“In His Arm the Scar”: Medicine, Race, and the Social Implications of the 1721 Inoculation Controversy on Boston

DISSERTATION

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Abstract

This dissertation examines the convergence of Atlantic World medicine and disease with the 1721 smallpox epidemic in Boston and controversy that arose over the practice of inoculation. In Boston, Puritan beliefs intersected with the growing importance of theoretical medical training in Europe, and also with medical practices from Africa. As a result, the controversy over accepted medical treatment highlighted competing views of disease: as an act of the supernatural, as a result of an external pathogenic agent, or some combination of both. This dissertation places the African practice of inoculation at the matrix of what became an Atlantic-wide debate on the efficacy of Europeans obtaining valuable knowledge from Africans. I explore the consequent social upheaval in which issues of race, culture, and concepts of self, body, and "the other" all surfaced.

My project is significant in several ways. By viewing the controversy through the lens of race I add a new dimension to the historiography on the inoculation controversy that moves beyond the medical – religious debate over the proper response to disease, to an assessment of how medical changes in the Atlantic World affected the daily lives of both white and black Bostonians. In addition, I also explore how the epidemic and corresponding controversy in Boston later affected the larger Atlantic World. I also add

to the recent scholarship which challenges the long-standing historiography that presents Europeans as largely uninfluenced by Africans, while the latter quickly discarded their own culture. I contend that the Atlantic-wide debate over European adoption of an African medical practice led many Europeans and Euro-Americans to consider Africans in a new light, while Africans resisted European attempts to culturally assimilate them.

This study draws on a variety of sources including newspapers, diaries, church records, pamphlets, sermons, letters, shipping records, travelers accounts, court records, and town records from both sides of the Atlantic. Using an interdisciplinary approach and both quantitative as well as qualitative methods enables me to ask new questions of old sources and view the crisis, controversy, and subsequent social upheaval through the lens of race, and to read many of the nuances in black-white relations in early eighteenth-century Boston.

This document is dedicated to my Grandmother Dorotha Mae “Sisco” Thomas
and my Parents John R. Thomas and Elrene D. “Roman” Thomas

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Introduction

In the early eighteenth century both disease and medicine traveled the Atlantic. Boston, a seaport town which thrived on Atlantic World trade also lived in fear of an epidemic carried into town by way of the sea. Just as Old World diseases funneled into the seaport town Boston, so too did ideas of how to treat diseases. Consequently, when smallpox arrived in 1721 the intersection of Puritan beliefs, European theoretical medical training, and African practices competed to cope with the raging disease. Upon the arrival of smallpox, Cotton Mather, a prominent minister-physician proposed the use of inoculation to combat smallpox with a treatment introduced to him by his African slave Onesimus. Mather received support from one of the local apprentice trained doctors, Zabdiel Boylston, and together they performed the first three known inoculations in Boston. Mather and Boylston met with immediate resistance from William Douglass, the only European trained professional doctor in town. The resulting heated dispute over whether to employ an African medical practice stood at the matrix of what became an Atlantic-wide debate on the efficacy of Europeans obtaining valuable knowledge from Africans. My study explores the resulting social upheaval in which issues of race, culture, and concepts of self, body, and "the other" all surfaced. I show how in the midst of a medical crisis over smallpox in Boston, Europeans were forced to reconsider Africans in new ways, recognizing their valuable medical contributions, while

conversely, if not ironically, Africans resisted European attempts to culturally assimilate them.

What is Smallpox?

Smallpox results when a submicroscopic particle known as a virus, which is not itself a disease but rather the means of infection, invades the human body.[1] The scientific name for the specific virus that produces smallpox is *Variola*, which scientists derived from the Latin words *varius* meaning spotted, and *varus*, meaning pimple.[2] Unlike microorganisms, a virus is not alive, cannot grow or metabolize, and has no means of movement outside living cells; consequently, they are parasites. This virus can only replicate itself by entering human cells and creating a biochemical reaction that in turn allows replication to take place. This reaction produces the signs of illness in humans as

1 David M. Locke, *Viruses: The Smallest Enemy* (New York: Crown Publishers, 1974), 1, 190. The pox virus is the largest of all known viruses and as such they have the most elaborate structure of all viruses. It measures about 250 to 300 millimicrons in diameter. Locke, *Viruses*, 112. Steadman's Medical Dictionary defines smallpox as follows, "[o]utside the cell the virus is an inert assemblage of chemicals; inside it, the virus engages in a whirlwind of activity, with the result that within an hour or so the infected cell disgorges a hundred new virus particles just like the one that went in." Thomas Lathrop Steadman, *Stedman's Medical Dictionary* (Baltimore: Williams & Wilkins, 1982), 1649.

2 Elizabeth A. Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775–82* (New York: Hill and Wang, 2001), 3; Jonathan Tucker, *Scourge: The Once and Future Threat of Smallpox* (New York: Atlantic Monthly Press, 2001), 2. Variola exists in two forms Variola major which was lethal to about thirty percent of its victims and Variola minor which causes a much more mild illness and is only lethal to about one percent of its patients. One can only find smallpox in humans however the Variola virus, of the genus orthopoxviruses, "whose members also include buffalopox, camelpox, cowpox, monkeypox, mousepox, rabbitpox, and racoonpox." Smallpox likely evolved from one of these animal poxviruses. In time, the Variola virus that causes smallpox mutated and became genetically distinct from its rodent progenitor, becoming specialized in replicating in human cells and thus eliciting infection among man. Tucker suggests that the progenitor of Variola virus originated in wild rodents and they passed it on to humans who hunted these animals for food. This virus, which produced a mild reaction in the rodents, caused severe illness in humans when it jumped species. M.Oldstone, *Viruses, Plagues, and History* (Oxford: Oxford University Press, 1998), 27; Tucker, *Scourge*, 5-6.

the virus either alters or destroys cells the body needs.[3] William Douglass, in 1751 described smallpox as "[a] malignant contagious eruptive pustulary fever, observing certain stadia, communicable only by personal infection."[4] Because scientists had not yet discovered "viruses," the eighteenth century world did not understand the cause of smallpox. However, they could see the physical ramifications of the virus that riddled a body with painful pocks and knew that an infected person was highly contagious.

When smallpox took root across the ancient world, it radically altered the course of history.[5] Scholars have derived the earliest physical evidence of smallpox in Ramses V's, an Egyptian pharaoh who died in 1157BC at the age of forty, mummified remains. Scientists believe the yellow pustules in his hands and face were the result of the *Variola* virus.[6] Whether or not smallpox actually originated in Africa is unclear. However, we do know that trade routes connecting Egypt to India allowed for the transmission of the smallpox virus out of Africa. Sanskrit medical texts dating back to 1500BC record epidemic outbreaks of a disease likely to be smallpox. By 1122BC the Huns carried

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[3] Fenn, *Pox Americana*, 5; Locke, *Viruses*, 1-5; Oldstone, *Viruses, Plagues, and History*, 8, 12; Tucker, *Scourge*, 2. Viruses can only reproduce in living cells. "Outside the cell the virus is an inert assemblage of chemicals; inside it, the virus engages in a whirlwind of activity, with the result that within an hour or so the infected cell disgorges a hundred new virus particles just like the one that went in." Locke, *Viruses*, 4.

[4] William Douglass, *A Summary, Historical and Political, of the First Planting Progressive Improvements, and Present State of the British Settlements in North America.* 2 vols. (Boston, 1748 (vol. 1) / 1751 (vol. 2), 400.

[5] Tucker, *Scourge*, 7. Scholars consider the ancient plagues of 1346BC recorded by the Hittites, in 595BC in Syracuse, in 490BC in Athens, in 48AD in China, in 583AD in the Korean Peninsula and in 585AD in Japan likely to be the result of the smallpox virus. Oldstone, *Viruses, Plagues, and History*, 28.

