. Mitchell, "Retrospective Diagnosis and the Use of Historical Texts for Investigation of Diseases of the Past," *International Journal of Paleopathology* 1 (2011): 81-88.
[207] Twitchell, *Dreadful Pleasures*, 85.

death, pain, and deformity. The lives of people with leprosy demonstrate how the soul can overcome great suffering and support the body through disease, death, and pain. The horror genre allows the viewer to safely expose themselves to violence, gore, and death, ultimately desensitizing them to the negative effects of such phobias through repeated exposure (not unlike CBT). A notable difference is that witnessing leprosy is all too real, and horror movies are not; the desensitization and exposure are still the same.

Finally, they both offer social stability through their pedagogical functions and their slaying of the monster, restoring balance in the cosmos. In the case of the person with leprosy, leprosy is the monster, and they slay it through virtuous living and a good death. In the case of horror films, the monster is quite literally the creature or creatures who are committed to causing the suffering of others. For fear to be pleasurable, however, it needs to be conditioned. One way that Christians conditioned themselves to fear and disgust stimuli is through graphic hagiographies. Next, it is useful to consider fear conditioning as a factor in why and how Christians came to be so "comfortable" around the idea of disease and rot as positive qualities in the 11th and 13th centuries in Western Europe.

Fear conditioning

This section looks at the symbolism and function of illness in the lives of early Christians in order to illuminate how fear triggers such as illness, decay, and suffering were expected aspects of Christian life and the consequences of Original Sin. It also aims to demonstrate the phenomenon of fear conditioning (addressed in neuropsychology) by exploring hagiographical

accounts of the lives of saints that include graphic descriptions of saints with gangrenous, blackened, and oozing body parts, not unlike some leprous bodies.

For Christians, I put forward that the unconditioned stimulus was most certainly a leprous person, and the conditioned response was a reduction in negative fear and disgust and an increase in pleasurable fear sensation. The conditioned stimulus is the positive reinforcement Christians would have given each other during this period for being charitable to people with leprosy. There would have also been a feeling that God was pleased and maybe even rewarding Christians for being compassionate and kind to people with leprosy. Still, I argue the driving force was the community's praise, as this is more real and tangible.

The Christian fascination with grotesque bodies started with the martyrs and their brutal deaths. Christians revered the martyrs and sought no greater death than that which ultimately led to a guaranteed *direct* path to the best part of Heaven. This interpretation of suffering inspired many Christians to joyously seek martyrdom's violent and painful deaths (and later, extreme asceticism saints) as methods for imitating Christ. Tertullian (160 CE – 220 CE, Carthage) offered an example of an entire community of Christians offering themselves for execution to Arrius Antoninus (c. 69 CE) who released almost all of them, stating: "'wretched men if you wish to die, you have cliffs and ropes to hang yourselves." On this matter, Perkins writes, "At this point in time Christians appeared to have been more willing to die than Roman officials were to punish them."[208] Following Constantine's rule in the early fourth century and

[208] Judith Perkins., *The Suffering Self Pain and Narrative Representation in the Early Christian Era*. (New York: Routledge), 21.

the resulting adoption of Christianity as a tolerated religion, the persecution and execution of Christians by the Roman Empire were over. However, this meant Christians had to devise new and creative ways to maintain their status as a community of sufferers and show their devotion to Christ similarly spectacularly. The holy rotting bodies of the saints would rise from the martyrs' ashes. The acts of the martyrs, hagiographical texts, and the lives of the saints detailed in them allowed Christians a new platform for continuing the spectacle of suffering Christian bodies. Perkins cites a debate between Caecilius and Octavius regarding the purpose of suffering, demonstrating Christians' positive outlook towards sickness, disease, and death. She writes:

> A rebuttal by Octavius ended the debate and obviously secured Caecilius' conversion…. [Octavius] showed how within the Christian paradigm suffering functioned for good. For Christians "human and bodily infirmities [*corpis humana vitia*] are not a punishment but a militia, a school of discipline."[209]

This is key to understanding why medieval Christians were fascinated and pleased by witnessing people suffering from leprosy because suffering functioned for *good*. Perkins goes on to write:

> God did love Christians and could have helped them, but used infirmities to explore and test each one. Octavius describes the pleasure God had at seeing Christians withstand suffering: "How fair a spectacle for God to see when a Christian stands face to face with pain."[210]

Crislip finds a similar view expressed in his analysis of early Christian theologian Basil of Caesarea's (330 CE – 379 CE, Kayseri) understanding of the cause of illness. This interpretation depicts God allowing sickness and health to exist in tandem in the world as a means by which

[209] Ibid., 39.
[210] Perkins, *The Suffering Self*, 39.

people can be physically and spiritually transformed and transfigured, or as a method by which God can interact with and test people.

Hagiographies by authors like Antonius bolster in the minds of Christians that they could attain spiritual reward through the suffering of their flesh. In his version of the *Life of Symeon*, Antonius states:

> You must hunger and thirst, you must be assaulted and buffeted, you must groan and weep and be oppressed and suffer ups and downs of fortune; you must renounce bodily health and desire, be humiliated and suffer much for men, for so you will be comforted by angels.[211]

Perkins notes that "the Lives are filled with the specifics of the more wretched aspects of human existence; lice, worms, pus, and rotting flesh feature significantly in them."[212]

Like the martyrs, Christianity had many saints. Jacklyn Duffin explains that "Saints were everywhere. Florence boasted many celebrated images of martyr saints Cosmas and Damian, twin brothers who were also medical doctors."[213] The details of saint Symeon the Elder's early years are contradictory and inconsistent throughout the extant Lives of Symeon.[214] However, they all agree that he tended his parents' flocks as a child, had a powerful urge to devote himself to God, and was the first Christian ascetic to ascend and live atop a stone pillar known as a stylite. Moreover, they all attest to three specific events of necrosis and pus: the rope incident, the foot ulcer, and the worm-infested thigh tumour. His extreme lifestyle as a self-

[211] Robert Doran, *The Lives of Simeone Stylites*. (Michigan: Cistercian Publications, 1992), 61.
[212] Perkins, *The Suffering Self*, 202-203.
[213] Jacklyn Duffin, *Medical Saints: Cosmas and Damian in a Postmodern World,* New York: Oxford University Press (2013), 21.
[214] These include *The Life of Saint Simeon Stylites* by Theodoret, Bishop of Cyrrhus in his *Historia Religiosa* (444 CE); *The Life and Daily Mode of Living Blessed Simeon the Stylite* by Antonius (circa 476); and *The Syriac Life of Saint Simeon Stylites of unknown authorship*. Evidence of contradiction and inconsistencies, for instance, is that the *Syriac Life* is the only text that explicitly states that Symeon's parents were Christian and that they had Symeon baptized but provided him with no further religious training.

mortifying ascetic quickly inspired people, such as Daniel, Joshua, Symeon the Younger, and the other Stylite saints who followed him.

Symeon's first affliction stems from the cord or rope incident that is covered in all three *Vitae*; however, Antonius' version is the most graphic, and therefore, it will be used here. Antonius explains that Symeon had retrieved a rope from a well on the monastery grounds and secretly bound his waist with it. He remained in that condition for over a year while the flesh of the holy man grew around the rope and rot. Subsequently, the massive festering wound began to exude a stench so foul no one could stand near him; still, no one discovered his secret. Then, as the wound grew it became infested with worms which would fall out into his bed. When the monks saw Symeon's writhing bed they were compelled to inform the Abbott of the strange events. Upon inspection of the bed, the Abbott ordered the monks to strip Symeon and find the source of the odour emanating from him. Antonius writes:

> Then they wanted to strip him, but they could not do it, for his garment was stuck fast because of the putrefied flesh. So for three days they kept soaking him in warm water mixed with oil and in this way, after a great deal of trouble, they were able to strip him: but with the garment they also took off his putrefied flesh. They found the rope wrapped around his body so that nothing of him could be seen, only the ends of the rope. There was no guessing how many worms were on him. Then all the monks were astounded when they saw that terrible wound and they asked themselves how and by what means they could take the rope off him…They finally separated from him the rope with flesh stuck on it. They tended to him for fifty days when the Abbott declared that he was now well enough to leave the monastery and sent him out to the desert.[215]

[215] Antonius, "*The Life and Daily Mode of Living Blessed Simeon the Stylite*," in *The Lives of Simeon* Stylites, ed. Robert Doran (Cistercian Publications, 1992), 5-9.

They expel him because extreme forms of asceticism are forbidden for the protection of the brothers. Furthermore, practicing your own forms of asceticism is also against the rules because it therefore is disobedient. Symeon was a bad example for the other monks and a danger to himself and had to be removed from the monastery. He was given provisions and prayers and sent out into the desert to find a life for himself.

Based on this excerpt, it seems that the monks and the Abbott are not initially fearful of Symeon but disgusted like Christians are disgusted by leprous bodies. And like Christians, they overcome their disgust to treat and touch the grotesque body. Ultimately, Symeon is removed from the community but not forced into the wilderness. This is like how people with leprosy in the 11th to 13th centuries were relegated to the outskirts of town but not forced out of Europe until later. For some Christians, suffering was a sign of strength, and the suffering saints were examples par excellence of superior human strength to suffer through sickness, deformity, and injury in the name of God and for the benefit of humanity. Andrew Crislip writes:

> The popular *Life of Adam and Eve* thus elaborates on the curse implied in the biblical account. Disease and decrepitude are neither "natural" components of the human body nor diabolical ruses by jealous gods unleashed on humanity (as in Hesiod's version of the Pandora's jar myth) by just punishment for humanity's sins, punishment that must be paid out throughout the generations forever.[216]

Accordingly, this cosmic debt of suffering humanity owes must be paid each generation, and the more some suffer the less suffering others have to experience. Therefore, if leprous people are suffering greatly, they are "eating up" the suffering so other people can suffer less.

[216] Crislip, *Thorns in the Flesh*, 3.

After spending many years in the desert, training and strengthening his body and soul, Symeon was visited by an angel who directed him to construct and ascend multiple pillars of increasing height, the tallest being forty cubits high.[217] David Frankfurter offers an earthlier explanation of why Symeon took to the sky. He remarks that based on Theodoret's version of Symeon's *Life* he had become surrounded and hounded by a "veritable sea of pilgrims and supplicants" that drove Symeon's retreat upwards, into the sky."[218] Frankfurter insightfully explains that Symeon may have had another reason for not being divinely inspired to ascend a pillar. Pillars have been erected and ascended for years in Syria. In the second century, the Greek author Lucian documented his witnessing of the pillars in Syria in his book *De Dea Syria*. Frankfurter cites an excellent passage that paints a vivid picture of a scene at a pillar:

> In the gateway [of the Hierapolis temple] stand the phalli [*phalloil*] which Dionysus set up; they are 1800 feet high [*sic*]. A man climbs up one of these phalli twice each year and lives on the tip of the phallus for a period of seven days. This reason is given for the ascent. The populace believes that he communes with the gods on high and asks for blessings on all Syria, and the gods hear the prayers from nearby. Others think that this, too, is done because of Deucalion, as a memorial of that disaster when men went to the mountains and the highest of the trees out of terror at the flood. Now, these explanations seem unbelievable to me. I think that

[217] There are discrepancies in the Lives regarding how many pillars were constructed and of what height. The following table is from Doran's introduction to *The Lives of Simeon Stylites* and demonstrates the differences.

HR 26.12	*Ant. 12.17*	*Syriac 110*
6 cubits 9'	4 cubits 6'	11 cubits 16.5'
12 cubits 18'	-------	17 cubits 25.5'
22 cubits 33'	30 cubits 45'	22 cubits 33'
36 cubits 54'	40 cubits 60'	40 cubits 60'

The notion that Symeon was divinely inspired to ascend his pillar has been challenged by David Frankfurter in his article "Stylites and Phallobates: Pillar Religions in Late Antique Syria" in which he argues that there existed continuity between the Phallobate (Proto-Stylites), including Pagan and Islamic traditions, among other pillar-erecting local traditions, prior to Symeon ever climbing his first column. It seems unlikely that these traditions had no influence on Symeon or that he had no knowledge of the ritualistic ascension of other pillar religions.

[218] Frankfurter, "Stylites and Phallobates: Pillar Religions in Late Antique Syria," *Vigilae Christianae* 44, 169.

> they do this as well for Dionysus. I make the conjecture for these reasons: Whoever erects phalli to Dionysus sets on them wooden men - for what reason I will not say.
>
> At any rate, it seems to me that the man climbs up in imitation of this wooden man. The ascent is like this: The man ties a short cord around himself and the phallus; then he goes up on pieces of wood attached to the phallus, large enough for his toes. As he ascends, he throws the cord up on both sides as though he were handling reins. If someone has not seen this but has seen those who climb the date palms either in Arabia or in Egypt or in some other place, then he knows what I mean. When he reaches the end of his climb, he lets down another cord which he has. This is a long one, and with it he hauls up what he wants, wood and clothes and utensils, from which he puts together a dwelling like a nest, settles there and remains for the number of days I mentioned.
>
> Many come and deposit gold and silver, others deposit bronze, which they use as coin, into a large jar which sits in front and each person says his name. Someone else stands by and calls up the name. The climber receives it and makes a prayer for each person. As he prays, he shakes a bronze device which sounds loud and sharp when it is moved. He never sleeps. If sleep ever does overtake him, a scorpion climbs up, wakes him, and treats him unpleasantly. This is the penalty imposed on him for sleeping. They tell holy and pious stories about the scorpion. Whether they are accurate, I am unable to say. It seems to me that one thing that contributes greatly to wakefulness is the fear of falling. This is enough said about the Phallus-climbers [*phallobates]*.[219]

Suggesting that earlier phallobates may have influenced Symeon seems probable by and I would like to point out, and Frankfurter supports, Symeon's accession was different. He built his pillars alone for the purpose of seclusion and privacy (and to be closer to God), once he ascended his pillar he never came down alive, he created stylitism as a method of austere asceticism for Christians, he developed severe medical conditions while practicing and received no care, and as Frankfurter states "it is structurally and symbolically different to rise *up to the*

[219] Frankfurter, "Stylites and Phallobates," 169-170.

gods (in the case of the *phallobates*) than, like Symeon, to establish oneself 'betwixt and between' the divine and human realms."[220] Thus, while Symeon may not have actually been the first to ascend a pilar in Syria the mode and meaning by which he did is unique and inspire many Christian ascetics after him to follow his path. Equally fascinating as how and why he ended up atop his stylite is what happened to him while he was up there.

The most graphic evidence of Symeon's ability to suffer is Antonius's reflection on Symeon's putrid thigh tumour. In this vein, Antonius states that the Devil, out of his hatred of men, smote Symeon with a painful tumour just as he had done to Job; and Symeon's rotting body parts were evidence of this battle. Antonius describes the infection, writing:

> His thigh grew putrid and accordingly he stood on one foot for two years. Such huge numbers of worms fell from his thigh to the earth that those near him had no other job but to collect them and take them back from where they had fallen, while the saint kept saying, "Eat from what the Lord has given you."[221]

Here I would like to suggest that a possible explanation for why Symeon is so fixated on not allowing the worms to touch the ground and that they *must* be returned to his gaping thigh tumour is that he believes God has turned his flesh into pseudo-Eucharistic matter and the worms are vessels of the Eucharist.

Because Symeon is holy, his flesh is also holy, and it could be inferred that he is Christ as reports have compared him to being Christ-like on his pillar, especially when his injury made

[220] Frankfurter, "Stylites and Phallobates," 172.
[221] Antonius, "The Life and Daily Mode of Living of Blessed Simeon the Stylite," 17.

him stand on one leg for two years (enhancing his appearance of Christ on the Cross).[222] To lose the flesh of Christ (or any holy gift from God) is a serious problem theologically because there is no telling where the flesh will end up and who might eat it. This is just a hypothesis, but returning the worms to the body could be required to return the pseudo-Eucharist to the safety of Symeon's bodily vessel.

When the host (body of Christ and, in this case, holy body Symeon) falls on the ground, it is sacrilegious and offensive to the host. During communion, if the host does end up on the ground, one of two things will happen to it: it can be consumed, or it is saved in the sacristy (a place in the church), put in a dish of water, and once dissolved, it is poured down the sacrarium which leads directly to the ground returning it to nature in a dignified manner.[223] In the case of Symeon, the original source of the host was available, and that was where the vessels of the host were returned for safekeeping.