[6] Oldstone, *Viruses, Plagues, and History*, 28; Tucker, *Scourge*, 6-7.

smallpox into China, where the Chinese called it "hunpox."[7] Around 430BC Thucydides detailed in his *History of the Peloponnesian War,* a disease (which many believe to be smallpox because of his detailed descriptions) which killed a third of the city of Athens and allowed for the Spartan victory in the Peloponnesian War. Alexander the Great met with a similar fate, losing a significant portion of his army to smallpox in India.[8]

Since Variola virus's only means of transmission is from human to human, Elizabeth Fenn a prominent historian of smallpox epidemics argued, "*Variola's* story is necessarily a story of connections between people."[9] Religious movements of the medieval world continued the spread of smallpox. In the seventh and eighth centuries, the virus spread into Europe when Arab armies brought it into the Iberian Peninsula. In the eleventh through thirteenth centuries, crusaders to the Holy Lands carried smallpox with them on their return to Europe. In addition, smallpox continued to disperse via trade routes as merchants to the Far East carried the disease. Across Africa at this time, smallpox spread to West Africa and port cities of East Africa via the Trans-Saharan Trade Route.[10] By the fifteenth century, Britain had come to recognize smallpox as its own disease, separate from syphilis, which they called "small pockes" providing the

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[7] Tucker, *Scourge,* 7.

[8] Ian Glynn and Jenifer Glynn, *The Life and Death of Smallpox* (Cambridge: Cambridge University Press, 2004), 9-10; Tucker, *Scourge,* 7.

[9] Fenn, *Pox Americana*, 6.

[10] Dauril Alden and Joseph C. Miller, "Unwanted Cargoes: The Origins and Dissemination of Smallpox via the Slave Trade from Africa to Brazil, c. 1560-1830," in *The African Exchange: Toward a Biological History of Black People,* ed. Kenneth F. Kiple (Durham: Duke University Press, 1987), 39; Kenneth F.Kiple, ed. *The Cambridge World History of Human Disease* (Cambridge: Cambridge University Press, 1993), 447, 449; Oldstone, *Viruses, Plagues, and History*, 30; Tucker, *Scourge*, 7.

common name for the virus's effects.[11] During the fifteenth and sixteenth centuries, both mariners and slaves transported smallpox across the Atlantic into North and South America.[12]

Overtime, smallpox evolved from an epidemic state (occurring only periodically) to an endemic state (present at all times) in various regions of the Old World. By the fifteenth century, smallpox was endemic across much of Africa, Europe, and Asia. In these regions, most people reaching adulthood had acquired immunity either though natural exposure or some form of inoculation.[13] However, the Americas were sheltered from this disease. As a result, when travelers from these endemic regions visited the "virgin soil" of the New World the consequences were catastrophic.[14]

The *Variola* virus enters the human body via the respiratory system and multiplies first in the mucous membranes. From there it spreads to the lymph nodes before entering the bloodstream which carries it to the major organs of the body. Once *Variola* virus invaded its human hosts it took up to two weeks for symptoms to occur.[15] After a twelve to fourteen day incubation period (during which time a smallpox victim unknowingly

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[11] Tucker, *Scourge*, 7.

[12] Alden and Miller, "Unwanted Cargoes," 40.

[13] Fenn, *Pox Americana*, 27-28. Not all of Africa had an endemic state of smallpox. For example, in the later eighteenth century Thomas Winterbottom noted that on the West Coast of Africa smallpox was still epidemic, imported there by the Europeans. Thomas Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, Second Edition, 2 vols., (London: Frank Cass & Co. Ltd. 1969), 133. In Europe, smallpox was endemic but had years (1710, 1719, 1723, 1746, 1752, 1763, 1779, 1781, 1796) in which it was more deadly and consequently seen as epidemic. J.N. Hays, *Epidemics and Pandemics: Their Impacts on Human History* (Santa Barbara: ABC CLIO, 2005), 151.

[14] Fenn, *Pox Americana*, 28; Oldstone, *Viruses, Plagues, and History*, 33; Tucker, *Scourge* 7-8.

[15] Fenn, *Pox Americana*, 16; Oldstone, *Viruses, Plagues, and History*, 34-35; Tucker, *Scourge*, 2.

spread the disease), its victims, William Douglass explained, suffered from "pain in the head, back, and limbs, oppression e regione ventriculi, nausea, or vomiting, sore throat in general."[16] Often the fever came and went causing one to think they had the flu or some other disease. But the worst was still to come as a couple of days later, their temperature dropped again followed by the arrival of tiny pox that riddled the body from head to toe, inside and out, and moved from stages of flat spots, to raised bumps, to pus-filled boils. Outside, one felt as if their skin was literally on fire, while inside sores made it excruciating to breathe, eat, or drink. Douglass described this process as follows:

> the fifth day, they are round and enlarge their bases of a lively red; the sixth day they come to a point; the seventh day the points or apices turn white; the eight they turn yellow; the ninth there is a laudable digested pus; the tenth they begin to crust or scab; the twelfth they are dry scabs.[17]

Some experienced a fusing of the pustules ("confluent smallpox") and others suffered hemorrhaging from the pox ("haemorrhagic smallpox") in which the rash turned inward and caused bleeding of the gums, eyes, nose, and other orifices and if either of these types of pox happened death followed quickly.[18]

The disease so ravaged the body that it smelled as if it were rotting. The symptoms often took a few weeks to run their course until the pustules eventually scabbed over and fell off. However, this process was painful too as some reported that entire pieces of flesh broke away in a gruesome and dreadful smelling manner. Those

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[16] Douglass, *A Summary,* 400.

[17] Ibid., 401.

[18] Fenn, *Pox Americana,* 16-18; Glynn and Glynn, *The Life and Death of Smallpox,* 1, 2, 4; Tucker, *Scourge,* 2,3, 6.

lucky enough to survive lived the rest of their lives with horrifying scars (or pockmarks) and terrifying disfigurements – daily reminders of immense suffering. The virus struck others with blindness from pustules around the eyes. However, one could derive some comfort from the fact that those who survived the disease were immune for the rest of their lives – never again would they have to suffer such horror. Unfortunately, one cannot inherit immunity so each new generation faced the same fears as their parents.[19]

Smallpox victims quickly spread the virus to others by talking, coughing, or sneezing.[20] In addition, secretions from the lesions in the skin were highly contagious. One could also find the *Variola* virus in the patient's urine and pus posing another danger to those not yet immune.[21] Laundry workers were especially susceptible to the virus as clothing and bed linens could contain the virus, which could survive for weeks or even months outside the human body. Even dried out secretions transmitted the virus. Consequently, daily activities in the home where victims lay could also prove deadly as the *Variola* virus contaminated dust and other inanimate objects and infected others if touched. Those who prepared the bodies for burial were also at risk as the virus had so contaminated the body that it could spread from the dead to the living.[22]

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[19] Fenn, *Pox Americana*, 16-18; Glynn and Glynn, *The Life and Death of Smallpox*, 1, 2, 4; Tucker, *Scourge*, 2, 3, 6.

[20] Tucker, *Scourge*, 3.

[21] Noble David Cook, *Born to Die: Disease and New World Conquest, 1492-1650* (Cambridge: Cambridge University Press, 1998), 86; Oldstone, *Viruses, Plagues, and History*, 35; Tucker, *Scourge*, 3.

[22] Cook, *Born to Die*, 77; Fenn, *Pox Americana*, 15; Oldstone, *Viruses, Plagues, and History*, 35; Tucker, *Scourge*, 3.

Over the course of history, people across the globe have employed various forms of treatment for the smallpox. For example, Rhazes, an Islamic physician of the late ninth and early tenth centuries promoted a humoral treatment of bloodletting. In Japan, many thought the color red had therapeutic benefits and so they used red cloths to protect themselves against the smallpox or relieve symptoms on one already stricken. Thomas Winterbottom noted in 1803 that on the coast of Africa caretakers did not wash a person with smallpox because they thought exposure to cold water might be problematic. Others believed a restricted diet offered some relief. Speaking of Native Americans, Winterbottom noted, "'their principal remedy is seating in huts warmed by heated stones, and thereupon immediate immersion in cold water. In inflammatory and eruptive epidemical fevers, e.g. small pox, this practice depopulates them.'"[23] In his 1986 article "When Did Smallpox Reach the New World (And Why Does It Matter)?" David Henige also noted that Native Americas tried to wash away the disease in the river, which only spread the disease.[24] Others had superstitious practices to ward off a smallpox epidemic including holding a vinegar soaked rag over the nose, wearing ritual objects about the neck, and carrying with them pieces of tarred rope.[25]

While these measures may have offered the comfort of proactive treatment, they ultimately did nothing to ward off the horrors of smallpox. However, one of the most

[23] Winterbottom, *An Account of the Native Africans*, 136.

[24] This method demonstrates their inexperience with smallpox. David Henige, "When Did Smallpox Reach the New World (And Why Does It Matter)?" in *Africans in Bondage: Studies in Slavery and the Slave Trade,* ed. Paul E. Lovejoy (Madison: University of Wisconsin Press, 1986), 18.

[25] Tucker, *Scourge*, 13-14; Winterbottom, *An Account of the Native Africans*, 134.

effective means of treatment was avoidance either though quarantine of sick patients or flight from those contaminated.[26] For example, Winterbottom noted that on the coast of Africa, when one contracted the smallpox caretakers took them to a secluded place and only allowed those already immune to the disease to visit.[27] These attempts at isolation demonstrate that while no one had yet discovered the *Variola* virus, many understood the contagious nature of the disease. The problem with these measures was that neither flight nor quarantine protected against future outbreaks.[28]

Variola Virus, as small as it is, has had a major impact on the course of human history. Since the first outbreak in the ancient world, smallpox has claimed many hundreds of millions of lives – far more than plague ever did.[29] Smallpox greatly altered the course of history as epidemics decimated societies. Wars that were terrifying in and of themselves became even more destructive as smallpox could ravage an army and the host communities. Both poor and rich succumbed. Kings and emperors were not immune to the disease and early deaths of great rulers including Ramses V would shape the course of great kingdoms.[30] In the late eighteenth century, Edward Jenner

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[26] Tucker, *Scourge*, 14.

[27] Winterbottom, *An Account of the Native Africans*, 134.

[28] Fenn, *Pox Americana*, 29, 31.

[29] Genevieve Miller, *The Adoption of Inoculation for Smallpox in England and France* (Philadelphia: University of Pennsylvania Press, 1957), 29; Oldstone, *Viruses, Plagues, and History*, 3; Tucker, *Scourge*, 3.

[30] Hays, *Epidemics and Pandemics*, 152; Oldstone, *Viruses, Plagues, and History*, 3, 27; Tucker, *Scourge*, 12.

experimented with cowpox and produced a vaccine for smallpox.[31] Widespread use of this vaccine allowed the World Health Organization (WHO) in 1980 to declare the world free of smallpox. Today, the horrors that smallpox wrecked on society are hard to imagine.[32]

What is Inoculation?

In the absence of vaccination, ancient world societies searched for an effective means of treatment. While scholars debate the time and origin of inoculation we do know much of the ancient world adopted this practice, which provided the most effective means of combating smallpox at that time. According to Steadman's *Medical Dictionary,* inoculation is the "Introduction into the body of the causative organism of a disease. Also sometimes used, incorrectly, to mean immunization with any type of vaccine."[33] With smallpox inoculation, physicians would deliberately implant a small portion of live *Variola* virus into an incision, usually in the arm, hand, or leg of a patient who had not had smallpox. In most patients, smallpox would then appear, usually after just a few days. However, the symptoms were usually far more favorable than contraction of the virus in the common way. The number of pustules was limited in inoculation patients causing less scarring and reducing the fatality rate. Although the

[31] Link, 45.

[32] Fenn, *Pox Americana*, 3.

[33] To inoculate then is "To introduce the agent of a disease or other antigenic material into the subcutaneous tissue or a blood vessel, or through an abraded or absorbing surface for preventative, curative or experimental purposes. (2) To implant microorganisms or infectious material into or upon culture media. (3) To communicate a disease by transferring its virus." Steadman, *Stedman's Medical Dictionary*, 904.

physicians did not know why, deliberate introduction of smallpox into the skin rather than contracting it the natural way through the respiratory tract increased chances of survival from about 1% to about 70%.[34] However, inoculation also had its disadvantages. For example, if not carefully monitored, inoculation could actually cause an outbreak of smallpox as inoculated patients were contagious to others. Problems also arose as inoculation did not always lead to a mild form of the disease, and the procedure could prove fatal.[35] The key, however, was that the inoculated patient enjoyed the same life-long immunity as someone who contracted the disease in the "natural way."[36]

As early as 1000BC people in India began to practice inoculation placing the scabs or pus from an infected patient into small cut on the arm or leg of a healthy person. They called this practice "buying the smallpox" or "variolation." By 1000AD inoculation had spread into China and by the seventeenth century, one could find it in Arabia, Persia, North Africa, and the Ottoman Empire. Nevertheless, not until the early eighteenth century did the practice of variolation reach Europe and the New World. As the process spread, different places altered the practice. For example, the Chinese ground dried smallpox scabs into tiny particles and then inhaled it through the nose, a process known as "insufflations." In Russia, patients went to the bathhouse where attendants

[34] Tucker, *Scourge*, 15.

[35] Fenn, *Pox Americana*, 37; Glynn and Glynn, *The Life and Death of Smallpox*, 4, 5; Tucker, *Scourge*, 19.

[36] Inoculation and variolation differ greatly from vaccination which did not cause an outbreak of smallpox in the patient yet still offered acquired immunity by introducing a substance which did not contain live *Variola* virus in order to offer immunity against it. Fenn, *Pox Americana*, 32-33; Sara Stidstone Gronim, "Imagining Inoculation: Smallpox, the Body, and Social Relation of Healing in the Eighteenth Century," *Bulletin of the History of Medicine*, vol. 80, no. 2, (Summer 2006), 249.

took branches contaminated with smallpox and slapped the skin of a healthy individual. The smallpox virus then entered the skin through cuts the branches made upon the patient. In Turkey, attendants performed variolation through "engrafting" in which the pus from a smallpox patient was directly implanted into the skin of a healthy individual.[37]

In his 1722 essay *The Way of Proceeding in the Small-Pox Inoculation in New England,* Englishman Henry Newman, esquire, described the method of inoculation most commonly used in the New World and Europe. First, he made a couple of incisions, usually in the patient's arm and leg. He then put bits of lint prepared from one with smallpox into the incisions. The doctor dressed the sores and allowed the patient to carry on normal activities with one exception: they were to avoid bad weather. After about seven days, pustules appeared and then the illness disappeared. At this time, sleep returned and the patient realized better health than before.[38]

Historiography

There has been a wealth of scholarship surrounding the smallpox controversy of 1721 in Boston. Scholars including Arthur Allen, John Blake, Patricia Watson, Ole Elizabeth Winslow, and Perry Miller all focused on the religious and medical debate that ensued when Mather introduced inoculation to Boston.[39] This scholarship falls short on

[37] Tucker, *Scourge,* 15-16.

[38] Henry Newman, "The Way of Proceeding in the Small-Pox Inoculation in New England," *Philosophical Transactions,* vol. XXXII, (1722), 33-35.