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[222] There is debate regarding whether Symeon's intent was to imitate Christ, but my stance is that his intent is mute. What mattered was how his audience interpreted his actions. Patricia Cox Miller, "Desert Asceticism, and the 'Body from Nowhere,." *Journal of Early Christian Studies* 2 (1994), 145. In a different vein, in regard to the symbolism of Symeon standing prostrate in prayer, Miller contends that Symeon's standing was not intentionally meant to represent Christ on the cross as many have put forward; instead, she relies on David Frankfurter's argument, in his article "Stylites and Phallobates: Pillar Religions in Late Antique Syria," to demonstrate how this interpretation is anachronistic. Frankfurter writes:

> [Han] Drijvers' theory that an *imitatio Christi* theme runs throughout the iconography and hagiography of Symeon is inspired by several…post-Symeon iconographic representations of stylites with their arms outstretched. As these images, Drijvers assumes, were inspired by the Cross of Christ, so also was Symeon. But whether or not *some* later sculptors gave such theological reassessment to their local brand of holy man, there is no evidence that Symeon himself was inspired by Jesus' crucifixion (Frankfurter, "Stylites and Phallobates," 173-174).

Therefore, while later stylites such as Symeon the Younger (521-597 CE) were portrayed by contemporary artists as representing Christ on the Cross, Symeon the Elder (or perhaps Theodoret) was likely not inspired by the crucifixion.

[223] Aleteia, "What to do When Holy Communion Falls on the Ground at Mass," https://aleteia.org/2018/06/03/what-to-do-when-holy-communion-falls-on-the-ground-at-mass/, accessed May 8, 2023.

This new insight into Symeon's flesh being Eucharistic adds new meaning to a miracle story that takes place later in his hagiography. The account describes an Arab King that comes to visit Symeon to seek his counsel when a worm falls on the King. He catches the worm in his hand and, upon opening his hand, witnesses that the worm has transformed into a beautiful pearl, and he converts immediately to Christianity. At face value, this miracle story is impressive. Still, if we look at it through the lens of the worm possessing the power of the Eucharist, it is granted additional potency because, in essence, Symeon performed a form of pseudo-Eucharist on the Arab King in tandem with the miraculous transformation.

Additionally, I was thinking about more medical and scientific explanations for why Symeon was so fond of his worms, and I came up with this. Maggots were and still are used to clean wounds and debride necrotic abscesses of dead/infected tissue. Maybe Symeon observed that the maggots were eating his necrotic tissue and cleaning his wounds, believing that "what the Lord had given [them]" was the blackened flesh of his tumours and ulcers. Therefore, when the worms (maggots) fell off, he had his monks collect them and bring them back up so they could continue to clean his wounds. Also, in an early episode, when Symeon tied a rope around his waist for a year, he received a maggot infection, so he would have had experience with maggot infections and how they clean wounds.

Returning to the tumour, the pain forces Symeon to stand on one foot, increasing his discomfort, his asceticism, and his visual impact. The visual impact would reduce and condition responses to fear in medieval Christians reading or listening to these hagiographies or stories like these. This should be evidence that Christians have a history of having a fascination, if not

an obsession with the grotesque and the horrifying and that these stimuli would not have triggered fear or stimulated pleasurable fear.

In this manner, Symeon neglected the advice of other saints who suggested illness precludes the need for asceticism. Instead, he used his afflictions to increase his ascetic regimen and the severity of his suffering. Doran writes, "Symeon's labors, however horrifying to watch or to endure, clearly inspired awe rather than revulsion."[224] The most graphic detail of the tumour is the worms that are spilling out of Symeon's abscess, along with his desire to have the worms put back into his wound so they may continue to feast on his flesh.

Another rotting Stylite is Daniel. Daniel suffers from rotting and oozing feet, which his hagiographer references on five separate occasions. First, Daniel's hagiography notes that early on in his career as a stylite sores began to appear on his feet.[225] His feet are mentioned a second time when a visiting emperor begs to touch Daniel's feet "but on approaching them and seeing their mortified and swollen state he was amazed and marveled at the just man's endurance."[226] It is worth highlighting here that the Emperor was not disgusted by the saint's rotting feet but is instead uplifted and amazed by the saint's strength, through the glory of God, to endure such suffering. The most graphic account of his rotting flesh occurs when a woman falls at his feet in prayer and notices that "on the one foot the sole had dropped way from the ankle bone and there was nothing left but the shin bone [and] she was amazed at the man's endurance."[227] The last time his feet are mentioned is posthumously and depicts that saint

[224] Robert Doran, *The Lives of Simeon Stylites*, (Michigan: Cistercian Publications, 1992), 8.
[225] Elizabeth Dawes and Norman H. Baynes, *Three Byzantine Saints: Contemporary Biographies of St. Daniel the stylite, St. Theodore of Sykeon and St. John the Almsgiver*. (New York: St. Vladimir's Seminary Press, 1977), 23.
[226] Ibid., 32.
[227] Dawes and Baynes, *Three Byzantine Saints*, 57.

being laid out on his pillar and the monks observing that "he was quite entire except that his feet had been worn away with inflammation and the gnawing of worms."[228] This graphic depiction of the saint's body with chunks of flesh missing from his feet suggests a simultaneous view of the saint's body as miraculous yet corruptible. Thus, Christians had a proclivity for the grotesque, the disgusting, and what some might call the fearful. It is easy to understand that Christianity has a long history of being fascinated by the grotesque. It is equally easy to see how leprosy would have replaced the martyrs, the gladiators, and the rotten saints in the medieval era. Another element of fear is contagion, however, which can undo the conditioning that hagiographies have done and reintroduce negative fear into the population. This is what I suggest happened after the 13th century.

Fear of contagion

During the 11th to 13th centuries, I argue, the fear of the contagion of leprosy was low compared to later centuries (or much earlier centuries). Healthy community members chose to live with the sick in leprosaria, indicating that some people did not fear contagion from leprosy, or their religious motivation overcame such fears (Roffey). Prominent scholars, including Brenner, Rawcliffe, Roffey, and Demaitre, build off Touati's argument that "leprosy was not associated with contagion until from about 1220-1230, and only definitively from the early fourteenth century."[229] Rawcliffe cites a case in the 15th century where a man is being diagnosed with leprosy, and the doctor is explaining to his "kynnesman" that he is leery of

[228] Ibid., 69.
[229] Elma Brenner, *Leprosy and Charity in Medieval Rouen*, 99.

confirming the diagnosis until "several unambiguous symptoms present themselves" because a "disease as complex and polymorphous as *lepra* might develop in a variety of ways."[230] This is relevant because it indicates that centuries later, while some physicians understand the complexity of leprosy and are sensitive to their patients' diagnoses, most people (like the kinsmen) are concerned about contagion by this point and want to know if they are sharing space with someone with leprosy.[231] What we would expect to see when contagion is not a factor is integration and community support and that is exactly what we see in the 11th to 13th centuries. Leprosaria were established near cities and towns, wandering people with leprosy were allowed in city walls to beg, and concerns about contact were relatively lax when compared to later centuries when disease avoidance was more of a concern and people with leprosy were being viciously persecuted.

This leaves two important questions. First, how did the fear of contagion go away? Leprosy is a horrifying disease and the common response to witnessing someone suffering from such a tragic condition is to be concerned with transmission and contagion. Medieval Christians, however, would have been conditioned over hundreds of years of preaching sermons stemming from the *Sermons of the Love of the Poor* by Gregory of Nyssa and Gregory of Nazianzus in the fourth century who originally preached for contact with people with leprosy and compassion and charity towards the suffering. This preaching conditioned the medieval Christians to do just that. It was part of their edict to go and join Christ in Heaven. They must

[230] Rawcliffe, *Leprosy in Medieval England*, 157.
[231] Ibid.

imitate Christ and heal people with leprosy. It seems simple to understand why Christians would want to treat people with leprosy and why they would feel protected from contagion; they had God on their side. What is harder to explain is why they stopped. Why did Christians become phobic of people with leprosy after the 13th century?

After the 13th century, Christians shifted from feelings of disgust (which they overcame to treat people with leprosy as good Christians should) to feelings of hate and persecuted people with leprosy violently. Along with hate negative fear returned. Why did their negative fear return? That is beyond the time and scope of this thesis; however, I hypothesize that a contributing factor was political, and the ruling parties wanted the land and money the leprosaria possessed. As previously mentioned, some leprosaria had vast amounts of land and were quite luxurious and well funded by royal patronage. Perhaps some royals wanted that land and money for different purposes. I think it is safe to say they because soon after the 13th century leprosaria were repurposed as general hospitals (that did not treat leprosy) and other buildings.

I argue there was also a dramatic paradigm shift in the Church that relegated the position of the leprous to a less ceremonial position, and sermons like the *Sermons on the Love of the Poor* became less influential. I'd like to recall how Demaitre stated that "in the 14th century, there were popular associations with 'wickedness' and leprosy that were 'fomented most intensely by the metaphors and moralizations of preachers…."[232]

[232] Demaitre, *Leprosy in Premodern Medicine*, 6

Plagues, including the Black Death, swept through Europe and left terror in their wakes. People with leprosy were at higher risk due to compromised immune systems and group living preventing isolation. William H. McNeill explains, "The die off incident to the Black Death certainly depopulated many leprosaria… the number of lepers never again became anything like it what it had been before 1346."[233] This ultimately left people terrified of disease and disease avoidance reached an all-time high. This disease avoidance was not lost on leprosy and likely led to fear of contagion of any disease. It's not unlike how in our post Covid-19 society many people are extra sensitive to any sneeze or cough they hear, worried that it's Covid. A major traumatic experience, like a plague, leaves a society hypersensitive to diseases of all kinds.

Lastly, there was the 1321 Lepers' Plot. This involved a supposed conspiracy on the part of people with leprosy in southern France to poison the wells and drinking water with a poison that would cause the French to contract leprosy. The Jews and Muslims in the area would also be implicated in the plot and they (along with people with leprosy) would be rounded up, tortured, and executed by being burnt at the stake. Demaitre summarizes that this particularly striking incident is most atrocious. He explains that "after spasms of popular unrest, King Philip V of France first condoned, and then ordered, the burning of *lépreux* in their shelters across the country."[234] He goes on to write that rumour spread like "wildfire" that the leprous had conspired with Jews and Muslims to poison wells and rivers to destroy Christendom. Within

[233] William H. McNeill, *Plagues and Peoples*, (New York: Anchor Books, 1998), 185-186.
[234] Ibid., 5.

weeks the panic had spread and "crossed into the kingdom of Aragon, where King James II also ordered leprous subjects as well as strangers to be rounded up as suspects, tortured, and burned if judged guilty."[235] These hypotheses are all potential reasons why later medieval Christians may have responded to people with leprosy with hatred and negative fear. Estimates are that around 5,000 people were tortured and burned at the stake. Still, those estimates might be understated as medieval statistics are not always accurate and in a time of frenzy and chaos it is hard to count bodies.

Unlike other ancient concepts of the causation of illness, such as nature, humoural imbalances, or jealous gods, early Christians understood illness as punishment for humanity's sins and a debt that must be paid for all eternity.[236] Illness was neither natural nor demonic, it was and still is the punishment humanity must endure because of its inherited Original Sin. Crislip notes that:

> In early Christian tradition illness, bodily decline and decay, and pain, as Elaine Scarry and Teresa Shaw have variously argued, were understood as direct consequences of the first humans' ejection from Eden and god's curse upon the pair and their descendants.[237]

Due to the complexity of why Christians suffer, whether it be as an imitation of Christ or because they are cursed, Christians have complex theories about the sick. Some thought that the sick suffered because they had been chosen by God and their illnesses were gifts to suffer

[235] Ibid.
[236] Crislip., *Thorns in the Flesh*, 3.
[237] Crislip, *Thorns in the Flesh*, 16.

on Earth to have a better afterlife in Heaven. Others believed that disease was divine punishment and that the sick were cursed for their sins.[238]

Stigma towards leprosy was often associated with sexuality and the belief that leprous people were hypersexual, spread leprosy through sex, and often rape. Negative attitudes towards sex were common in Christianity and can be found in accounts of saints with sexually transmitted infections and diseased genitals. Such attitudes toward diseases of the genitals can be attributed in part to early accounts of the life and death of Judas Iscariot that depict Judas as dying from some form of venereal disease as well as from dropsy. In one such account, a second-century Christian theologian called Papias, in his work *Exposition of the Sayings of the Lord*, reports that Judas contracted a horrifying venereal disease as punishment for his betrayal of Jesus. Papias remarks that Judas' "genitals appeared more loathsome and larger than anyone else's, and when he relieved himself, there passed through it pus and worms from every part of his body, much to his shame."[239] He goes on to detail how Judas' body was so severely swollen from dropsy that he could no longer fit through the narrow alleys of Jerusalem causing him further humiliation and shame. He describes Judas' condition in the following manner:

> Judas was a terrible, walking example of ungodliness in this world, his flesh so bloated that he was not able to pass through a place where a wagon passes easily, not even his bloated head by itself. After much agony and punishment, they say, he finally died in his own place, and because of the stench the area is deserted and uninhabitable even now.[240]

[238] Ibid.
[239] Ibid., 17.
[240] Crislip, *Thorns in the Flesh,* 17.

By presenting Judas' death as coming after "much agony and pain," this account emphasizes the themes of shame, humiliation, and punishment, associated with these particular types of illnesses. Therefore, like the high medieval period, there is precedent for negative responses toward illness in Christianity although it was often the exception, not the rule. Furthermore, it should be noted that the negative attitude is aimed toward hated figures. Thus, it makes sense that attitudes toward people with leprosy shifted from charity, compassion, and the idea that they are suffering for the collective debt of sin to hatred and negative fear.

A German poem from the late 12th century epitomizes the attitudes towards leprosy well. Demaitre presents a poem by Hartmann von Aue titled *Der arme Heinrich* (Poor Henry), which accounts for a Job-like nobleman who contracts leprosy and would only be cured through submission to God. As Demaitre states, the poem offers insight into 12th-century perceptions of leprosy. The poem explains that when the disease took Heinrich, he "became repugnant to men and women when they saw God's heavy chastisement in his body."[241] This suggests that there was already a shift toward negative attitudes towards leprosy regarding immorality associated with the disease. The repugnance also relates to disgust, indicating that perhaps Christians are becoming less willing to overcome disgust triggers associated with leprosy in the late 12th century in Europe.

[241] Demaitre, *Leprosy in Premodern Medicine*, 1.

How disgust works

There is a paucity of research on disgust. Vaitl et al. explain that "though there is a multitude of neurobiological studies on basic emotions, such as fear and anxiety, another equally relevant primary emotion, disgust, has hardly been investigated."[242] This does not preclude them from formulating a brief but helpful definition: "Disgust is an aversive affective state evoked by repulsive stimuli."[243] In other words, it is a state of being caused by a stimulus or stimuli that affect you negatively. Vaitl et al. go on to explain that "theories on the biological evolutionary origin of this emotion claim that disgust might have evolved as an accompanying response during the rejection of health-threatening food."[244] This is because facial expressions in response to disgust tend to involve the curling up of the upper lip and the pushing-out of the tongue in a "gape" reflex that would push or keep food out of the mouth. Furthermore, "Somatic response components that are frequently observed during states of disgust include an increase in electrodermal activity and a relative decrease in heart rate."[245] This is significant because an increase in heart rate is typically seen in fear.

Like with fear, there is a form of CBT called cognitive reappraisal that can help condition people the be less disgusted by certain stimuli. Olatunji et al. suggest that "reinterpreting a stimulus can alter emotional responding" which explains why Christians re-envisioned the meaning of leprosy and the role of the leprous in their community to be more positive.

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[242] Dieter Vaitl, Anne Schienle and Rudolf Stark. "Neurobiology of Fear and Disgust." *International Journal of Psychophysiology* 57 (2005): 1.
[243] Ibid., 3
[244] Ibid.
[245] Ibid.

Cognitive reappraisal is based on a method of exposing someone to a neutral conditional stimulus and a negative unconditioned stimulus. Talk therapy is employed after exposure to both stimuli with the goal of envisioning the unconditioned stimulus in a more positive light. Following this, the exposure is repeated, and the patient is observed to determine the degree of disgust response. In a study with 57 psychology students, the students were divided into two groups: exposed method and a control group. Both groups were shown video images of cheese and pita bread for varying intervals of a few minutes, which were neutral (unoffensive) images. Then they were shown several minutes of people vomiting, including audio which was the disgust/repulsive stimuli. Group A was given group talk therapy after the session, where their counselor tried to suggest positive reasons for vomiting, such as being sick and feeling better afterward, eating something bad and or poisonous and getting it out of their body, etc., to try to condition to group into viewing vomiting as possibly having positive purposes. When the video series was repeated, Group A (that had behavioural conditioning via group therapy) demonstrated a marked decrease in disgust response to the vomiting video. In contrast, the control group remained the statistical equivalent to the first day.[246] This leads to the relevance of disgust in society, for that, Miller is an ideal source as an expert in the field.