[39] See Perry Miller, *The New England Mind: From Colony to Province* (Cambridge: The Belknap Press of Harvard University Press, 1953); Ole Elizabeth Winslow, *A Destroying Angel: The Conquest of Smallpox in Colonial Boston* (New York: Houghton-Mifflin, 1974). See also, Arthur Allen, *Vaccine: The*

two levels. First, it focused upon the controversy solely in Boston and did not take the larger Atlantic World into due consideration. Second, it overlooks the aspects of race in the controversy. Recently, Margot Minardi in her article "The Boston Inoculation Controversy of 1721-1722: An Incident in the History of Race," argued that both Mather and Douglass recognized a social structure in Boston that would cause them to doubt that the testimony of blacks could be plausible. While this turned Douglass away from accepting such testimony it opened the door for Mather, Minardi argued,

> because inferiority had not yet been indelibly written onto the bodies of Africans, their intellectual and especially spiritual worth seemed plausible enough for Cotton Mather to take seriously Onesimus's explanation of inoculation and for the inoculation trials to go forward in the fall of 1721.[40]

Such an argument, however, does not take race into proper consideration. I would argue that Cotton Mather accepted the testimony of Onesimus not because of his race but in spite of it.[41] Dennis Melchert and Gerald Mager have composed dissertations on the respective roles of William Douglass and Zabdiel Boylston in the smallpox epidemic in Boston, but they also fail to examine Onesimus's role in the controversy.[42]

Controversial Story of Medicine's Greatest Lifesaver (New York: W.W. Norton & Company, 2007); James W. Schmotter,"William Douglass and the Beginnings of American Medical Professionalism: A Reinterpretation of the 1721 Boston Inoculation Controversy," *Historical Journal of Western Massachusetts* 6 (Fall, 1977): 23-36; Arthur Bernon Tourtellot, *Benjamin Franklin: The Shaping of Genius, The Boston Years* (Garden City, N.Y.: Doubleday, 1977).

[40] Margot Minardi, "The Boston Inoculation Controversy of 1721-1722: An Incident in the History of Race." *William and Mary Quarterly*, 61, (2004), 48.

[41] Ibid., 47-76.

[42] Gerald Mager, "Zabdiel Boylston: medical pioneer of colonial Boston" (PhD diss., University of Iowa, 1973). Dennis Melchert, "Experimenting on the Neighbors: Inoculation of Smallpox in Boston in the Context of Eighteenth Century Medicine" (PhD diss., University of Iowa, 1974).

In the 1950s, two scholars, Raymond P. Stearns and Genevieve Miller, published articles that argued for different means whereby people first introduced inoculation to England (and subsequently throughout the Atlantic World). In, "Remarks Upon the Introduction of Inoculation for Smallpox in England," Stearns contended that inoculation for smallpox reached England via three different means: first, arriving with peoples such as Africans who knew of the practice; second, with Lady Mary Wortley's inoculation of her children; and finally, the Royal Society's *Transactions* supported the evidence of inoculation success in both England and the colony of Massachusetts Bay.[43] In, "Smallpox Inoculation in England and America: A Reappraisal," Miller argued that the colonies' role in bringing inoculation to England must be revised. Outwardly opposing the position of Stearns, Miller argued that reports from Boston damaged efforts in England, contending that inoculation did not realize any real success in England until high-ranking English physicians including, Dr. Thomas Nettleton, Dr. Charles Maitland and Sir Hans Sloane adopted and promoted the practice in 1721.[44] I argue that despite the publication of the *Transactions* and the support of the Royal Family and high-ranking physicians in England, the greatest influence on the establishment of inoculation in England came from Boston.

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[43] Raymond P. Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England." *Bulletin of the History of Medicine,* XXIV (1950), 104-121.

[44] In particular, Miller focused upon the reports of deaths in Boston, which she maintained created "damaging propaganda" which those who opposed inoculation successfully used to their benefit. At this same time, newspaper reports spoke of the "bad luck" New England was having with inoculation. Genevieve Miller, "Smallpox Inoculation in England and America: A Reappraisal," *William and Mary Quarterly*, vol. 13 no. 4 (Oct, 1956), 477-492.

One of the key issues in the inoculation controversy was the divide in medicine between the New World and the Old. In 1893, Fredrick Jackson Turner in his essay *The Significance of the Frontier in American History* argued America was separate from England, a new frontier dictating a new way of life for Americans. In 1958, Daniel J. Boorstin in, *The Americas: The Colonial Experience,* furthered this idea by arguing that the conditions the settlers encountered upon arrival in the New World caused them to adapt to a new life which was very different from what they had known in the Old World. Whereas study and observation was becoming the dominant force at universities in the Old World, in the New World everyday experience and adaptation to new surroundings provided the colonists with important lessons. In addition, they needed new sources of medicine to treat the new diseases (as well as the old) encountered in the New World.[45]

Since the 1960s, scholars have been far more reluctant to accept Turner's "frontier thesis" at face value. Looking through the lens of medicine, Richard Harrison Shryock, in his 1966 work *Medicine and Society in America, 1660-1860,* led the effort to correct the prevailing view "that English professional distinctions broke down or were deliberately abandoned in the presence of American environment."[46] Rather, a connection remained because most of the settlers in the New World were poor peasants from Europe's countryside who did not have access to professional medicine but rather had adapted medical practices to their environment.[47]

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[45] Ronald L. Numbers, ed., *Medicine in the New World: New Spain, New France, and New England* (Knoxville: University of Tennessee Press, 1987) 1-7.

[46] Quoted in Numbers, ed., *Medicine in the New World,* 5.

[47] Ibid., 1-7.

Other scholars have found a way to negotiate between the conceptions of a frontier in which the Old World did not affect the New World and ideas of cultural exchange going both ways. Alan Gallay in his 1989 work *The Formation of a Planter Elite* respected the Turnian idea of a frontier but highlighted evolutionary aspects on the frontier. Colin G. Calloway, in his 1997 work *New Worlds for All: Indians, Europeans, and the Remaking of Early America,* argued that Turner's wilderness America was largely a myth, and that cultural adaptation went both ways.[48] Some scholars, including John Duffy and Lester King argued the discontinuities between the two worlds were far more dominant, perpetuating the "frontier thesis."[49] When examining the connection between New World and Old World medicine, scholars still debate the impact one had on the other. I will argue that the rising system of professionalization of medicine in England actually had little impact on New World medicine even though William Douglass used this system to support his concerns over inoculation.

A long-standing historiography on African Americans in colonial New England also exists. Lorenzo Greene's *The Negro in Colonial New England* has stood since 1942 as the starting point for any study of African Americans in New England. Since then, William D. Piersen's *Black Yankees: The Development of an Afro-American Subculture*

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[48] Calloway, 3. Other scholars including Quintard Taylor have also moved beyond the "frontier thesis" of Turner. See Quintard Taylor, *In Search of the Racial Frontier: African Americans in the American West, 1528-1990* (New York: W.W. Norton, 1998).

[49] Numbers, ed., *Medicine in the New World*, 1-7. See also Alan Gallay, *The Formation of a Planter Elite: Jonathan Bryan and the Southern Colonial Frontier* (Athens: University of Georgia Press, 1989); Colin G. Calloway, *New Worlds for All: Indians, Europeans and the Remaking of Early America* (Baltimore: Johns Hopkins University Press, 1997)*;* John Duffy, "Smallpox and Indians in the American Colonies," *Bull. Hist. Med*., 25 (1951): 324–41; Lester S. King, *The Growth of Medical Thought* (Chicago: The University of Chicago Press, 1963) and Lester S. King, *The Medical World of the Eighteenth Century* (Chicago: The University of Chicago Press, 1958).

in Eighteenth-Century New England has been the only book-length study of African American society and culture in New England.[50] This existing historiography on Africans and African Americans in New England suggests that while Africans held on to some cultural practices they generally adopted European ways. I will argue that not only did African Americans hold on to their culture but they also altered European society while remaining resistant to change in many ways, particularly in regards to religion and medicine.