Analyzing disgust factors in a society provides insight into that society because disgust plays an important role in shaping a community's culture/moral/social/political domain by establishing boundaries.[247] Disgust is also relevant to Christians' responses towards people with

[246] Bunmi O. Olatunj, et al., "The Effects of Cognitive Reappraisal on Conditioned Disgust in Contamination-Based OCD: An Analogous Study," *Journal of Anxiety Disorders* 51 (2017): 87-90.
[247] Miller, *Anatomy of Disgust*,18.

leprosy because it helps illuminate why people behave the way they do. Miller explains that fear leads to flight and disgust more to a desire to have the offending item removed.[248] Furthermore, hate wishes to harm and force misfortune on the object of hatred. It is ambivalent about wishing the hated one was gone. Disgust merely wants the thing relocated and quickly.[249] Christians did not hate people with leprosy, they were disgusted by them. They merely wanted them relocated, so they sequestered them in leprosaria. Moreover, Miller's insights into disgust suggest that eating bodily fluids and parts was an exercise in the mortification of the flesh made popular by certain kinds of saints. Self-befoulment and self-mutilation are motivated by a complex mingling of desires to disgust oneself and others by such displays. Moreover, I would add that the disgust factor was transposed into an ability to impress others with the saints' abilities to withstand these revolting hardships for Jesus. This is like how Jesus withstood the grotesqueness of the leprous, the sick's vileness, and the diseaseds' stench with quiet, humble virtue. Thus, proving the scab-eater's and pus drinkers' spiritual superiority.[250] For example, according to hagiographical data, St. Catherine of Siena c. 1370 consumed the pus of patients. Angelina of Foligno ate the scabs of her leprous visitors as if she were taking Holy Communion. Although, Miller argues that anyone would unlikely ever drink someone's pus, even in the Middle Ages when the disgust threshold was so high.[251] While it may be unlikely, it is also unlikely men would like to be atop 60-foot stylites in the Syrian desert for decades. It's unlikely Symeon would bind his waste with a palm leaf rope for a year

[248] Ibid., 25.
[249] Ibid., 35.
[250] Ibid., 51.
[251] Ibid., 158-159.

while it ate into his flesh and got infected by maggots or that Antony would entomb himself in a cave only to emerge with the perfect Adamic body. Miller is not a religious scholar; his field is psychology. To a psychologist, this sounds like a rare mental illness anomaly that I am sure he doubted could exist en mass in the general population and be seen as acceptable, if not impressive behaviour. This is medieval Europe, though; Catholicism is thriving, and Catholics love their saints and miracles. Therefore, I would state that these stories could very well be true to some degree.

Attitudinal shifts across time and space

Both John Bodel and Miller make note that despite the low standards of cleanliness in medieval Europe, overflowing body pits on the outskirts of cities were sources of fear, disgust, and contagion.[252] This example highlights how fear, disgust, and contagion can function in contradictory modes. In some instances, exposure to dead bodies motivated people to keep a safe distance away from the rotting corpses to avoid pollution/contamination. In other instances, repeat exposure desensitized them to the situation, leading to individuals seeking out similar experiences.[253] Examples of people seeking out dead bodies are ample in Bodel's article from undertakers, and executioners, to a morbid fascination with poking corpses left outside the city walls.

[252] J. Bodel "Dealing with the Dead: Undertakers, Executioners and Potter's Field in Ancient Rome," in *Death and Disease in the Ancient City*, ed. V.M. Hope and E. Marshall (London: Routledge, 2012), 132; Miller, 21.
[253] Smail, 116.

Positive attitudes towards leprosy can further be explained by analyzing the psychological phenomena that motivate people to react to disgust stimuli. Lateiner and Spartharas explain that disgust is used to marginalize individuals or groups who are deemed morally or socially condemnable; this is observable in negative, normative responses to leprosy in non-Christian, Graeco-Roman society.[254] According to Lateiner and Spartharas, disgust mechanisms include mental evaluations and are semi-automatic. Therefore, disgust is not entirely a reflex but a cognitive response that can be altered. Christian behaviors, such as the socio-religious and medical care of people with leprosy, indicate that Christians were not responding with typical disgust mechanisms, and that disgust was not the normative Christian response in the fourth and fifth centuries. This thesis argues that this was because responses can be conditioned; an individual who may have once responded negatively with disgust to a person with leprosy may respond positively following repetitive exposure and behavioral conditioning.

Thus, this thesis contends that if a disgust response is triggered in an individual, a combination of cultural conditioning, personal predispositions, and neurological makeup all influence the response. As in the legend with the woman drinking the leprous bathwater, an individual can control that response and manipulate it through repeated exposure and behavioral conditioning; over time a new base response is formed. Smail uses the example of people who rock-climb, enjoying being exposed to the generally negative, universal emotions and experiences of vertigo, fear, and stress, to demonstrate how people can retrain their brains to enjoy negative stimuli. Before turning to neurobiology, it is relevant to now look at disgust in

[254] Lateiner and Spartharas, *The Ancient Emotion of Disgust*, 1.

hagiographical texts from the medieval era involving saints eating the scabs and drinking the pus of the diseased.

Fear and disgust in hagiographies

This thesis has already examined disgusting hagiographies of saints like Symeon and Daniel from circa the 4th century CE. It now turns to medieval data to demonstrate a continuum of positive attitudes toward rotting bodies and the addition of the consumption of necrotic and purulent body parts of the "other." Molly Morrison describes Angela of Foligno (1248?-1309) and other people eating the repugnant scabs of leprous bodies because of an intense desire to be united with Christ. She cites Angela of Foligno from *Il libro della Beata Angela da Foligno,* remarking:

> And after we had distributed all that we had, we washed the feet of the women and the hands of the men, and especially those of one of the lepers which were festering and in an advanced stage of decomposition. Then we drank the very water with which we had washed him. And the drink was so sweet that, all the way home, we tasted its sweetness and it was as if we had received Holy Communion. As a small scale of the leper's sores was stuck in my throat, I tried to swallow it. My conscience would not let me spit it out, just **"**as if I had received Holy Communion."[255]

Morrison also notes that Francis Assisi (1182-1226), Catherine of Siena (1347-1380), and Catherina of Genoa (1447-1510) engaged in consuming the bathwater, scabs, and pus of people with leprosy. Morrison supports my thesis arguing that the saints "perform the practice to

[255] Molly Morrison, "Ingesting Bodily Filth: Defilement in the Spirituality of Angela of Foligno," *Romance Quarterly* 50 (2003): 163.

overcome their own bodies'" normal reactions of disgust and revulsion to disease filth (i.e., behavioral conditioning or CBT).[256]

Graham C. L. Davey analyzes the accumulating evidence from psychological, psychophysiological, neurobiological, and cognitive studies suggesting that the disease-avoidance emotion of disgust is a predominant emotion experienced in several psychopathologies in his article "Disgust: The Disease-Avoidance Emotion and its Dysfunction." Disgust propensity and sensitivity are significantly associated with measures of several other psychopathologies, including hypochondriasis, height phobia, claustrophobia, separation anxiety, and agoraphobia, among others:

> There is accumulating evidence that disgust does represent an important vulnerability factor for many of these psychopathologies, but when disgust-relevant psychopathologies do meet the criteria required for clinical diagnosis, they are characterized by significant levels of both disgust and fear/anxiety.[257]

He summarizes that disgust may also produce a fear response across a broad range of psychopathologies; namely, through its involvement in more complex human emotions such as shame and guilt. He also explains that disgust is a negative affect emotion meaning negative emotion/expression and it generates threat-interpretation biases, or, in other words, it creates a means by which someone can consistently interpret ambiguous information.

Moreover, Miller's insights into disgust suggest that eating bodily discharges was an exercise in the mortification of the flesh made popular by certain kinds of saints. Self-

[256] Ibid., 204.
[257] Graham C. L. Davey, "Disgust: The Disease-Avoidance Emotion and its Dysfunction." *Philosophical Transactions of the Royal Society* 366 (2011), 3453.

befoulment and self-mutilation are motivated by a complex mingling of desires to disgust oneself (and overcome that disgust) with desires to impress others with the degree of disgust by which they can engage and display.[258] If Miller is correct that these accounts are false, why do they exist? There may be a few reasons. I suggest disgusting hagiographies were written for the same reason graphic self-mortifying saints' lives were composed; (1) people wanted to hear about the gory details; it was popular amongst Christian audiences, (2) the shock value helped make the saints more popular, (3) there was some truth to the tale and the hagiographer merely exaggerated the account, (4) the behaviour was believable, or at least not out of the realm of possibility.

Besides Francis, all these figures lived after the 11th and 13th centuries and, therefore, beyond the scope of the positive epoch of attitudes toward leprosy. This is significant as Morrison also notes that during this period people with leprosy were exiled and leprosaria were erected "downwind" of communities to prevent the healthy from being exposed to horrible stench. She writes, "medieval society confined lepers to ensure their complete and total separation from the public."[259] Even though societal attitudes had begun to shift towards negative attitudes, it remains clear that some Christians continued to see something special, perhaps even divine, in leprous bodies.

These hagiographies demonstrate that disgust responses can be conditioned. An individual who may have once responded negatively with disgust to a person with leprosy may respond positively following repetitive exposure and behavioural conditioning, or with the right kind of

[258] Miller, *Anatomy of Disgust*, 51.
[259] Morrison, *Ingesting Bodily Filth*, 205.

motivation to engage in a disgusting act, such as becoming closer to Christ. This is significant for understanding Christians' more positive treatment of people suffering from leprosy because it demonstrates how a person might respond counter-culturally to the sight of a rotting body and avoid, or reprogram, the emotion of disgust.

Christian saints were not the only medieval figures engaging physically with people with leprosy. European royalty and the wealthy were engaging in an activity known as "leper kissing."

Kissing a person with leprosy is problematic from the start; however, it has been noted in medieval holy lives from Sulpicius Serverus's late-fourth-century *vita* of Martin of Tours to the early-fifteenth-century spiritual autobiography of Margery Kempe.[260] Julie Orlemanski, in "How to Kiss a Leper," uses historical phenomenology to explore what kind of experience kissing a person with leprosy in the Middle Ages was imaged to be. She notes that one problem in gaining insight into this activity is that medieval narrative representations are generally one-sided and focus, typically, on the able-bodied experience.[261] Ableism is problematic because it objectifies the other (in this case, the person with leprosy) provides us with a one-sided story rife with prejudice and discrimination, and entirely omits the voice of the other. Kissing people with leprosy seems to have been an activity with the goal of obtaining spiritual transformation, again giving spiritual power to people with leprosy coming back to the idea that people with leprosy are special and chosen by God.

[260] Julie Orlemanski, "How to Kiss a Leper." *Journal of Medieval Cultural Studies* 3 (2012), 142.
[261] Ibid.

Orlemanski goes beyond this superficial desire for spiritual benefit and suggests that "one medieval gesture, a social form of what I call here the 'leprous kiss,' plays upon both these aspects of desiring disability – the wanting to be *with* and the wanting *to be* disabled."[262] She explains this bold statement that medieval Christians *wanted* to be disabled by stating that the physical care of the infirm and demonstrating empathy towards people in such states were acts of "religious devotion and opportunities for spiritual transformation."[263] In this vein, it became easier to understand why people were engaging in behaviour that would likely seem bizarre in modern society and probably seemed odd to many of the leper kissers' contemporaries. Orlemanski and Peyroux both cite hagiographical evidence although Brenner notes a Scottish Queen, Queen Matilda (1105) who kissed people with leprosy and washed their feet. Timothy Miller and John W. Nesbitt note that Basil was kissing people with leprosy as early as the fourth century and Theodosios in the fifth century in the Byzantine Empire.

Orlemanski notes that the saints, Catherine of Siena and Angela of Foligno, also kissed people with leprosy. This seems like logical behaviour for these women as they appear to be engaging in behaviours that can enhance their spirituality and one method is to use people with leprosy to amplify their spiritual status and bring them closer to Christ. Orlemanski turns her attention briefly to Catherine of Siena and her disgust response to a leprous patient writing:

> When Catherine uncovers the stinking ulcer of a patient, she is seized with repulsion: 'Her stomach was upset by the intolerable odor, and she was on the point of vomiting.' In response she rebukes herself, asking, 'Are you disgusted…, you who may well end up yourself by falling into the same malady, or a worse one?' Catherine's squeamish quivering

[262] Ibid., 143.
[263] Ibid.

> provides the occasion for her self-transformation, as she extends the regime of Christian symbolic transvaluation over her roiling stomach: 'Immediately she bent over the sick woman and pressed her mouth and nose to the festering sore, and in that posture, she remained a long time, until she felt that the power of the spirit had subdued the nausea of the flesh' (Raymond of Capua, 1980, 149). Moreover, when Catherine's mother exclaims, 'Daughter,… you will surely catch the leprosy yourself,' and Catherine's hands show signs of the disease, it is clear that by the late Middle Ages, contact with lepers was understood to carry the risk of contagion (Raymond of Capua, 1980, 140).[264]

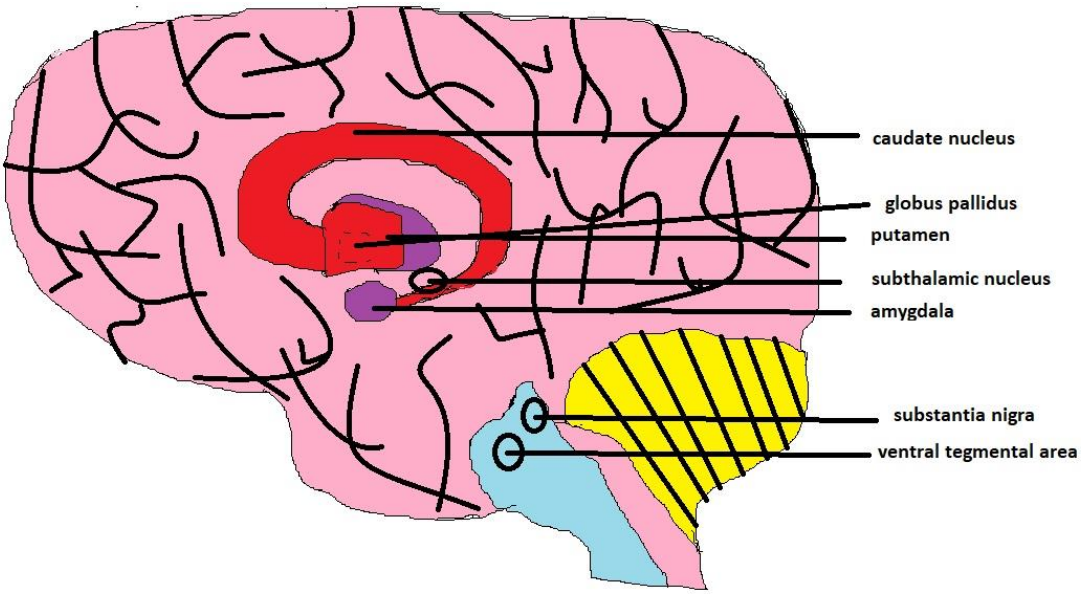
This excerpt merits unpacking. First, Catherine lived after the 13th century, which this thesis argues was characterized by positive attitudes towards leprosy. It should be reiterated that positive attitudes began in the fourth century in Byzantium and spread to the West, notably in the 11th and 13th centuries in France and England. However, some Christians still found uses for people with leprosy after the 13th century. I argue, though, that it is less about caring for and charity towards people with leprosy and more about using people with leprosy for spiritual gain after the 13th century in Western Europe. For instance, eating scabs and leprous kisses all have the goal of spiritual transcendence and do not seem to take the person with leprosy into consideration much if at all. These things are more being done *to* versus *for* the sick. In the above quote, Catherine is exposing herself to the woman's ulcers to overcome *her own* disgust and feel the power of the Holy Spirit in her. Second, what this also reflects about the 13th century is that some people believed leprosy was contagious; contagious enough that Catherine's mother does not want her around people with leprosy. Thus, we begin to see a shift in attitudes toward the treatment of and the association with people with leprosy in the late 13th century in some Christians. Having looked at the behaviours of medieval Christians

[264] Orlemanski, "How to Kiss a Leper," 151.

during the 11th and 13th centuries toward people with leprosy it is of merit to understand why they behaved the way they did. The next section on neuropsychology will help explain their behaviour.

Neuropsychology and Biology of Fear and Disgust

Fear and disgust are believed to involve similar yet distinct areas of the brain. Those are the amygdala for fear and the insula and basal ganglia for disgust. These organs are connected, and the entire grouping of organs is comprised of the striatum (putamen, and caudate nucleus), globus pallidus, subthalamus nucleus, ventral tegmental area, and substantia nigra.[265] The amygdala are located bilaterally in the temporal lobes and the insula and basal ganglia are located in the fore and midbrain. There is a relative consensus on which parts of the brain are involved in the emotions of fear and disgust but there is a general psychological question of



[265] Calder et al, "Neurology of Fear and Loathing," 352.

whether emotions each have one set of discrete neural representations or if there is a plurality.[266]

There is evidence that images and the visual cortex are significant in fear responses. Therefore, the impact of seeing leprous bodies would likely have incurred a significant response from viewers be it pleasurable or negative fear. Vaitl et al. write that "it has been suggested that emotional arousal elicited by pictorial material is generally reflected by increased visual cortex activation and, more specifically, it is associated with activation of the amygdala."[267] It is apparent that the amygdala is the region of the brain in which fear occurs due to studies of damaged amygdala in humans. Calder et al. found that patients with damage to either left or right amygdala demonstrated varying deficits regarding fear responses. Interestingly, patients with right amygdala damage presented far greater deficits. Calder et al. state that patients suffering "right unilateral anteromedial temporal lobectomies that included the amygdala… showed abnormal processing of faces expressing sadness, fear, disgust and happiness."[268] What is also interesting here is that this notes that the amygdala lobotomy affects disgust as well suggesting a more dynamic relationship between emotions in the brain versus singular locations. To be clear the amygdala affects disgust likely because of the proximity and correlation between the amygdala and the basal ganglia (see diagram, page 137) that is what is meant by a more dynamic relationship versus a singular location. Calder et al.'s findings about the right amygdala are supported by Vaitl et al. who note the lateralization hypothesis "which

[266] Vaitl et al., "Neurobiology of Fear and Disgust," 1.
[267] Ibid. 2.
[268] Clader et al, "Neurology of Fear and Loathing," 353.

highlights the pivotal role of the right hemisphere for the processing of emotional responses."[269] As mentioned earlier disgust is triggered in the insula and basal ganglia for which we have the following evidence. Vaitl et al. write:

> Patients who suffer from Huntington's disease (a genetic disorder leading to the degeneration of basal ganglia cells), show a selective impairment in the recognition of facial expressions of disgust (Gray et al., 1997). In healthy subjects undergoing fMRI experiments, the presentation of pictures with disgust mimic provoked increased hemodynamic responses in the anterior insula and the putamen (Phillip et al., 1997). Insular activation has also been observed during aversive olfactory stimulation. These findings point strongly to the importance of the basal ganglia and the insula in the emotion of disgust.[270]

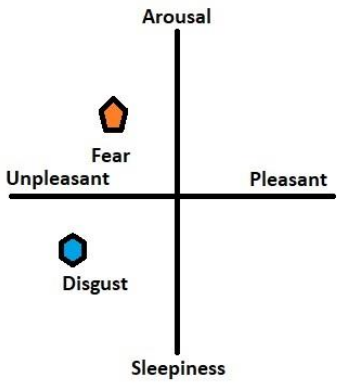
Thus, it is strongly agreed that the insula and basal ganglia are of primary importance for the emotion of disgust and that the amygdala are the locus of fear. A study on the sensation of the emotions of fear and disgust that relate back to the early statement that fear can be felt as pleasure is useful for analysis at this point.

Calder et al. describe the "unifying accounts of emotions" and the dimensional models in psychology versus the dimensional models in neuroscience. In psychology, "Dimensional accounts of emotion were borne out of the observation that human errors in recognizing facial expressions are not random, but instead for consistent, replicable patterns that can be accommodated by a model in which facial expressions are recognized by registering their positions in a continuous two-dimensional space."[271] This is represented by the Russell

[269] Vaitl et al., "Neurobiology of Fear and Disgust," 1.
[270] Vaitl et al., "Neurobiology of Fear and Disgust," 3.
[271] Calder et al, "Neurology of Fear and Loathing," 354.

circumplex model, “a two-dimensional system coding pleasure-displeasure and arousal-sleepiness.”[272]

Graph 1



This graph shows that fear has the capability of arousal. Arousal can be both pleasurable and unpleasant. I argue that over time, with the right conditioning medieval Christians exposed themselves to stimuli and responses to fear shifted from unpleasant arousal to pleasant arousal. Later, when Christians reverted to fearing people with leprosy after the 13th century, neuropsychology helped explain social attitude change's mass effect. Simply put, being around someone who is afraid affects whether you are afraid. If a small percentage of the population begins to shift their attitudes, they will have a ripple effect in society and can cause mass panic;

[272] Calder et al, “Neurology of Fear and Loathing,” 354.

this is a collective shift in attitudes. It likely influenced the positive and negative shifts in fear towards leprosy. Calder et al. explain that:

> the extrastriate cortex is modulated by an amygdala function that is influenced by emotions (that is fear and happiness) perceived in others, and by emotional states (that is fear and euphoria) experienced by the self. At a psychological level, these data indicate that seeing someone who is afraid (or happy) might have a similar effect on our level of vigilance towards a potential threat of experiencing fear (or happiness) oneself.[273]

The only conditioning Christians did with disgust was condition tolerance, reducing their disgust response to a manageable level.

Neuropsychology is further useful for understanding what fear conditioning is. Fear conditioning is behaviour modification through repetitive action with an unconditioned stimulus, a conditioned stimulus, and a conditioned response.[274] Pavlov's dog was trained to salivate at the sound of a bell by having meat placed in his mouth, and a bell rang simultaneously again and again. Eventually, the dog would salivate at the sound of the bell without any meat. Joseph LeDoux explains another example of fear conditioning as follows:

> John Watson, the father of behaviorism claimed to have conditioned an animal phobia in an eleven-month-old boy, Little Albert, by making a loud clanging sound while the boy was happily playing with a rat. Thereafter, the boy avoided playing with the rat and cried when he was near it.[275]

In this example, it is apparent that fear is a learned behaviour that can be manipulated through behavioural conditioning. As such, it is reasonable to believe that with Christians spending time

[273] Calder et al., "Neurology of Fear and Loathing," 356.
[274] Joseph LeDoux, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life*, (Toronto: Simon & Schuster Paperbacks 1996), 143.
[275] Ibid., 231.

with people with leprosy be it with vagrants begging for alms, buying produce from leprosaria, or at fairs (see Chapter One), Christians were desensitizing themselves to the fear and disgust factors associated with leprosy. Neuropsychology explains why the brain functioned the way it did to make the changes in behaviour that did occur. Vaitl et al. conclude by stating that there is a more global question left to be answered: "whether specific neural correlates exist for the processing of disgust and fear relevant information, or if different emotions share components of a central affective circuitry?"[276] Unfortunately, no simple answer is available. The brain and the emotions attributed to it are complex. This section has tried to offer a cursory overview of the neuropsychology (and biology) involved in the emotions of fear and disgust. Hopefully, it has offered insight into the human brain and its function.

Conclusion

Fear and disgust are basic, pan-cultural human emotions throughout history. They have specific yet related areas of the brain that control their function. Behavioural conditioning results in learned, adapted responses to both fear and disgust, which can lead to more positive responses. Methods that have proven to influence change in responses to fear and disgust in modern neuropsychological studies include CBT methods such as cognitive reappraisal. CBT is a form of behavioural conditioning like the Pavlovian response discussed herein. It is argued that medieval Christians unknowingly enacted the same processes as those performed in behavioural conditioning like CBT that reduced fear of contagion, conditioned fear, and disgust

[276] Vaitl et al., "Neurobiology of Fear and Disgust," 3.

responses, and ultimately led to experiencing fear as pleasure and disgust as tolerable concerning leprosy. This is because through repeat exposure, they trained their brains to release endorphins such as epinephrine, dopamine, serotonin, and adrenaline that created positive sensations resulting in a desire to repeat the experience again and again. Chapter 3 turns its lens to the relative present looking at stigma towards HIV/AIDS from 1980 to the present, primarily in Canada. It aims to test this thesis' theory that by understanding the fluctuation of stigmatizing attitudes towards leprosy in the 11th to 13th centuries and the deterioration of positive attitudes and increase in negative attitudes in later centuries, it is possible to extrapolate specific factors influencing why people stigmatize the sick. In theory, similar factors should be found in response to HIV/AIDS. Furthermore, once identified, I hypothesize, it may be possible to isolate these factors and attempt to devise methods for reducing these elements in society, thus reducing stigma towards infectious diseases and other medical conditions such as disabilities.

Chapter Three | HIV/AIDS from the 1980s to the Present

"*AIDS is not just God's punishment for homosexuals; it's God's punishment for the society that tolerates homosexuals.*"
~Jerry Falwell

Origins

HIV/AIDS became a health crisis in Canada and the USA in the 1980s and was initially thought of as a disease that affected men who had sex with men. The disease began, however, in Africa. Michael A. Vance explains that:

> Molecular studies suggest that HIV arose in Africa between 1880 and 1940. During this period, there were campaigns by European colonial governments that involved unsterile injections of large numbers of Africans. That, along with other unsafe therapeutic interventions, may have propelled the evolution of HIV from SIV. Since subtype B in Africa may have been concentrated in white African homosexuals, it is possible that Westerners rather than Haitians introduced the virus to the New World. Amplification of HIV subtype B took place in Haiti, where transmission was facilitated by hazardous medical procedures including plasmapheresis. Representations in the media, however, largely ignore Western contributions to the spread of AIDS (1).[277]

HIV/AIDS comes from SIV (Simian Immune Virus), a related form of the virus that infects non-human primates. The most popular theory of the origin of HIV is that it crossed over into humans in a spillover event, which is when a virus mutates enough to be transmitted from an

[277] Michael A. Vance, "Conflicting View in Narratives on HIV Transmission via Medical Care," *Journal of the International Association of Providers of AIDS Care* 18 (2019): 1.

animal reservoir to a human host. David Quammen paints an exciting and terrifying story of the crossover of HIV writing that, in 1985, the US and Europe had the highest rates of HIV/AIDS, but disturbing reports were showing high rates of HIV/AIDS infection in Africa, which shifted focus there. Drs. Myron (Max) Essex and Phyllis Kanki were inspired to perform a study where they gathered blood samples from Senegal (green monkeys testing positive for SIV) and elsewhere in a blind test testing for both SIV and HIV in human subjects. The goal was to find a link between SIV and HIV to identify how the virus could cross over. They found such a virus in Senegalese prostitutes. Quammen states it makes sense because prostitutes are at a high risk of contracting sexually transmitted diseases, including new ones spilling over, and the density of the rural human population in Senegal. In Senegal, the green monkey is native, and there was easy access to monkey-human interaction, such as crop-raiding by monkeys and hunting by humans (bush meat).[278]

This finding was important for another reason. This new virus resembled SIV strains from African green monkeys more than it did the *known* strain of HIV. This meant there were *two* strains of HIV/AIDS. Luc Montagnier (who worked on the original HIV strain) joined the effort at this point, and using assay tools provided by the Harvard group, Montagnier and his colleagues screened the blood of a 29-year-old man from Guinea-Bissau (along the border of Senegal).[279] The man displayed symptoms including diarrhea, weight loss, and swollen lymph nodes, all symptoms of AIDS, but he tested negative for HIV. After further tests, Montagnier's group

[278] David Quammen, *Spillover: Animal Infections and the Next Human Pandemic*, (London: Penguin Random House UK, 2020), 394-397).
[279] An assay is an investigative/analytic procedure in laboratory medicine using instrumental analysis.

isolated a new human retrovirus that looked very similar to Essex and Kanki's virus. A French team would also find the same virus in a patient in Paris who was originally from Cape Verde, an island off the west coast of Senegal. This virus would come to be known as HIV-2. The original was to be known as HIV-1. Without going into all the unnecessary detail for the purposes of this thesis, HIV-2 originates in three primate hosts, the African green monkey, the sooty mangabey, and the rhesus macaque. The animal reservoir of HIV-1 was harder to find, and with the damage it was doing, it was all the more important to find.[280] Quammen explains, "HIV-1 is the thing that afflicts tens of millions of people worldwide. HIV-1 is the pandemic scourge. To understand how the AIDS catastrophe has happened to humanity, scientists had to trace HIV-1 to its source."[281]

In 1980, a Belgian research assistant, Martine Peeters, working at the Centre International de Recherches Médicales (CIRMF) in Franceville in eastern Gabon, was tasked with testing captive chimpanzees for antibodies to HIV-1 and HIV-2. Ultimately, she was able to isolate the virus in two young females, and she published a paper about it in 1989, along with some other young scientists. The paper received little attention. This seems peculiar to Quammen, he notes, due to the "novelty and gravity of what it implied."[282] If Quammen isn't clear here, I will be. The implication was that humans contracted HIV-1 from a spillover event with chimpanzees.

While hunting for the source of HIV-1, scientists also investigated its diversity in humans discovering three major lineages or "groups." Each group was a separate spillover event. Group

[280] Quammen, *Spillover*, 396-398.
[281] Ibid., 403.
[282] Ibid., 404.

M was the most serious, most infectious, and most deadly. The letter M stood for “main” because it accounted for the most infections in the global pandemic. Quammen shockingly states, "Without Group M there was no global pandemic, no millions of deaths.”[283] Group O stands for “outlier” and represents only a small number of viral isolates, and Group N is extremely rare, named N to complete the alphabetical series of M, N, O. Much later, a fourth group was found and named P bringing the total number of HIV-1 groups up to four. HIV-2 is much more diverse, with eight groups labeled groups A through H. Most groups are rare except for A and B.[284] Now here is where it gets interesting. I will quote Quammen at length, as paraphrasing does not do his words justice. Quammen writes:

> Now here’s the part, as it percolates into your brain, [that] should cause a shudder: Scientist think that each of those twelve groups (eight HIV-2, four of HIV-1) reflects an independent instance of cross-species transmission. Twelve spillovers. In other words, HIV hasn’t happened to humanity just once. It has happened at least a dozen times – a dozen that we know of, and probably many more times in earlier history. Therefore it wasn’t a highly improbable event. It wasn’t a singular piece of vastly unlikely bad luck, striking humankind with devasting result – like a comet come knuckleballing across the infinitude of space to smack the planet Earth and extinguish the dinosaurs. No. The arrival of HIV in human bloodstreams was, on the contrary, part of a small trend. Due to the nature of our interactions with African primates, it seems to occur pretty often.[285]

With the understanding of what HIV/AIDS is and where it came from that this section has provided the next section looks at HIV/AIDS in Canadian and American society.

[283] Quammen, *Spillover*, 405.
[284] Ibid., 406.
[285] Ibid., 406-407.

Setting the Scene

To summarize the key element of Quammen's explanation of the origin of HIV/AIDS, there are two types of HIV, HIV-1, and HIV-2, with each having subtypes HIV-1 has four subtypes, and HIV-2 has eight, with HIV-M being the most infective and most deadly. Aids has probably been around much longer than we even know.[286] In other words, the virus was destined for humanity.

In Canada, the first AIDS case was diagnosed in February 1982. This does not include the highly publicized identification of "'Patient Zero,' as a Canadian airline attendant who developed Kaposi's sarcoma in 1980 [which] retrospective studies trace back to 1979."[287] Duffin reports that as of January 1993, the Laboratory Centre for Disease Control in Ottawa released statistics that there had been a total of 7,282 cases reported in Canada, of which 4,685 were known to have died, and reporting of new cases rose continuously every year during the epidemic until 1990.[288] She goes on to write:

> The majority of cases have been in homosexual or bisexual men and the disease is now the third most common cause of death in males aged 30 to 39. Among the 7,282 total cases were 50 children (24 male; 25 female) and 388 women; however, women constitute the fastest growing group of Canadians with AIDS and heterosexual transmission has been identified in more than half.[289]

[286] Penner, April 20, 2023.
[287] Jaclyn Duffin, "AIDS, Memory and the History of Medicine: Musings on the Canadian Response." *Genitourin Med* 70 (1994): 64. Quammen writes that Patient Zero was a man called Gaëtan Dugas who played a significant role in the spread of AIDS in the 1970s and 1980s. Gaëtan reportedly had sex with over2, 500 partners. He allegedly would frequent bathhouses and seduce new partners for unprotected sex and when finished he would show his lesions and say, "I've got cancer. I'm going to die and so are you." (387-388).
[288] Ibid
[289] Ibid.

Bear in mind that this is in 1993. The rate of infection in women will continue to grow over time. Writing in 2015 Johnson et al. explain that "slightly over half of the people living with HIV/AIDS are women (1220)." Johnson et al. conducted a study with 1931 women living with HIV/AIDS, 760 from Western Europe and Canada, and addressed the stigma related to disclosing HIV status and receiving treatment. This study will be examined in the following section on stigma. For now, suffice it to say, victims of AIDS shifted over time, and the most vulnerable are now women.