In 1944 Eric Williams' *Capitalism and Slavery* brought a new dimension to colonial American history introducing the idea that slavery was an economic institution and racism was a product of, and not a cause for, slavery.[51] For the next twenty-five years, the roles of economics and race in the establishment of slavery in North America dominated the literature on colonial African Americans. In 1968, Winthrop Jordan's *White over Black* presented another perspective on the connection between race and slavery.[52] In initial contact, Jordan argued, Englishmen had ambiguous attitudes toward Africans. Some saw them as fellow humans while others held hostilities toward their skin color. Jordan asserted that the English origins of slavery lay in an "unthinking decision." In Virginia, for instance, Africans arrived as slaves, and although masters

[50] See Lorenzo Greene, *The Negro in Colonial New England* (Port Washington: Kennikat Press, Inc, 1942); William D. Pierson, *Black Yankees: The Development of an Afro-American Subculture in Eighteenth-Century New England* (Amherst: University of Massachusetts Press, 1988).

[51] Barbara L. Solow and Stanley L. Engerman, eds., *British Capitalism and Caribbean Slavery: The Legacy of Eric Williams* (Cambridge: Cambridge University Press, 1987); Eric E. Williams, *Capitalism and Slavery* (Chapel Hill: University of North Carolina Press, 1944).

[52] Winthrop Jordan, *White over Black: American Attitudes Toward the Negro, 1550-1812* (Chapel Hill: University of North Carolina Press, 1968).

ultimately freed some, others remained slaves. Over the course of several generations, however, Europeans reshaped their attitudes. Slavery debased Africans in the English mind creating more prejudices against them. The African became the counter image for Europeans[53]

In the 1970s the historiography of the field, led by scholars including Peter H. Wood, Edmund Morgan and Allan Kulikoff, shifted to bring the culture of African Americans and their role in building the nation to the forefront.[54] Wood's *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (1974) was one of the first works to demonstrate that Africans did not just endure slavery but they possessed their own customs despite the harsh conditions. Wood did not attempt to apologize for or explain the system of slavery but rather highlighted the resiliency of the human spirit. He presented examples of distinctive African skills including basket weaving, fishing, water navigation, and rice production – the very foundation of South Carolinian society, which shaped their lives and the lives of their masters. In contrast to Kenneth Stampp's argument in *The Peculiar Institution* that African Americans were passive recipients of European culture, Wood demonstrated that black people not only

[53] This paradox is an interesting question which Jordan poses but never sufficiently answers.

[54] Allan Kulikoff, *Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake, 1680-1800* (Chapel Hill: University of North Carolina Press, 1986); Edmund S. Morgan, *American Slavery, American Freedom: the Ordeal of Colonial Virginia* (New York: Norton, 1975); Peter H. Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York: Norton, 1974/1996).

held on to their own culture but even influenced the larger European culture in dramatic ways.[55]

Recently, scholars including Judith Carney have begun to examine the connection between African knowledge and slavery. Utilizing her training in geography, Carney in *Black Rice: the African Origins of Rice Cultivation in the Americas* skillfully delineated the intricacies of the African rice agricultural system providing undeniable evidence of the African origins of rice cultivation found in colonial America. Consequently, Carney argued, African women became economically beneficial because of their knowledge of rice.[56] Likewise, I propose that in addition to questions of economics and race, one must also consider a link between inoculation and slavery. In the years following the 1721-1722 inoculation controversy in Boston, as inoculation spread through the Atlantic World, Africans became desirable because inoculation, an acquired procedure, increased their economic value. As a result, Atlantic World slavery thrived upon a "race" of people immune to smallpox, who could fulfill the demands of the institution of slavery.

My project is significant in several ways. It adds a dimension to the historiography on the inoculation controversy that moves beyond the medical – religious debate over inoculation, to how medical changes in the Atlantic World affected the daily lives of both white and black Bostonians. It also adds to recent scholars who have challenged the long-standing historiography which argues that Europeans remained

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[55] Kenneth M. Stampp, *The Peculiar Institution: Slavery in the Ante-Bellum South* (New York: Knopf, 1956).

[56] Judith Ann Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge: Harvard University Press, 2001).

uninfluenced by Africans and African Americans, while the latter quickly discarded their own culture. Finally, I contend that the Atlantic-wide debate over European adoption of an African medical practice led many Europeans and Euro-Americans to consider Africans in a new light as intelligent, capable human beings.

The overarching questions of this project are why Cotton Mather, why Onesimus, and why Boston in 1721? Utilizing a methodology of close textual analysis, I have explored many aspects of Cotton Mather's complex life through his diaries, sermons, letters, wills, and pamphlets. I have been able to reconstruct the life of this influential man who took the testimony of an African and challenged established medical practices in Europe and the Americas.

Newspapers, town records, pamphlets, and diaries paint a picture of the day smallpox entered Boston's port upon the *H.M.S. Seahorse* and describe the town's inefficient efforts at protecting public health. As the crisis raged on so too did the controversy, and the aforementioned documents offer insight into the rising fears throughout Boston, not only over the disease but also over the religious, medical, and cultural implications of the inoculation procedure.

Church records, town records, court records, newspapers and sermons all offer a glimpse into the social upheaval that gripped Boston. They demonstrate how the town's black population bore much of the burden for nursing the sick and keeping Boston together on a day-to-day basis. Yet mutual concern over health and social welfare did not mean that black people accepted their enslavement and acculturated to all aspects of European society. New England black people retained much of their culture and rebelled

in a great many ways against the dominant class. Utilizing a qualitative and quantitative methodology to analyze these sources has enabled me to view the crisis, controversy, and subsequent social upheaval through the lens of race, and to see many of the nuances in black-white relations.

My Project

In the early eighteenth century, both disease and medicine traveled the Atlantic. Boston, an Atlantic seaport town, was particularly susceptible to diseases spread along trade routes. My dissertation begins with the medical traditions and diseases of the Atlantic which met in Boston in 1721. Chapter One examines the English world that provided the educational foundation for William Douglass, the only university trained physician in Boston. Europe's conceptions of medicine were giving way in the eighteenth century towards a new professionalization that replaced the apprentice trained amateur doctor with a university-educated physician who used careful observation to develop medical treatments. This shift, however, was centered in the major metropolises and had not yet reached Boston (except in the person of Douglass). Douglass used his education to both challenge the authority of Cotton Mather and Zabdiel Boylston and to question the safety and effectiveness of inoculation, a new medical procedure which qualified physicians had yet to properly test and observe.

Chapter Two explores Onesimus' world. Before his capture and journey to enslavement, Onesimus lived in a world greatly influenced by Islam and its highly developed medical system. Africans, including Onesimus, who were torn from their

homeland and forcibly moved to the Americas, carried this rich cultural, religious, and medical background with them. Once in the New World these enslaved Africans played a major role in shaping society in the Americas. One of these cultural practices was the use of inoculation against the smallpox.

The next three chapters examine the smallpox epidemic in 1721 Boston and the intersection of Puritanism and traditional European medicine with the new European theoretical medical training, and African practices to cope with the disease. In Chapter Three, I discuss three key turning points in the life of Cotton Mather that prepared him to introduce inoculation to Boston and eventually the wider American and European worlds. First, in 1716 measles struck Boston taking the lives of many, including several from Mather's own family. However, amidst this disaster, the one person in Mather's home who escaped unharmed was also the person whose behavior worried Mather the most, namely, the heathen, Onesimus. Second, on the eve of the smallpox epidemic of 1721, Joseph Hanno, a converted black man and example to the larger community of the benefits of Christianity murdered his wife. These two events caused Mather to reconsider the relationship of religion to medicine. Third, in 1706 when Onesimus showed to Cotton Mather the scar in his arm, Mather received the physical evidence on inoculation which he invoked when smallpox returned to Boston in 1721.