Going back to 1993, Duffin explained that according to the Canadian Hemophilia Society, approximately 40% of hemophiliacs were seropositive (positive for HIV). Furthermore, she writes:

> Birth control methods, including condoms and pills, were illegal in Canada until 1969. In the same year, homosexual acts were decriminalized for persons over 21 years. The abortion law was found to be unconstitutional in 1989. At the time of writing (January 1993), the federal government has yet to honour a promise, made in 1986, to amend the Canadian Human Rights Act to prevent discrimination on the basis of sexual orientation… only five of ten provinces and the Yukon territory, led by Quebec in 1977, have enacted specific legislation prohibiting discrimination on the basis of sexual orientation…. [And] in 1992, the Canadian Armed Forces abolished the ban on the military service of homosexuals and lesbians after the courts agreed with individuals that their dismissal on this basis had been against the Charter of Rights.[290]

This establishes a precedent of homophobia in Canadians, significantly affecting the stigma against HIV/AIDS. Further blatant homophobia in Canadian, this time directed directly towards HIV/AIDS, are two statements made by a British Columbia Cabinet Minister in 1989. The

[290] Duffin, "AIDS, Memory and the History of Medicine," 64-65.

minister stated that AIDS was “a self-inflicted wound” and “as a joke” suggested that the New Democratic Party adopt the motto “Sodomy forever” for spending “too much” money on AIDS issues.[291] Fortunately, despite rampant stigmatization, Canadians have a universal healthcare system that guarantees them hospitalization and (if the patient is hospitalized, on welfare, or a senior citizen) medication. HIV patients can also ask about HIV testing when applying for life insurance.[292] Access to healthcare and life insurance for HIV/AIDS sufferers suggests some compassion towards the sick.

Medical care was complex though and the arrival of HIV/AIDS turned the healthcare system on its head. In the 1980s, doctors and nurses didn’t use gloves when drawing blood or doing other procedures. They would get “blood all over their hands, “which wasn’t a problem. It wasn’t until HIV/AIDS that healthcare workers started using gloves.”[293] Duffin cites a medical student stating, "AIDS sent some doctors scurrying in search of Hippocratic loopholes, escape clauses that allow them to treat the sick only as long as [they] don’t run the risk of joining their ranks.”[294]

Duffin noted that AIDS began in Canada and the USA in the 1950s (although no one knew then that the cases were HIV/AIDS), following a lull until 1978.[295] She cites “arch-reactionary” and columnist Barbara Amiel, reacting to the AIDS epidemic in Canada in the 1990s, advocating for 1950s sexuality and the isolation of school children. She quotes her as having stated, “If

[291] Duffin, “AIDS, Memory and the History of Medicine,” 65.
[292] Ibid., 64.
[293] Penner, April 20, 2023.
[294] Duffin, “AIDS, Memory and the History of Medicine,” 67.
[295] Ibid.

bubonic plague or leprosy came back… our impulse would be to make sure no infected were allowed in public places – we would scarcely force employers to hire them."[296] This ties back into this thesis' discussion on leprosy by showing the continuance of negative attitudes from colonialism in at least some of the population. It also brings up the subject of stigma, which is the focal point of this chapter.

HIV/AIDS began with strange infections among certain male patients who were all active homosexuals suffering from pneumonia caused by a usually harmless fungus called *Pneumocystis carinii* at the UCLA Medical Center.[297] The men should have been able to fight off the infection, but their immune systems were not functioning properly, and their lungs filled with fungus. Furthermore, each man contracted oral candidiasis – a yeast infection in the mouth typically seen in infants or people with compromised immune systems. Tests were run, and blood test results showed dramatic depletions of certain types of lymphocytes (white blood cells) necessary for a healthy immune response. Specifically, the patients' thymus-dependent lymphocytes (T cells) were "profoundly depressed."[298] The treating physician, Micheal Gottlieb, noted three primary symptoms: *Pneumocystis* pneumonia, oral candidiasis, and dearth of T cells. Gottlieb and his colleagues recognized the gravity of the situation in a prompt yet brief article that they published immediately in the Center for Disease Control and Prevention (CDC) newsletter, *Morbidity and Morality Weekly Report*, published on June 5, 1981, under the title

[296] Ibid.
[297] Quammen, *Spillover*, 385.
[298] Ibid.

Pneumocystis Pneumonia – Los Angeles, was written.[299] While these events took place in LA, something equally sinister happened in New York.

In 1981, in New York, Joe Sonnabend diagnosed lymphadenopathy in 40% of his patients, which he theorized may be the result of the body's reaction to venereal disease (VD), which was on a rapid climb with the "tidal wave of new disease" resulting from the free love movement of the 1970s. This could also explain the simultaneous preponderance of enlarged spleens, low white blood cell counts, and low blood platelets. Still, there was something it couldn't explain: the increasing rate of Kaposi sarcoma (KS, skin cancer characterized by purplish lesions).[300] Sonnabend reached out to NYU Medical Center's Alvin Friedman-Kien when he heard about his cluster of KS, who described a patient he had been treating that was a young man from the Midwest who had a constellation of symptoms including fever, weight loss, enlarged spleen, and liver, and hardened lymph nodes in his neck and groin. France explains that "surgeons opened his abdomen, removed his spleen, and had taken biopsies of his liver and lymph nodes, but nobody had thought to wonder about the lavender splotches covering his legs."[301] The laboratory would confirm that the patient had KS. Soon another NYU physician would confirm cases of KS, an oncologist called Linda Laubenstein, and like Friedman-Kien's patients, hers had collapsing immune systems and were all gay.[302]

[299] Ibid., 386.
[300] David France, *How to Survive a Plague: The Story of How Activists and Scientists Tamed AIDS*, (Toronto: Random House of Canada, 2016), 18-19.
[301] Ibid., 19.
[302] Ibid.

In response to this growing epidemic, Sonnabend urged Friedman-Kien to use his authority granted by the NYU Medical Center to issue a warning to practitioners and eventually to every gay man with lesions to come in for immediate care. Friedman-Kien was rattled by the scolding and stated that he was already preparing a physician warning about the unusual cluster. This was in May. No public announcement appeared in June. By July, Sonnabend prepared to write an alert himself, but before he could publish Friedman-Kien told him that a letter alerting his fellow physicians that would go out in the *New York Times* the next morning. Furthermore, Friedman-Kien published an article in the *Morbidity and Morality Weekly Report*. Sonnabend wondered if Friedman-Kien delayed publicizing the letter to publish the article with the CDC, but Friedman-Kien denied any such accusations.[303]

Unfortunately, regardless of the reason for the delay and whether earlier intervention would even have made a difference, "the caseload had grown from eighteen to forty-one."[304] With little data to go on and, at least cursory evidence that this condition was related to sexual activity and gay men, Friedman-Kien developed a hypothesis and a recommendation. Francis-Laffan and Weiss summarize that:

> The way Friedman-Kien explained it, both the pneumonia and the skin cancer indicated the arrival of a never-before-seen disease with an inexplicable predilection for gay men. "We think there might be something about gay sexual activity," he remembered telling them. Lacking any better data, he advised sexual restraint.[305]

[303]France, *How to Survive a Plague*, 20-21.
[304] Ibid., 21.
[305] Ibid., 23.

This led to an immediate uproar, "It was pandemonium," stated Friedman-Kien.[306] Gay men had fought, and fought hard, for the freedoms and rights they had achieved at this point, and they had lost a lot along the way. They were not about to give *anything* up. Still, the community rallied. Like many other movements, things began with a reluctant and likely, unwanted leader.

Larry Kramer read the *New York Times* letter and it likely contributed to his distaste towards homosexuality, although he was gay himself. Kramer had difficulty in the gay community. He didn't fit in. He wasn't suave and wasn't good at one-night stands. Following a nasty separation from long-term boyfriend David Webster, Kramer turned against the gay world entirely and penned a venomous 1978 novel called *Faggots*.[307] Having read the *Times* piece about gay cancer Kramer felt vindicated for all the vitriol he spewed about gay men, "gay men were involved in something that was not just disastrous to the soul, in his view, but incompatible with life."[308] This is a key example of how religion was intertwined with AIDS. Like leprosy after the 13th century (and for some time during the 11th to 13th centuries), homosexuality was a sin, and HIV/AIDS was a gay plague. Like Jerry Falwell said, "*AIDS is not just God's punishment for homosexuals; it's God's punishment for the society that tolerates homosexuals.*"[309] Kramer reconsidered his attitudes towards this new plague on gay men when he himself contracted KS.

[306] Ibid.
[307] France, *How to Survive a Plague*, 21.
[308] Ibid., 22.
[309] Study.com, "Reverend Jerry Falwell: Biography and Quotes," https://study.com/learn/lesson/reverend-jerry-falwell-biography-quotes.html, accessed May 11, 2023.

As a result of his diagnosis, Kramer submitted a fund-raising appeal for publication in the *New York Native*, a tabloid-sized newspaper aimed at gay men. Later that week, he invited people to his apartment for a meeting of approximately 80 people, including Sonnabend and Friedman-Kien. Friedman-Kien addressed the crowd describing similar epidemics in LA and San Francisco. He reported that:

> [D]octors had reported a cluster of gay men coming down with *Pneumocystis carinii* pneumonia or PCP, a disease as relatively uncommon as KS, normally striking only a few hundred Americans a year, typically organ transplant recipients who require strong immune-suppressing medication to prevent rejection. This was evidence that severe immune suppression was involved. Untreated, PCP resulted in quick and agonizing death akin to drowning.[310]

Despite the anger that stemmed from Friedman-Kien attempting to proscribe behavioural changes, $6,635 were still raised for the new fundraiser organization, yet to be named. Thus, as much as gay men did not want to change their lifestyles, they were concerned about this new illness, and I would argue they were afraid. The doctor's explanation of how the disease functions would have triggered their fear responses, which would have motivated them to act by donating.

Introduction

This chapter looks at responses by communities in Canada and the United States of America in the 1980s towards HIV/AIDS (Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome) and shifts in attitudes up to the present. It hypothesizes whether

[310] Ibid., 23

elements that caused shifts in medieval Christian communities that resulted in more positive attitudes towards people with leprosy could be found in combatting discrimination and stigmatization against people with HIV/AIDS. Furthermore, it seeks to understand if these principles can be applied to all infectious diseases and additional medical conditions, such as disabilities, to reduce stigma. It argues that the method that medieval Christians and advocates of HIV/AIDS applied is behavioural conditioning, such as CBT. Methods could include cognitive reappraisal or repeated exposure. This could be done through public service announcements, posters, flyers, commercials, sermons, public events, etc. I have chosen to examine attitudes toward HIV/AIDS in Canada and the USA because first, there is ample medical, religious, and cultural material addressing the subject available in English, which alleviates the need for translation; second, if my thesis is correct and there is a method that could be applied to reduce discrimination and stigmatization, I would like to make it available in Canada immediately. I am including the USA to examine how American attitudes, at times, juxtapose Canadian perspectives, at other times, mirror Canadian responses, and often magnify Canadian attitudes. Future research should be able to manipulate this methodological approach to dismantling the stigma toward HIV/AIDS in Europe, Africa, and South America but for now, this chapter will focus on Canada and the USA.

Stigma

HIV/AIDS is a highly stigmatized disease. It was stigmatized in the 1980s and still is today. Stigma is often defined as a mark of shame, immorality, corruption, defilement, etc. It often involves the marginalization of a particular group or individual due to fear (fear of contagion),

disgust (inappropriate/immoral sex or IV drug use), and possibly hatred (homophobia). I suggest that diseases aren't inherently stigmatized. It is not the result of the individual being sick that they are stigmatized. If being sick was the stigmatizing factor, *all* diseases would be stigmatized but some illnesses elicit sympathy and compassion. For example, from personal observation and experience, diabetes, asthma, or multiple sclerosis are very low on stigma, and sufferers often receive neutral or sympathetic treatment. Stigmatization is the result of the sociocultural process by which groups are negatively labeled. Thus, communities create stigma out of fear and disgust.

I argue that stigma results from all these factors working in tandem and degree based on the disease and community. Therefore, no disease is in and of itself stigmatized. It requires a sociocultural factor, such as immorality, to create stigma. In both HIV/AIDS and leprosy, this was immorality and sexuality (and both together). With AIDS, it was homosexuality (and to a lesser extent, prostitution), and with leprosy, it was hypersexuality and lurid behaviour (see p.5). With people with leprosy, when Christians changed their attitudes to more positive attitudes, they reversed the immoral stigma and created a moral meaning for people with leprosy, even a super-moral meaning. They created the idea that leprous people were divinely chosen "children of God." The few, selected among the many, to suffer in this life so that they could have superior afterlives.

One example of stigma in the 1980s in Friedman-Kien and Sonnabend's attempt to get a freezer for their specimens. They state that they have applied for funding with the NIH but haven't received anything. They told Kramer that a freezer is expensive and "nobody will let me

put my specimens in their freezer because they think they spread the disease."[311] Even among knowledgeable medical professionals, a fear of contamination precluded their Hippocratic oath to care for the sick. Not allowing Friedman-Kien and Sonnabend to do their research directly impacted their ability to treat their patients, and the doctors that prevented their work hindered the responsible treatment of the sick. This is the function of negative fear just like negative fear impacted the care of people with leprosy.

A study on women in 27 countries helps to highlight stigma disparity in HIV/AIDS sufferers. As previously mentioned, more than half of the global population infected with HIV/AIDS comprises women. This prompted a study on what barriers to care prevent women from seeking and obtaining regular treatment. Women do not seek health care because of community concerns over disclosure and stigma.[312] Johnson et al. note that higher incidents of mental illness in women compared to men with HIV/AIDS complicate care and, I would argue, exacerbate stigma.[313]

The study involved a total of 1931 women from 27 countries, but the narrowed scope of this thesis will only analyze the data from the group of Western European and Canadian women, which consists of 760 women (WEC). Women were interviewed at clinics attending routine HIV/AIDS appointments and asked to complete four questions. The questionnaire of import here is the Barriers to Care Scale (BACS) which lists 12 items, two of which will be discussed here, namely, (7) community HIV/AIDS knowledge and (8) community HIV/AIDS

[311] France, *How to Survive a Plague*, 22.
[312] Margaret Johnson et al. "Barriers to Access to Care Reported by Women Living with HIV Across 27 Countries. *AIDS Care* 27, 10 (2015): 1220.
[313] Ibid.

stigma. BACS also comprises four subs-scales, including (3) community stigma barriers. The barriers were rated with a number from one to four (1= No problem at all, 2= Very slight problem, 3= Somewhat of a problem, 4= Major problem).[314] To show the results, I have recreated the table from Johnson et al. in retracted form. I have only included pertinent factors, significant numbers for comparison, and the global and WEC statistics in brief for simplicity and to keep the focus on stigma in the West (see table 1).

Barrier to Care Scale Results from ELLA Study (Table 1)		
	Global *N* = 1931 (mean age 40.1)	WEC *N* = 760 (mean age 44.0)
Risk factors for acquiring HIV		
Sexual conduct	1602 (83.0)	647 (85.1)
Immigrant status		
Not immigrant	1521 (78.8)	436 (57.4)
Immigrant >5 years	339 (17.6)	265 (34.9)
Residence		
Urban area	1601 (82.9)	626 (82.4)
Legally married		
No	1151 (59.6)	460 (60.5)
Living status		
Not living alone	1516 (78.5)	537 (70.7)
Partner HIV status for women living with partner		

[314] Johnson et al., 1222.

HIV-negative	513 (48.1)	226 (59.5)
Regular support from family or friends		
Yes	1161 (60.1)	387 (50.9)
Disclosure of HIV Status		
No disclosure or disclosed to intimate relations	1686 (87.3)	643 (84.6)
Payment method for HIV treatment		
Government or private insurance	1774 (91.9)	742 (97.6)
Years of formal education completed		
≥12 months	1256 (65.0)	429 (56.4)
>12 months	647 (33.5)	304 (40.0)
Current primary occupation		
Employed/self-employed	1014 (52.5)	399 (52.5)
Unemployed	696 (36.0)	248 (32.6)
Time unemployed (months)		
>12 months	582 (30.1)	209 (27.5)
Mean number of children	1.4	1.4
Time from HIV diagnosis to enrollment (years)		
>10	633 (32.8)	359 (47.2)
Use of antiretroviral therapy (ART)		
Used or currently use ART	1774 (91.9)	726 (95.5)
Last viral load (copies/mL)		

<400	1277 (66.1)	631 (83.0)
Last CD4 + (cells/mm³)		
>500	982 (50.9)	487 (64.1)

Some statistics are worth highlighting in this table as outliers. First, WEC women are less often immigrants compared to the global results. There is a higher rate than non-WEC HIV-infected women that their partners will not be infected. They are less likely to be supported by friends or family but more likely to receive support from the Government. They seem to be less educated by equally employed. Most notably, they score significantly higher in viral load and CD4+ results which I argue suggests a superior medical system or method of reaching women with HIV/AIDS in the community. This may also be evidence of reduced stigma, as when stigma in the community is reduced, AIDS patients feel safer seeking out treatment and staying on treatment.