When Cotton Mather and Zabdiel Boylston introduced the African practice of inoculation as a prophylaxis, they met with resistance from Boston's other medical practitioners and the populace at large. Douglass opposed inoculation on the grounds that without medical degrees, Mather and Boylston had no right to meddle in medical affairs.

Chapter Four discusses the controversy that erupted when Boylston inoculated his first three patients. While other scholars have examined thoroughly the medical and religious aspects of the controversy, my argument situates Onesimus at the matrix of what became an Atlantic-wide debate on the efficacy of Europeans learning valuable knowledge from Africans. Tellingly, Mather received scorn for offering a medical procedure learned from an African, who presumably could not solve a problem that stumped Europeans. The heated debate over the medical and religious efficacy of inoculation provided a venue for racist exclamations against Africans. Surprisingly, Mather held firm in his belief that inoculation, as shown to him by his servant Onesimus, and later confirmed in the *Transactions of the Royal Society,* was a safe and effective technique and he repeatedly insisted in public forums that Africans should be credited with introducing life-saving inoculations to Europeans. A vociferous debate in print ensued, leading to public hysteria for fear of forced inoculation, the bombing of Mather's home, and, eventually, governmental action to settle the matter.

The social upheaval that resulted from Boston's 1721 epidemic and controversy left no life untouched. In Chapter Five I discuss how concepts of the body, self, and "the other" both in Boston and throughout the Atlantic World were challenged, shaped, and reshaped because of the inoculation controversy. Focusing on the black population in Boston I examine changes to their day-to-day lives in areas including the workforce, religion, and regulations of their public and private lives. While the religious foundations of many Puritans including Cotton Mather were shaken, the religious beliefs and practices of many enslaved Africans, including Onesimus, proved resilient. In the end, I

argue, black people emerged from the epidemic and controversy holding all the more tightly to their cultural practices.

Once the controversy ended in Boston, Mather and Boylston continued to champion the cause of inoculation and the final chapter explores this campaign. England, embattled in a controversy over inoculation of its own in 1721-1722 came to adopt the practice as safe and effective following a visit from Boylston who composed a lengthy pamphlet testifying to his success with the procedure. By 1730 Douglass, the most vocal critic of the procedure in Boston, came to accept the medical technique and champion the life-saving cause of inoculation. From Boston, inoculation spread to England and throughout the English colonies of the New World which one can trace back to the day Onesimus showed to Mather "in his arm the scar."

Chapter 1: "Gentlemen of Genius and Learning": European Professionalization of Medicine

In 1691 in the town of Gifford in Haddington County, Scotland, George Douglass welcomed a son, William, into his prosperous and respectable family. Wanting the best for his son, George sent William to Edinburgh, Scotland where he began his formal training under Archibald Pitcairno. Convinced education was the key to success, William went to Leyden to finish his training under the Dutch physician Herman Boerhaave. Intrigued by Europe's movement toward professionalization of medicine, he proceeded to Utrecht where he completed his MD in 1712. In the following years, Douglass traveled the world before settling back in England to establish a medical practice and solidify his position atop the developing medical hierarchy there.[1]

Accustomed to traveling, however, Douglass soon grew restless in Bristol. Young men in eighteenth-century Europe frequently talked of sailing to the New World with all its adventures and opportunities. Intrigued by these opportunities, when Colonel Burgess approached William Douglass about joining him in the Americas, Douglass decided to sail the Atlantic and try his fortune there. After packing his supplies, including medical manuals and instruments, and saying his goodbyes to friends and family, Douglass set out to find fresh opportunities in New England. Upon arrival in

[1] Raymond Muse, "William Douglass, Man of the American Enlightenment, 1691-1752" (PhD diss., Stanford University, 1948), 5-7.

Boston with letters of introduction to the ministers there, he continued his passion for travel by taking an extensive tour of the British American colonies and then sailing to the British and French West Indies. After months of travel, Douglass finally returned to Boston to set up his medical practice.[2]

Writing to Cadwallader Colden, Douglass remarked, "C[olonel] Burges's design of coming over Governour was the inducement that brought me hither from the prospect of very good business in Bristol, not withstanding of that disappointment I have resolved to fix here and ramble no more."[3] By 1716, at the age of twenty-five, Douglass resolved to remain in Massachusetts and declared the New World his home.[4] Douglass was finally content to settle down and focus upon bringing the world of Professional Medicine to Boston. And just maybe, he would be able to bring this institution of medicine which had been so instrumental in shaping his life in Europe to the New World, leaving his mark as a pioneer of professional medicine in a land of folk medicine devoid of medical hierarchy and trained physicians.[5] Much to his dismay, however, Douglass found himself in a town where drastic medical change came from outside the establishment, rather than from his lead as the trained medical physician.

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[2] Ibid, 5-7; George L. Kittredge, "Some Lost Works of Cotton Mather," *Proceedings of the Massachusetts Historical Society* 45 (1912), 425.

[3] Cadwallader Colden, *The Letters and Papers of Cadwallader Colden,* Vol. 1, *Collections of the New York Historical Society* (New York: The New York Historical Society, 1918), 114. Cadwallader Colden was a doctor of medicine at New York.

[4] Muse, "William Douglass," 4. Although he decided to settle in Boston, Douglass was weary, writing to Colden, "You have the good fortune to have Successively Gentlemen of Genius and Learning for Governours, and more happy in being favoured with their countenances and friendship, my case in these particulars is the reverse." Colden, "The Letters and Papers," 114.

[5] Muse, "William Douglass," 4.

In Boston, Douglass was the only medical practitioner with a degree - a position that he believed elevated him above all others. Lack of university-trained physicians in the colonies was not unique to Boston for in speaking of Colden of New York, Douglass remarked, "[y]ou complain of the Practice of Physick being undervalued in your parts and with reason; we are not much better in that respect in this place; we abound with Practitioners tho no other graduate than my self . . . ."[6] Consequently, Douglass quickly established a successful medical practice and even tried his hand at politics becoming actively involved in community affairs. In Boston, Douglass thrived reflecting, "I can live handsomely by the incomes of my Practice, and save some small matter. I reckon this place at present no better than a factory as to my interest, for here we have great trade and many strangers with whom my business chiefly exists."[7]

With his practice established, Douglass sought to record his observations on medicine and disease in Boston:

> I have a short History of Endemical Epidemical and incident diseases whence my settling here, and shall give you (as a friend I may safely expose my Self to) it rough for it requires a long series of Observations and a more penetrating Genius than I have hitherto had, to make them either intelligible or useful to others.[8]

Having received his training in a European university system, and being accustomed to the world of professional medicine, Douglass clung to the idea of observation as of utmost importance in the practice of medicine.

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[6] Colden, "The Letters and Papers," 114.

[7] Ibid, 114-115. It is unclear from the letter who these "Strangers" are. Later in the letter, Colden speaks of attending to the Native New Englanders so it is likely these strangers are either other white foreigners, or possibly Native Americans or Africans.

[8] Ibid, 115.

In 1721, Douglass found himself on the front lines of epidemic observation as smallpox returned and ravaged the town of Boston. However, Douglass was quickly distracted from the problem at hand when Cotton Mather, one of Boston's ministers, and his amateur doctor friend, Zabdiel Boylston, experimented with inoculation. Believing that the world of professional medicine left no room for innovation and practice by those devoid of proper training, Douglass was outraged.[9] Nevertheless, of even greater concern, Douglass was furious that qualified physicians had not yet adequately observed and tested this new practice. Douglass remarked,

> I opposed this novel and dubious Practice not being sufficiently opined of its safety, and consequences, in short I reckoned it a sin against society to propagate infection by this means and bring on my neighbour a distemper which might prove fatal which perhaps he might escape (as many have done) in the ordinary way, which he might certainly secure himself against by removal from this Country where it prevails seldom.[10]

A heated debate between Cotton Mather's inoculation supporters and William Douglass' anti-inoculation forces ensued. At the heart of the debate was not a question over whether or not inculcation worked; rather the problem was that according to Douglass the procedure had not been adequately tested and observed, and proven safe over a period of time. Although Mather argued that evidence from the *Transactions*, Africans, and recipients of inoculation in Boston all offered adequate proof of its safety and success, there was no convincing Douglass until it had been tested and approved according to the standards of European professional medicine. Inoculation ultimately stood outside

[9] James W. Schmotter, "William Douglass and the Beginnings of American Medical Professionalism: A Reinterpretation of the 1721 Boston Inoculation Controversy," *Historical Journal of Western Massachusetts* 6, (Fall, 1977): 33.

[10] Colden, "The Letters and Papers," 143-144.

"normal medicine" in the world of professionalization of medicine so instrumental in Douglass's life.[11] In the inoculation debate, Douglass found an opportunity to bring the European medical ideals to Boston.[12] However, at the same time, New World medicine ultimately influenced the Old World, as inoculation eventually spread throughout the Atlantic World.

I argue that Old World medicine had an impact on the New World. However, influence did not solely emanate from the hierarchy of professional medicine; instead, I argue that the day-to-day practice of medicine in the countryside of Europe (removed from the ideas forming in cities including London) provided the basis for the medical influence that traveled the Atlantic with the colonists. Once they arrived in the New World, the colonists continued their methods of adapting medicine to fit their environment and way of life, utilizing medical practices passed down through generations and adding novel medical techniques suited to their new surroundings. In New England, as in England, the clergy and mid-wives provided the majority of the day-to-day medical treatment. Ideas from the Old World on professionalization of medicine did not come to affect the colonies until far later and met with much of the same resistance experienced when trying to enforce this medical hierarchy upon the peoples of the countryside in

[11] Margaret C. Jacob, *Scientific Culture and the Making of the Industrial West* (Oxford: Oxford University Press, 1997), 10; Dennis Melchert, "Experimenting on the Neighbors: Inoculation of Smallpox in Boston in the Context of Eighteenth Century Medicine" (PhD diss., University of Iowa, 1974), 25; Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: The University of Chicago Press, 1994), 196.

[12] Schmotter, "William Douglass," 26.

England. Exchange of medical ideas went both ways as New World medicine shaped life in the Old World, most specifically through the introduction and implementation of inoculation.

The Ancient / Medieval Background

The story of European medicine begins in Greece with two noted medical men, Hippocrates and Galen.[13] Scholars denote Hippocrates, born circa 460BC as the "Father of Medicine," being the first to make medicine a profession and setting the foundation for the practice of medieval and early modern European medicine. His work reshaped who participated in medical practice for, with the Hippocratic *corpus,* there now existed a knowledge base outside the average layman's hands. With Hippocrates, the world of doctors and patients took the first steps in the movement toward professionalization of medicine. While Hippocrates widely studied and explored the world of medicine, he was perhaps most influential in his ideas of the four bodily humors and their role in sickness and healing.[14]

Rather than accept supernatural religious causes for disease that he could neither explain nor observe, Hippocrates looked to discernable explanations, focusing upon

[13] Nancy G. Siraisi, *Medieval & Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago: University of Chicago Press, 1990), 1. One must also note that these Greek writers borrowed from Egypt. E. Ashworth Underwood, ed., *Science Medicine and History: Essays on the Evolution of Scientific Thought and Medical Practice, Written in Honour of Charles Singer*, vol. 1 (London: Oxford University Press, 1953), 59.

[14] Vern L. Bullough, *The Development of Medicine as a Profession: The Contribution of the Medical University to Modern Medicine* (New York: Hafner Publishing Company, Inc., 1966), 16. Despite Hippocrates professional separation from the layman, the humoral theory was something the public easily understood and practiced themselves. Roy Porter and Andrew Wear, eds., *Problems and Methods in the History of Medicine* (London: Croom Helm, 1987), 235.

natural sources for disease that provided the basis for his explanation of illness.[15] Because one could readily observe bodily fluids, Hippocrates focused great attention upon them. His fundamental medical idea, humoral theory, holds that the fluid within one's body directly affected disease. The four humors, originating in early Greek medicine, and identified by Hippocrates were: blood, phlegm, yellow bile and black bile.[16] "The four humors" Nancy Siraisi explained "were real bodily fluids to which largely hypothetical origins, sites, and functions were ascribed."[17] These four humors performed two key functions: they were essential to both nutrition and complexion.[18] This theory of disease continued to hold into the middle ages, as John Catta, an English Physician, related "[t]he inward causes of diseases are the humors of the body, which can never be separated from the body, because of them consisteth the life and being of the body."[19] The humors were the very essence of life, the key to understanding that which threatened life (namely disease), and foundation for insight into how to restore health.

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[15] Sheila Campbell, Bert Hall and David Klausner, eds., *Health, Disease and Healing in Medieval Culture* (New York: St Martin's Press, 1992), 13-14; Lester S. King, *The Growth of Medical Thought* (Chicago: The University of Chicago Press, 1963), 21, 41. "Hippocratic medical authors criticized traditional beliefs and attempted to construct casual accounts of health, disease, and physiology that did not rely on magical, theological, or mythological forms of explanation." Siraisi, *Medieval & Early Renaissance Medicine*, 2.

[16] "But in Greek thought, the number four was somehow especially significant. The primary elements, so-called, were four in number – earth, air, fire and water; the primary qualities – hot, cold, moist, and dry – were similarly four; Alcmaeon held that the four regions of the body – the head, heart, navel, and pubic region; Aristotle described four causes, and Hippocrates before him held the four humors; and to these corresponded the four temperaments." King, *The Growth of Medical Thought*, 28-29.

[17] Siraisi, *Medieval & Early Renaissance Medicine*, 105.

[18] Ibid, 106.

[19] John Catta, *A True Discovery of the Empericke with the Fugitive, Physition and Quacksalver, who Display their Banners upon Pasts . . .* (London: William Jones, 1617), 98.

According to the humoral theory, to maintain health one must keep all four humors in balance. Among the four humors, they saw blood as the key, and as a result, phlebotomy, or bloodletting was one of the most common treatments for imbalanced humors. The pervasive instructions for phlebotomy in physicians' handbooks speak to its extensive use.[20] For example, the medieval *vade-mecum* (physician's handbook) instructed:

> [p]hlebotomy clears the mind, strengthens the memory, cleanses the stomach, dries up the brain, warms the marrow, sharpens the hearing, stops tears, encourages discrimination, develops the sense, promotes digestion, produces a musical voice, dispels torpor, drives away anxiety, feeds the blood, rids it of poisonous matter, and brings long life. It eliminates rheumatic ailments, gets rid of pestilent disease, cures pains, fevers and various sicknesses and makes the urine clean and clear.[21]

Ideas of bloodletting and the balancing of the humors, which Hippocrates popularized, perpetuated European medicine through the early modern period and were common forms of treatment in the New World as well.[22]

Six centuries after Hippocrates, circa 129AD, Galen became the second great Greek man of medicine. He borrowed from and built off the foundation Hippocrates laid. As historian Lester King explained, "[t]he six centuries that separated Hippocrates from Galen saw a tremendous change in material civilization, social behavior, and cultural environment," all of which shaped Galen's perspective on medicine.[23] Born in Asia

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[20] C.H. Talbot, *Medicine in Medieval England* (London: Oldbourne, 1967), 127-128.