Johnson et al. denote how 36.6% to up to 54.5% of women across regions reported that community HIV/AIDS stigma was a major problem when accessing care. They also reported additional major problems in a lack of community HIV/AIDS knowledge. This lack of knowledge ties into behavioural conditioning and the role that education and exposing the public to an infectious disease or disability like HIV/AIDS will have on reducing stigma, increasing desensitization, and ultimately, accepting the stigmatized conditions in society. In the BAC severity score, Community HIV/AIDS stigma ranked 2.7 out of 4, which indicates mild to moderate stigma in WEC communities and is slightly less than the global average of 2.9 and much less than other regions which scored 3.1 and 3.3. This suggests that stigma has reduced

since the 1980s and 1990s in WEC regions according to statistics from this 2015 study. Although it has not reduced significantly. Johnson et al. write:

> Stigma was perceived as a major problem in accessing care. Interestingly, despite years of HIV awareness, the severity scores reported for HIV/AIDS stigma were comparable to those reported in a 1998 study of people living with HIV in the USA. The reported stigma may be from the community or self-perceived. Stigma may lead to missed appointments or reluctance to access other needed health-care services outside the primary care facility.[315]

Johnson et al. emphasize the importance of reducing stigma, stating, "Elimination of stigma is of great importance to the global community. Removal of this barrier would lead to greater access to health care by women living with HIV/AIDS, and thereby decreased HIV/AIDS mortality and decreased HIV transmission."[316] The next section explains how stigmatizing attitudes were conditioned to reduce stigma, fear, and disgust toward HIV/AIDS.

June Marchand and Pierre Fillatrault look at different message strategies for AIDS prevention advertising and summarize that:

> AIDS prevention, especially when it concerns young adults, is a very serious matter. As a topic to advertise, it is therefore particularly challenging. Public policy makers have the difficult task of finding the message strategy most likely to persuade the target group while, at the same time, showing consideration for parents' sensitivities. This study attempts to address this problem by testing three different message strategies on AIDS prevention: a rational strategy, an emotional strategy based on a negative emotion (fear), and an emotional strategy based on a positive emotion (rewarding improved behaviour). The results suggest that the rational message strategy generated more personal concern for AIDS prevention and the emotional message strategy based on a

[315] Johnson et al., "Barriers to Access to Care Reported by Women Living with HIV Across 27 Countries," 1227.
[316] Ibid.

> negative emotion presented a positive impact on behaviour intentions.[317]

This thesis focuses on "the emotional message strategy based on negative emotion present[ing] a positive impact on behaviour intentions." Positive emotion does not factor into the analysis of this thesis that deals with fear and disgust and, therefore, will not be addressed here. In other words, it is most interested in using negative fear to motivate behavioural conditioning.

Fear ad Disgust

The most significant behaviour that provoked fear and disgust from a Christian perspective was homosexuality. Specifically, men having sex with men. The Bible has been used throughout history to defend homophobic beliefs in passages such as Leviticus 18.22: "You shall not lie with a male as with a woman; it is an abomination" and Leviticus 20.13: "If a man lies with a man as with a woman, both of them have committed an abomination; they shall be put to death; their blood is upon them."[318]

A good source for fear and disgust (to a lesser degree) towards HIV/AIDS and male homosexuality is Michael J. O'Loughlin and his journalistic work on the efforts of the Catholic church to assist in the struggle against the emerging disease in the 1980s and 1990s in the USA. Some anecdotal accounts included in his reporting on and descriptions of instances of positive and negative responses to the HIV/AIDS epidemics. For instance, he explains that during the early stages of the epidemic, the Vatican had released a letter of condemnation regarding homosexuality, which resulted in gay and lesbian Catholics being ejected from parishes.

[317] June Marchand and Pierre Filiatrault, "AIDS Prevention Advertising: Different Messages Strategies for Different Communication Objectives," *International Journal of Nonprofit and Voluntary Sector Marketing* 7 (2002): 271.
[318] Harper Collins, *Study Bible*, Leviticus 18.22 and 20.13.

Furthermore, Catholic priests often fought against public health campaigns that promoted the use of condoms to fight HIV/AIDS (such as the posters that will be presented below), and some even covered up the growing number of gay priests who had died from AIDS-related complications.[319] He goes on to suggest that the location of an AIDS memorial established in a Catholic church in 1992 seemed like "good intentions had been overshadowed by a sense of shame, a hint of something blameworthy in how these men died – that perhaps there was something wrong with being gay."[320] O'Loughlin is astute to point out, however, that it was not only the religious that took offense to HIV/AIDS and homosexuality; non-religious, political leaders, elite journalists, and medical professionals refused to accept gay people. He writes, "Then AIDS hit, seeming to herald just what the opponents of gay liberation had been warning about: *that* kind of lifestyle couldn't go unpunished for long."[321] He goes on to disclose that a national poll found that a quarter of Americans believed "AIDS is a punishment God has given homosexuals for the way they live," and a third believed sex between gay people should be illegal.[322] Fortunately, overtime through behavioural conditioning mechanism such as public education through public service announcements attitude towards HIV/AIDS and homosexuality have shifted positively similar to leprosy throughout history.

[319] Micheal J. O'Loughlin, *Hidden Mercy: AIDS, Catholics, and the Untold Stories of Compassion in the Face of Fear*, (Minneapolis: Broadleaf Books, 2021), 4.
[320] Ibid., 20.
[321] Ibid., 21.
[322] Ibid., 23.

Behavioural Conditioning

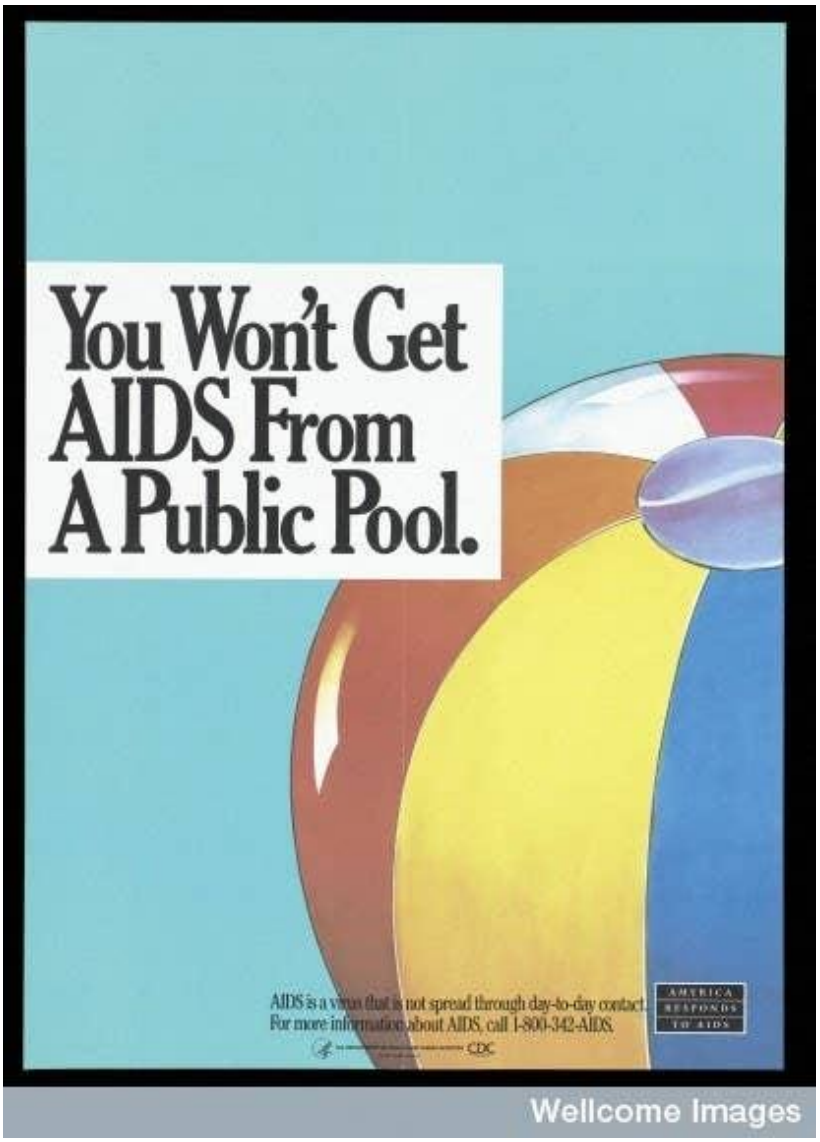
This thesis contends that behavioural conditioning is how medieval Christians, modern Canadians, and Americans desensitized themselves to leprosy and HIV/AIDS, respectively, and trained their brains to reinterpret how they viewed the sick. Conditioning theory has already been described in Chapter 2; therefore, a summary will suffice here. Conditioning therapies involve repeat exposure to a control stimulus with or without an unconditioned stimulus. The therapy aims to change a negative response to a control stimulus to a more positive response. As such, I argue that repeat exposure to posters, flyers, public service announcements (PSA), and public events desensitized Canadians and Americans to HIV/AIDS and made them more tolerant and compassionate toward people with HIV/AIDS.

Princess Diana: A Handshake that Changed Attitudes toward HIV/AIDS

In 1987, Princess Diana opened the UK's first purpose-built HIV/AIDS unit designed to care exclusively for patients infected with the virus. This in and of itself was a major advancement in the care of HIV/AIDS patients. What she did when she visited the unit was most remarkable and created global shockwaves. She appeared on TV shaking the hands of staff without gloves. All the patients had been removed as they had had negative experiences with the press in past events, but after a period, one man with AIDS decided to come out and be filmed with the Princess, and she shook his hand, too, demonstrating no fear of contracting the disease. This simple act significantly influences the opinions of many people regarding the dangers of interacting with people with HIV/AIDS.

Posters

Posters were employed to inform the public in Canada and the United States of the fallacies and risk factors associated with AIDS. Images speak louder than words. The Wellcome Library provided the following images from the 1980s and 1990s.[323]



American Response to AIDS advertising campaign

[323] Buzzfeed.News. "These Posters Show What AIDS Meant In The 1980s," https://www.buzzfeednews.com/article/patrickstrudwick/these-1980s-aids-posters-show-the-desperate-fight-to-save-li, accessed on April 22, 2023.

This poster is simple, straightforward, colourful, and not intended to be scary. It desensitizes AIDS and reminds the viewer of a fun day at the pool. A poster like this distracts the viewer from the dark side of AIDS and elicits joy and happiness, making a connection between AIDS and positive concepts such as joy, happiness, bliss, family, parties, etc.

AIDS information lines by the California Medical Association

Poignant and simple. This poster leaves the viewer with no disillusions. This was a popular myth in the 1980s, and this poster would have helped educate many people about the erroneousness of this statement. It is clear, concise, and the message is obvious. Posters like this certainly would have helped educate viewers about AIDS myths in the 1980s.

Wellcome Images

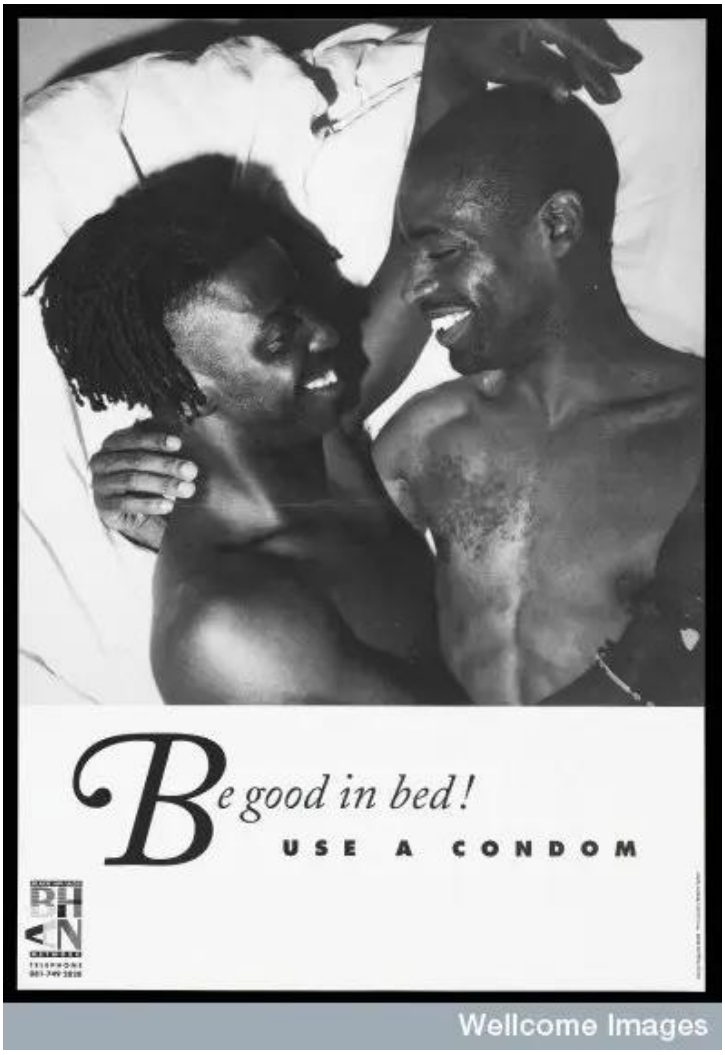
American Indian Health Care Association

This is a unique poster because it implements Native American symbolism indicating that the Native American community was concerned about the AIDS epidemic and wanted to educate their own community using their own methods.

In the 1990s, posters changed slightly. They were more positive, promoting more positive attitudes towards AIDS and the idea that people could still live their lives and continue to have

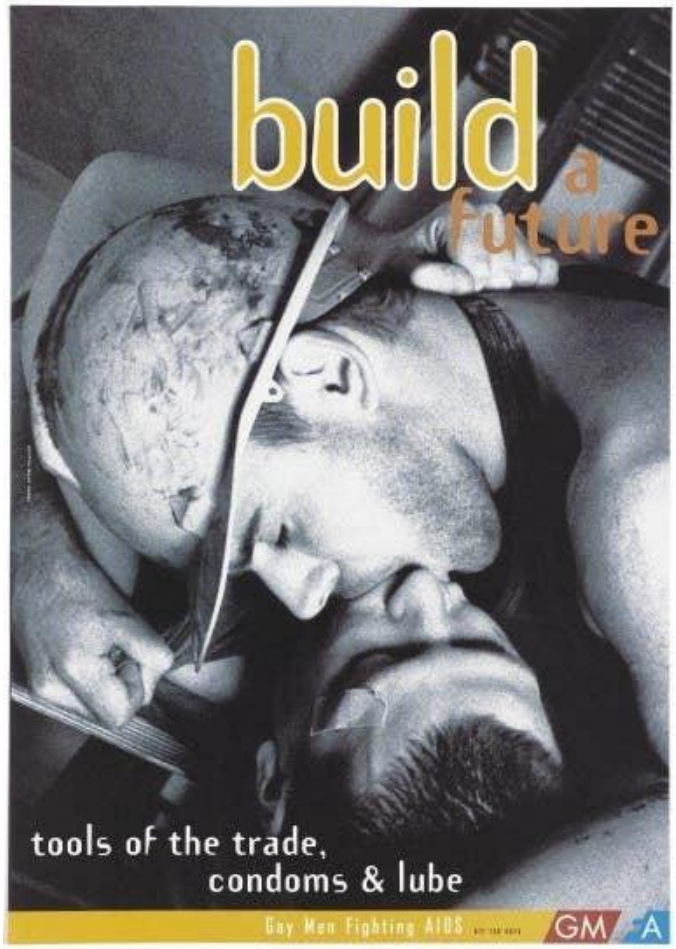
enjoyable sex. They addressed homosexuality and heterosexuality (see below). I would suggest this is evidence that behavioural conditioning in the 1980s affected society, and attitudes were shifting, albeit slowly, and significant stigma still existed. For instance, in the 1990s, there was a massive debate in Canada about whether to provide clean needles to IV drug users and hand out condoms in correction facilities to inmates. Those for the effort believed it would reduce needle sharing and unprotected sex, ultimately reducing the spread of HIV/AIDS. Opponents argued that IV drug use and sex in prison are illegal/immoral and supporting them will cost tax-paying Canadians money that could be spent on more important issues.[324]

[324] Duffin, 65.

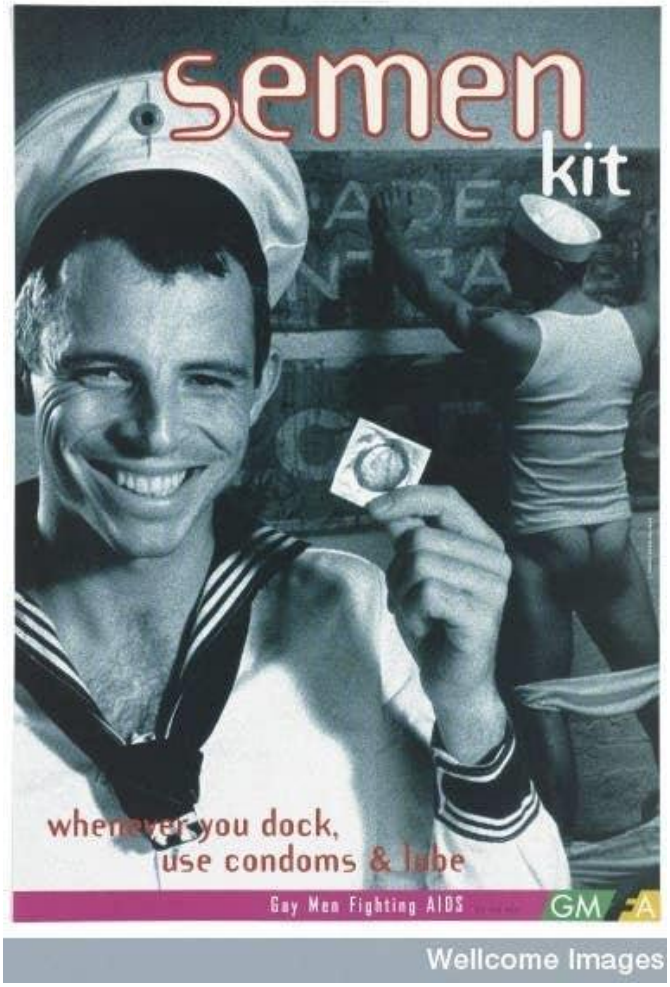


Terrence Higgins Trust, 1990s

Here we see that sex is becoming an "in your face" quality to the 1990s PSAs, and the methodology for positively affecting the AIDS epidemic is by reaching sexually active people who are at risk of getting AIDS versus educating people who are stigmatizing AIDS suffers or people who are terrified they are going to "catch" AIDS from ice cubes or pools (other ways people thought would catch AIDS was from handshakes, hugs, water fountains, doorknobs)

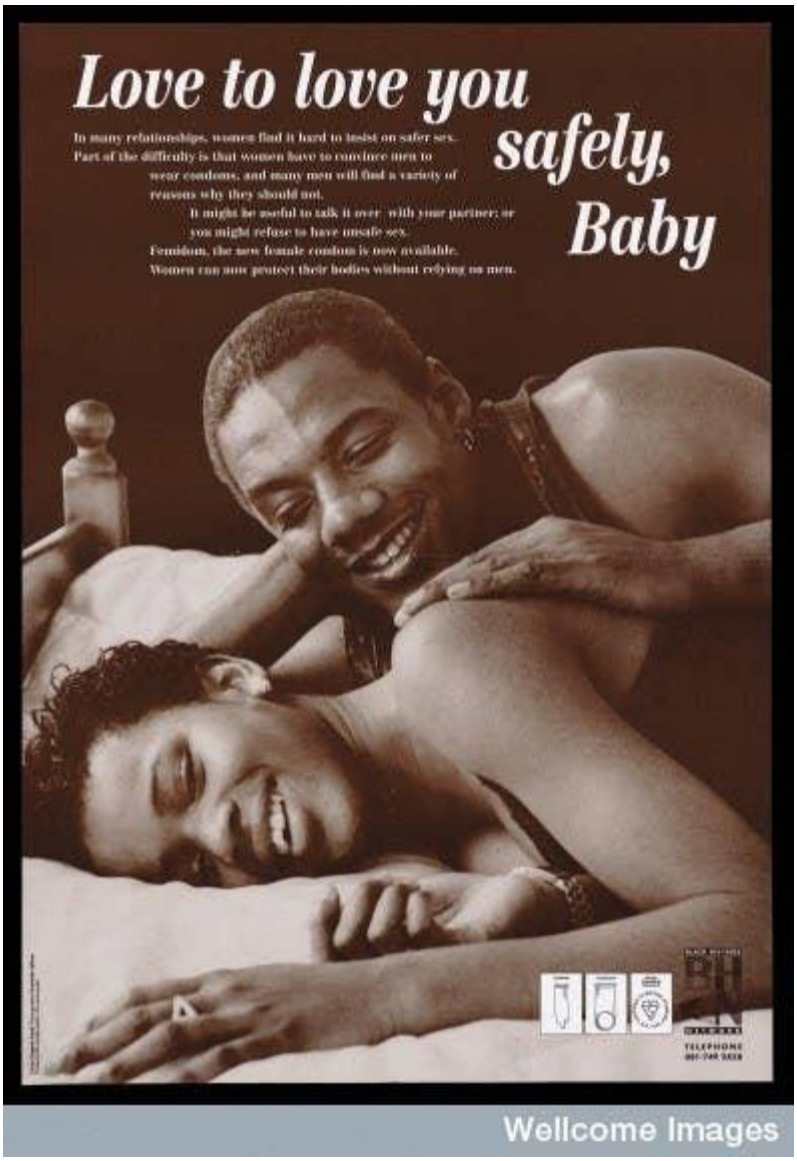


Wellcome Images



Gay Men Fighting AIDS (GMFA)

The Gay Men Fighting AIDS (GMFA) employs sexuality and humour to grab the attention of the population they are most trying to educate, gay men and indicates that men having sex with men should use condoms and lube. They suggest this is a good form regardless of AIDS; sex is best with condoms and lube.



New female condom by the Black HIV/AIDS Network

This is a great ad. It is about women and women's sexuality, specifically black women's sexuality. This is rare. Ads about woman's sexuality are not common and black women take up even less space. Here we see that black women can safely have sex on *their own terms,* giving them back their agency regarding whether a man wears a condom, and women can safely have sex again in post-AIDS society.

Public Service Announcements

In 1992, a study was done on the recall of AIDS public service announcements in two cities in the US, Springfield, Illinois, and Memphis, Tennessee. The experiment was conducted from May 29th to June 3rd and involved twice playing two PSAs on the evening news.[325] The study was conducted by the National AIDS Information and Education Program of the CDC from Phase V of the "American Response to AIDS" (ARTA) campaign. The two PSAs were "Wonderful World," which shows children playing in a field and a little girl talking about how she wants to grow up in a better world, and "sofa," which shows a couple kissing on a couch while an announcer provides information about AIDS.[326] Siska et al. describe how the study addressed four questions: "(1) Did either public service announcement increase awareness of AIDS as an important national issue? (2) Did people remember the announcements? (3) Was one more effective in accomplishing these two objectives? (4) Did either produce negative effects?[327] Interestingly, at recruitment, participants were only told that this was a study to examine "important health and national issues." AIDS was not mentioned. Could this have been because of stigma associated with AIDS that would have dissuaded participation? The authors don't explain why AIDS wasn't mentioned since it would have quickly become obvious to participants that the study was about AIDS, with the PSAs being about AIDS and the focus questions being about AIDS also. Regardless of any possible stigma, the results were positive.

[325] The PSAs were only supposed to run from May 29 to May 31 but a basketball game was aired during this period that interrupted the study and the participants were contacted and asked to redo the study. This affected how many people participated and likely skewed results to some degree.

[326] Michael Siska et al., "Recall of AIDS Public Service Announcements and Their Impact on the Ranking of AIDS as a National Problem." *American Journal of Public Health* 82 (1992): 1029.

[327] Ibid., 1030

Siska et al. explain that "the mention of AIDS as an important issue by exposed participants also increased in both sites."[328] Results were better in Memphis, however, and this was likely because they were sensitized by an AIDS special that ran on local news one week earlier, which I suggest is evidence that repeated exposure is an effective method for changing behaviour. The study concludes that despite problems and limited exposure under field conditions, viewers recall ARTA PSAs and those PSAs can influence beliefs. Furthermore, no negative effects have been recorded in the study.[329]

Another study on PSAs looked at condom use by university students. In 2014, Jueman (Mandy) Zhang, et al. published their finding on a study involving 170 heterosexually active, single northeastern university students in the USA. They found that "Exposure to HIV/AIDS public service announcements was found to increase perceived susceptibility, which facilitated a positive attitude toward condom use with main partners but not with nonmain partners."[330] Notably, while PSAs did not eliminate the negative behaviour of having unprotected sex, viewing them aids in reconditioning the behaviour through education and repeat exposure. For instance, the study shows that "a three-month-long safer sex PSA campaign increased condom use among at-risk young adults."[331]

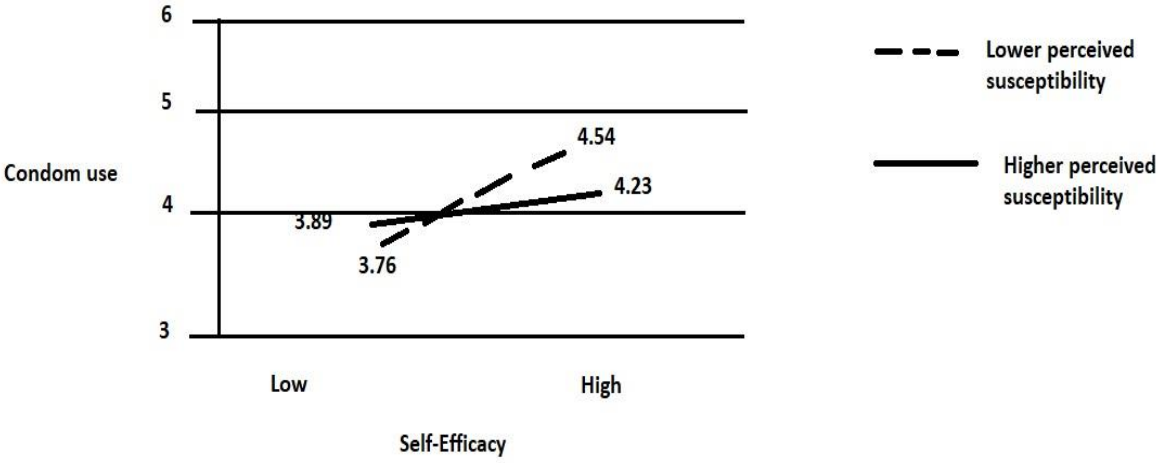
Results further demonstrated that from pretest to posttest, participants with main and nonmain partners perceived higher susceptibility at the personal level. Zhang et al. address the

[328] Ibid.
[329] Siska et al., "Recall of AIDS Public Service Announcements and Their Impact on the Ranking of AIDS as a National Problem," 1032.
[330] Jueman (Mandy) Zhang, Di Zhang and T. Makana Chock. "Effects of HIV/AIDS Public Service Announcements on Attitudes and Behaviour: Interplay of Perceived Threat and Self-Efficacy." *Social Behaviour and Personality* 42 (2012): 799.
[331] Ibid., 800.

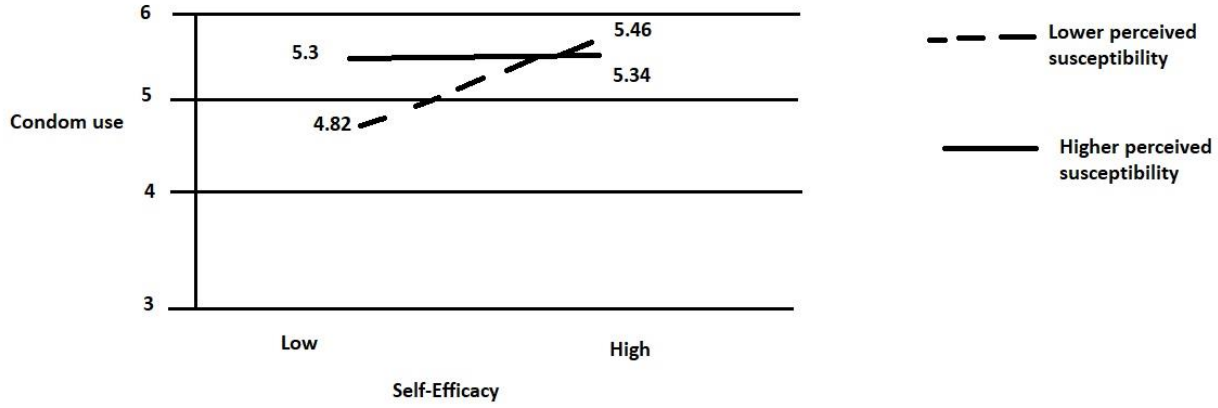
effects of the perceived threat and self-efficacy (confidence in bringing up the topic of condom use, discussing condom use, and convincing a partner to use a condom for HIV/AIDS prevention) on behaviour. They note that perceived susceptibility interacted with self-efficacy, so high self-efficacy versus low resulted in increased use of condoms with main partners (see Graph 2 below). With nonmain partners, self-efficacy yielded more condoms used when perceived susceptibility was lower rather than higher (see Graph 3 below)).[332] This is interesting because logic would dictate that protection would be more beneficial and more desirable when the risk of infection is perceived to be higher, but the reverse seems to be the case in this study. The authors do not speculate as to why this may be the case.

[332] Zhang et al., "Effects of HIV/AIDS Public Service Announcements on Attitudes and Behaviour," 806.

Graph 2 “Interaction effects of perceived threat and self-efficacy on condom use with main partners.”



Graph 3 “Interaction effects of perceived threat and self-efficacy on condom use with nonmain partners.”



In their discussion, Zhang et al. recognize that their study may have been manipulated by

the fact that in 2014 "participants exhibited high pre-existing levels of perceived severity, which made it unlikely to increase after exposure to PSAs."[333] This is likely because of the education young people get on HIV/AIDS in sex education in school, from parents and media already today.

By 2014, popular movies like Philadelphia with Tom Hanks and Denzel Washington premiered in 1993, and Dallas Buyers Club premiered in 2013, staring Matthew McConaughey, would have been available.[334] Both movies were very popular and highly praised by critics. Furthermore, celebrities like Magic Johnson and Eric Eazy E Wright were vocal about their HIV status and warned their fans to protect themselves. Before his death, Eazy E was a founding member of the 1980s super rap group NWA and was known for his extracurricular activity with many women. He contracted AIDS and died at 31-years-old. Before he slipped into a comma and passed away in a hospital where he was receiving thousands of calls a day from fans (so much so that over 100 additional operators had to be brought in to receive the calls indicating the influence Eazy E had), he spoke to his fans and also released an open letter. He said he "learned… that this thing is real and doesn't discriminate." He remarked that he wanted to turn his problem into "something good that will reach out to all my homeboys and their kin because I want to save [them] before it's too late."[335] He explained that he felt he had thousands of young fans that had to learn what's real when it comes to AIDS. It affects everyone. Eazy E was

[333] Zhang et al., "Effects of HIV/AIDS Public Service Announcements on Attitudes and Behaviour," 807.
[334]Philadelphia portrays the true story of a gay lawyer who is fired from his firm when it is found out that he has AIDS and he sues the law firm. Dallas Buyers Club tells the biographical story of Ron Woodroof, and AIDS patients in the 1980s who smuggled unapproved pharmaceutical drugs into Texas.
[335] Black Doctors. Org, "Eazy-E: How His Announcement Changed The Face of HIV/AIDS," Eazy-E: How His Announcement Changed The Face Of HIV/AIDS - BlackDoctor.org - Where Wellness & Culture Connect, accessed April 24, 2023.

one of the first major music performers to announce his HIV/AIDS status, and his death in 1995 led to several cultural shifts: (1) many rappers advocated getting tested and the "Get Tested/Knowing Is Beautiful" campaign; (2) condom use among 16-21-year-olds in urban areas tripled; (3) HIV testing among youth has tripled (ages 13-24 accounted for an estimated 26% of all new HIV tests; (4) HIV/AIDS test positive songs have been released and over 13 have reached the billboard 100 list.[336]

Even before Eazy E, and the music that followed his death, another brilliant musician, Freddy Mercury, lead singer of Queen, comes to mind. One rumour about the beginning of their song "Bohemian Rhapsody," released in 1975, states, "Momma, just killed a man. Put a gun against his head. Pulled my trigger, now he's dead." It is rumoured to be about Freddy Mercury being HIV positive and giving AIDS to another man. Thus, pop culture was ripe with references and rumours about HIV/AIDS before 2014, and students in the study would have been well exposed to HIV/AIDS and the associated risk factors.

Some of the many celebrities not yet mentioned on this list include Charlie Sheen (actor), Gia Carangi (supermodel), Isaac Asimov (author of 477 books), Liberace (pianist), Rock Hudson (actor), and many more.[337] Some of these celebrities kept their status a secret during their lives, afraid of the stigma of the disease. Still, most lived openly, often functioning as spokespeople for positive attitudes and behaviours towards HIV/AIDS and people with HIV/AIDS. For those who have died, after their deaths, their HIV/AIDS statuses were revealed, influencing, and

[336] Black Doctors.Org, "Eazy-E."
[337] The Body: The HIV/AIDS Resource, "23 Celebrities and Famous People with HIV/AIDS," 23 Celebrities and Famous People With HIV (thebody.com), accessed April 23, 2023.

educating the public, showing people that even their heroes are not precluded from the dangers of possible HIV infection, which all too often resulted in early death in the 1980s and 90s.

Yet, as that study showed, showing the students PSAs did still increase the use of condoms indicating the effectiveness of repeat exposure. Zhang et al. also note that "This ceiling effect was shown in prior studies of fatal disease," suggesting education works for diseases also supporting this thesis' theory that this approach is transferable to other infectious diseases and disabilities. The reason why these diseases and disabilities were negatively viewed was in large part because of fear and disgust. Thus, the reversal of fear and disgust is possible, and when fear and disgust are eliminated via behavioural conditioning and education, positive, unstigmatized attitudes emerge.

Public Events

Public events are another form of exposure that teaches people how to respond to HIV/AIDS. Because public events usually involve masses of people, there is also a mass response, and if some people respond positively, this can influence the entire crowd to respond pleasantly, which can break down stigma. This was addressed in Chapter 2 when examining how looking at someone displaying fear or happiness typically evokes fear or happiness in the person looking at them. It is a domino effect. One public event made AIDS a household word in America.

In September 1985, Ronald Reagan said the word AIDS in public for the first time. Two weeks later, his friend Rock Hudson, America's man's man, died from the disease. Regan finally

acknowledged that this was an important and serious epidemic that deserved attention and that America needed to pay attention also.[338] In Canada, a "lack of government response led to the participation of many Canadians in the widely-publicised demonstration at the Fifth International AIDS Conference in Montreal during June 1989."[339] What may have been the most effective public event was the display of the NAMES Project Quilt (the AIDS Quilt).

Gay activist Cleve Jones conceived of the Aids Quilt in 1985, and the quilt was displayed for the first time on the National Mall in Washington DC, on October 11, 1987, during the National March on Washington for Lesbian and Gay Rights.[340] It consists of more than 46,000 individual panels, all representing someone who died of AIDS. In 1988 it toured over 20 cities and raised over $500,000 for AIDS service organizations. In 2006, Fee wrote that the AIDS Quilt is the "largest community art project in the world, the AIDS Memorial Quilt was nominated for the Nobel Peace Prize in 1989. In the last 20 years, the quilt has been viewed by more than 15 million people and has raised more than $3 million for AIDS service organizations."[341] This mass viewing and collective public mourning impacted society and wasn't restricted to the US. Approximately 35 countries were involved in the AIDS Quilt.[342] Steven James Gambardella explains that the AIDS Quilt "challenged and transformed public attitudes towards people with

[338] Elizabeth Pisani, *The Wisdom of Whores: Bureaucrats, Brothels, and the Business of AIDS*, (Canada: Penguin, 2009), 8.
[339] Duffin, "AIDS, Memory and the History of Medicine," 65.
[340] Elizabeth Fee, "The AIDS Memorial Quilt." *American Journal of Public Health* 96 (2006): 979.
[341] Fee, "The AIDS Memorial Quilt." 979.
[342] Ibid.

AIDS."[343] He suggests that the quilt "transformed the mainstream, effectively forcing the formerly abject AIDS-affected community into public consciousness through mass media."[344]

Recommendations

Behavioural conditioning doesn't always work. Fear and disgust are basic emotions and difficult to overcome, and they are at the root of stigmatization. If saying stop discriminating was the solution, there would be no stigmatization of diseases and disabilities. Nancy Reagan's "Just Say No" to drugs, slogan failed to quell drug use in America because there was no education. She thought just saying no would be enough. With the "Just Say No" campaign, people did not trust the Reagan administration. This was when theories were circulating that the government had introduced crack into Black communities to get Black citizens addicted as a method of controlling and enslaving them. Police brutality was increasing rapidly, and militarizing and angst toward the government increased.[345]

There are also naïve efforts to prevent teens from having sex. Misguided adults try to stop sex education in schools as if teaching children about sex will make them want to do it more than their raging hormones. These groups also throw fits over putting condoms in high school washrooms, like providing teens with condoms is condoning teen sex. Nancy Reagan, and these extreme parents do not understand that there will always be drugs and teens will always have sex. What we can do is educate people. That is one key element of behavioural conditioning,

[343] Steven James Gambardella, "Absent Bodies: The AIDS Memorial Quilt as Social Melancholia." *Journal of American Studies* 45 (2011): 213.
[344] Ibid.
[345] What both these efforts have in common is that they focus on prohibition. Neither of them attempted to educate, they simply said "Say no." Just as in the 1920s when America had their prohibition of liquor, which was an utter failure and unleashed rampant crime in underworld organizations upon the country and moonshine operations which result in explosions that killed and maimed many Americans. Prohibition does not work.

education. In the 1980s and 1990s, activists began educating the public about AIDS, how you contract it, for instance, that you can't get it from being near someone with AIDS, a handshake, or a hug. To change behaviour to any disease or disability, mass education needs to be employed, like how mass media was employed in the case of AIDS.

Additionally, there needs to be a foundation of trust between the person or organization giving the information and the recipients. Typically, teens and their parents have strained relationships, and there are often secrets and a lack of trust, especially with teens participating in rebellious behaviour such as sexual activity. Being told abstinence is the best option is hard to believe, generating resentment and distrust.

A behavioural conditioning campaign that did work in Canada and USA is "Stranger Danger." Even though we now know a very minuscule percentage of threats against children are from strangers. It worked because it came from people children trusted, their parents, teachers, and the police. It also employed an important method for behavioural conditioning, repeat exposure. Children saw posters and commercials and were told about Stranger Danger by adults repeatedly.

Lastly, behavioural conditioning expectations must be reasonable. People suffering from HIV/AIDS want to be treated with dignity and respect. Life for a person with HIV/AIDS is far different today than in the 1980s and 90s. With modern antiretroviral treatment, people suffering from HIV/AIDS live long, full, normal lives with potentially normal life expectancies.[346] For leprous people, reasonable expectations were to be sequestered to outposts near towns

[346] Penner, April 20, 2023.

and cities with contact with the healthy but not to be part of a healthy society. People with leprosy were and always have been somewhat removed from society via behavioural conditioning; however, a once deemed shocking, terrifying, even disgusting, immoral disease can be rendered inert and safe for the public if trusted sources educate the public through repeat exposure. In short, we have come a long way since the Gregorys first began preaching charity and compassion in the fourth century in Byzantium.

Conclusion

Why is leprosy so feared, and why are leprous people so hated? Throughout history, leprosy has been *the* most hated disease across cultures, even though it is difficult to contract. My guess would be this is because of the massive physical deformations that are characteristic of the disease. The mangled bodies of the leprous evoked fear and disgust in those who saw them, and that fear compelled people to drive the sick out, terrified, they would end up in the same condition. So why did Gregory of Nyssa and Gregory of Nazianzus begin preaching their sermons to encounter the sick in the fourth century in Byzantium? For this, I do not have a satisfactory answer. Perhaps it was simply out of compassion. But why leprosy? We jump from Jesus' healing people with leprosy in the Gospels in the first century to nothing, no data, and no Christians talking about caring for people with leprosy. Then bam, fourth century, the Gregorys are preaching, Basil of Caesarea builds his massive health centre and leprosarium, and leprosaria start popping up all over Byzantium. This is also when Christians developed the first hospitals, so this was a time for health care and charity for Christians. It is interesting that leprosy became such a focal point, and there was no immediately obvious catalyst. Regardless, this new, more positive outlook on leprosy spread across the region to Western Europe, specifically France, and England, in the 11th and 13th centuries.

In the 11th to 13th centuries in Western Europe, there was a low concern for contagion and a high tolerance for disgust, which allowed medieval Christians to interact with leprous

people in a more positive way, such as constructing leprosaria (some very luxurious leprosaria) near to cities and towns and to allow wandering sick to beg within city walls.

Because leprosy was conceived as a humoural affliction during this period, doctors did not remark on its contagion until after 1220-1230. Thus, the only repelling factors were fear and disgust of the appearance and smell (people with leprosy had a characteristic foul odour). The most common belief for how some contracted leprosy was likely that it was either a divine gift or a divine curse. This is because many Christians believed that God blessed the sick to suffer in this life so that they could avoid suffering in Purgatory and enjoy a better afterlife in Heaven. Other medieval Christians believed that sickness and disease were a curse shackled to humanity for Adam and Eve's Original Sin and that every generation must suffer to pay the eternal cosmic debt. Christians continued to care for the leprous, however, partly because of the mandate of *imitatio Christi*. This is not to say that all Christians had positive feelings towards people with leprosy during the 11th to 13th centuries, and those negative attitudes grew over time.

In the late 13th century, there is evidence of fear of contagion in a letter from Catherine of Sienna's mother, who fears her daughter's close work with advanced leprous patients. Considering she is eating their scabs and drinking their pus, I think her mother has good reason to be concerned. Paranoia and panic reached new levels in the 14th century during the 1321 Leper Plot when people with leprosy were rounded up, tortured, and burned alive for allegedly having poisoned wells and rivers in southern France. After this event, things are never the same in Western Europe. The leprous are evicted from their homes and shelters and exiled from Europe if not murdered. This reversal to negative attitudes towards leprosy results from the return of negative fear and disgust responses.

There was likely a small pocket of Christians who never adopted the more positive outlook, and, as Chapter 2 explained, fear is contagious. When you are around someone afraid, you become afraid yourself. Your brain interprets their facial expressions and reacts subliminally, affecting your emotional response. If people started panicking about the Leper Plot it could have spread like wildfire, and even those Christians who had positive feelings towards people with leprosy could become afraid unconsciously. Over time this unconscious fear would resonate and take hold as conscious fear and even hatred. I am arguing here that in both situations (medieval Christians having more positive or negative attitudes), behavioural conditioning took place through education from a trusted source and repeat exposure.

My hope in writing this thesis is twofold. First, I wanted to demonstrate that more positive attitudes towards leprosy existed in the East as early as the fourth century. This is important because most of the scholarship focuses on medieval leprosy. Second, I wanted to offer a method by which people could take action to reduce fear, disgust, and stigma responses to diseases and disabilities in Canada. With behavioural conditioning methods on a one-on-one basis between a medical professional and a patient, through mass media like with PSAs, or even regular people educating each other, among other methods such as those mentioned in Chapter 3, Canadians can reduce fear, disgust, and stigma in Canada. As this thesis has demonstrated, living with leprosy and HIV/AIDS can be a more positive experience because attitudes and behaviours can change in the right conditions.

Addendum

Here I just want to have a little fun. Let's talk about why repeat exposure works and how it has worked on all of us.

One word; commercials. In the USA alone, television's advertising market is **70 billion dollars**. In Canada, over **$15 billion** is spent on advertising every year. Some people say advertising does not work for them; the industry is not a booming billion-dollar industry in Canada and the USA because it does not work. Advertising works because it arouses interest, even if the viewer has not previously thought of buying anything. In other words, ads use psychology to influence people into thinking differently about products they may never have thought about.

Ad Campaigns

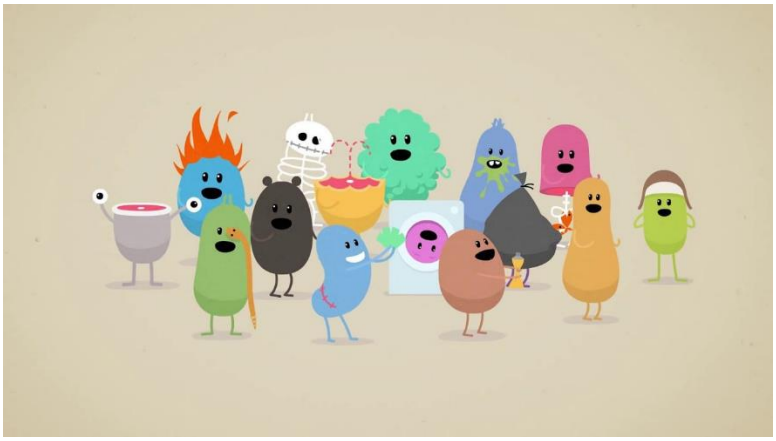
Some of the most influential ad campaigns include:

https://www.youtube.com/watch?v=0yO7xLAGugQ (watch video)

I'm sure I do not have to tell you which company this is, but I will, it is Nike.

https://www.youtube.com/watch?v=ikkg4NobV_w (watch video)

The “Whassup” Budweiser Super Bowl Commercial



https://www.youtube.com/watch?v=IJNR2EpS0jw&t=179s (watch video)

Metro Trains PSA (an exception to the rule of the PSAs examined below) “Dumb Ways to Die” (2012)

https://www.youtube.com/watch?v=owGykVbfgUE (watch video)

Old Spice| The Man Your Man Could Smell Like

https://www.youtube.com/watch?v=tTbLBL2P6YA (watch video)

Budweiser Clydesdale “Brother Hood”

https://www.youtube.com/watch?v=r2o_yD5rBus

Budweiser Clydesdale “Clydesdale Dream Baby”

https://www.youtube.com/watch?v=3t6bLugtJkQ (watch video)

2014 Chevy Commercial – Maddie

Now let's look at some PSAs that are effective. Why are they effective? They a) tell the truth, b) are brutally honest, c) use graphic imagery to grab the viewers' attention, and d) are short (if they went on too long, they would lose the attention of the viewer and the impact and message would be lost

Public Service Announcements

https://www.youtube.com/watch?v=SfAxUpeVhCg (watch video)

Quit Smoking Advertisement

https://www.youtube.com/watch?v=z2T-Rh838GA (watch video)

Dove| Reverse Selfie| Have the #TheSelfieTalk

https://www.youtube.com/watch?v=5zWB4dLYChM (watch video)

CDC: Tips from Former Smokers – Terri H.'s Tip Ad

WARNING THE NEXT IMAGE IS GRAPHIC

https://www.youtube.com/watch?v=lEc-Rsv9pMc (watch video, warning: graphic)

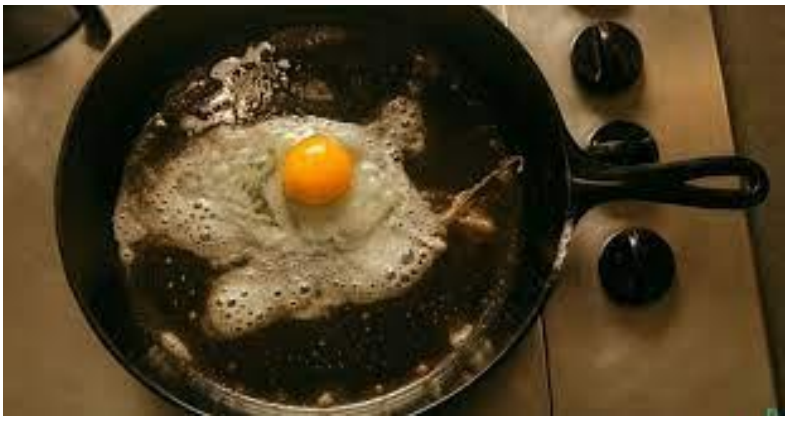
The National Quit Now anti-smoking television ad campaign – Artery – from Australia but aired in Canada.

https://www.youtube.com/watch?v=FmPjzwB0EwY (watch video)

#StandUpToJewishHate: Son

https://www.youtube.com/watch?v=2R1ZVygVHwk (watch video)

#StandUpToJewishHate: Tony



https://www.youtube.com/watch?v=GOnENVylxPI (watch video)

This Is Your Brain...This Is Your Brain on Drugs - 80s Partnership For A Drug Free America

https://www.youtube.com/watch?v=otR8V7rlnjA (watch video)

Never Drink Drive Transport Accident Commission Victoria, Australia

That's not to say some PSAs haven't had success with humour with less immediately life threating situations. This is, I hypothesize, because of their outlandish and unbelievable nature that leaves a lasting impression on the viewer, as such, instilling the message the creator intended.

https://www.youtube.com/watch?v=T5Us69fSM9M (watch video)

Food Waste (:60 PSA)

https://www.youtube.com/watch?v=D47qlZBDEzE (watch video)

Breaking Up with Plastic

https://www.youtube.com/watch?v=pY8OekuzOgs (watch video)

Scam Spotter: Grandchild in Jail

Conclusion

This section is simply an exercise in demonstrating how repeat exposure and education through images and audio messages via television in this section work, but advertisements also run over radio, billboards, posters, flyers, branding/logos, and other means of getting messages

out to the public. Hopefully, at least a few of these examples have demonstrated to you that advertisements and PSAs work.[347]

[347] All images are from Google Images and all videos are from YouTube.

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