[21] Quoted in Talbot, *Medicine in Medieval England*, 130-131.

[22] For example, see Thomas Thatcher, *Brief Rule to Guide the Common People of New-England How to Order Themselves and Theirs in the Small Pocks, or Measles* (Boston, 1702).

[23] King, *The Growth of Medical Thought*, 43.

Minor, Galen received his initial education from his father and teachers of the philosophy of medicine. Galen then spent eleven years traveling and studying medicine in Smyrna, Corinth and Alexandria before settling in his hometown of Pergamum where he was appointed physician to the school of gladiators.[24] Galen focused upon observation, promoting Hippocratic teaching, particularly ideas of the humors and bloodletting. While Hippocrates was the "Father of Medicine," it was under Galen that Greek medicine reached its zenith.[25]

Galen adopted from Hippocrates the four humors idea and added to it the four elements (fire, air, earth, and water) of which everything was composed and the four qualities of the union of matter (hot, cold, dry and moist), as derived from Aristotle. [26] As a result, scholar Temkin Owsei related, "[t]he doctrine of the four humors was not Galenic; it was Hippocratic. But the emphasis on these four humors as *the* Hippocratic humors, the linking of them with the Aristotelian qualities and with the tissues of the body was largely Galenic."[27] To accept Galen's philosophy of medicine, then, was also to accept Aristotle's approach to nature and knowledge.[28]

Central to Galen's thinking was the idea that everything in nature had a purpose. In his work, Galen attempted to negotiate between the empiricists (who believe

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[24] Bullough, *The Development of Medicine*, 26; Owsei Temkin, *Galenism: Rise and Decline of a Medical Philosophy* (Ithica: Cornell University Press, 1973), 3-4.

[25] Siraisi, *Medieval & Early Renaissance Medicine*, 4.

[26] Ibid, 4; Temkin, *Galenism,* 164, 17.

[27] Temkin, *Galenism*, 103.

[28] Ibid., 98.

knowledge comes from experience through the testing of hypotheses) and the rationalists (who appeal to reason rather than observation). Galen, like Hippocrates, placed a high value on the empiricist method of observation and experimentation. However, his own framework limited his modes of experimentation as Galen used experience to confirm his own theoretical thinking, rather than allowing the tests to speak for themselves. In treatment of the sick, Galen followed the empiricist doctrine avoiding mere speculation in favor of experience. However, Galen also supported the ideas of the rationalists and supernatural reasoning. Walking this middle-ground Galen drew initial support from the Christians, for he was the first medical theorist to respect them and not overlook supernatural causes in disease. However, churchmen objected to Galen's teaching about the soul and the two soon parted ways.[29]

Not until the fourth and fifth centuries did scholars translate Hippocrates and Galen's great works into Latin and as a result, their major impact on medicine began with the dawning of the Middle Ages and continued for over a millennium.[30] Even in the seventeenth century, English medicine still felt Hippocrates and Galen's tremendous influence as many still held that sickness and health were intertwined with the four humors.[31] However, early modern scholars in Europe exposed problems in Galen's theories, and as a result, Galenism fell into some disrepute.

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[29] Bullough, *The Development of Medicine*, 47-48, 75, 82; Siraisi, *Medieval & Early Renaissance Medicine*, 5; Temkin, *Galenism*, 15-16, 56, 87.

[30] Bullough, *The Development of Medicine*, 30.

[31] Eric H. Christianson, "Medicine in New England," In *Medicine in the New World: New Spain, New France, and New England*, ed. by Ronald L. Numbers (Knoxville: The University of Tennessee Press, 1987), 110.

One of the challenges rose in the fifteenth century with the work of the Swiss man Paracelsus (1493-1541). While it is unclear whether Paracelsus actually obtained a medical degree, he was an important practitioner of medicine nonetheless. Contrary to the university model becoming popular then, Paracelsus did not believe one could learn medicine by reading the works of others, and sought rather to explore the field for himself through hands-on experimentation.[32] Following a series of travels and studies, Paracelsus concluded that nothing the ancient Greeks said about medicine made any sense. Paracelsus's ideas divided the medical world into Galenists (or those who still held to the ancient Greek ideals) and those who supported his new ideas.[33]

Despite his condemnation of Greek medicine, Paracelsus did not completely dispose of their scientific ideas. Like Galen, Paracelsus also emphasized experience. However, for Paracelsus, experience went beyond acceptance of the fact to include science.[34] Paracelsus also believed medicine was linked to nature.[35] Developing a theory that disease was a real entity produced by a specific cause, Paracelsus believed the physician's job was to determine this cause and treat it accordingly.[36] As medical historian Vern L. Bullough related, "Paracelsus developed his concepts from a matrix of

[32] Bullough, *The Development of Medicine*, 87, 113.

[33] Temkin, *Galenism*, 128, 132, 133; Sheldon Watts, *Disease and Medicine in World History* (New York: Routledge, 2003), 106.

[34] Temkin, *Galenism*, 130.

[35] King, *The Growth of Medical Thought*, 112.

[36] Christianson, "Medicine in New England," 111.

Greek philosophy, but his doctrines repelled those of a more prosaic mold who were concerned with the concrete rather than the abstract."[37]

Central to Paracelsus's philosophy was the idea of activity. According to King, Paracelsus believed that "[t]he body, by itself, is inert; the soul, which provides all movement and activity, is distinct from the body and comes from a different realm."[38] This distinction is also key to understanding Paracelsus's resistance to humoral theory.[39] His ideals revolutionized medical treatment by offering relatively cheap and simple treatments in comparison to the complex and expensive humoral treatments making medical treatment more accessible.[40]

To the Puritans, Paracelsus was attractive because he offered an alternative to the "heathen" Galen. Paracelsus' philosophical and theological outlooks were ultimately compatible with Puritan ways of thinking. In his 1975 work, *The Great Instauration: Science, Medicine and Reform 1626-1660* George Webster also argued that the opposite was true, that the scientific revolution stemmed from Puritan influences.[41] Paracelsus' ideas challenged traditional thinking by focusing on the physicians duties both toward the

[37] King, *The Growth of Medical Thought*, 139.

[38] Ibid, 92-93.

[39] "Alchemy for Paracelsus concerned the general problem of change," and was central to preparing medical remedies. Ibid., 88, 92, 117, 121, 125.

[40] Charles Webster, *The Great Instauration: Science, Medicine, and Reform, 1626-1660* (New York: Holmes and Meier Publishers, 1976), 228.

[41] Webster specifically tried to trace the origins of the Royal Society back to Puritan roots. Webster, *The Great Instauration*, 88, 95, 246, 282, 496, 498, 502, 510, 515, 516. See also, Jacob, *Scientific Culture*, 53.

sick and toward God.[42] Since its early foundations, Puritans had played a role in the scientific revolution and as a result, they carried these European medical ideas to the New World. Thus, when Douglass arrived in the colonies in the early eighteenth century his concept of science and medicine was not foreign to the colonists.

In the first half of the seventeenth century, religion was still the dominant system of thought governing sickness, sin, and disease. Religious foundations were important for understanding sickness not only of one's self but also of others. As a result, people often combined participation in medical treatment with an act of piety for sins. [43] Since they viewed Christ as the physician able to treat both the body and the soul, they inextricable tied medicine to religion.[44] By the mid-seventeenth century, religion and medicine began to separate, however this change did not happen immediately.[45] Gradually, doctors no longer saw disease as the divine's judgment upon them. This shift also led to a change in medicine as doctors now sought to cure and not just relieve the symptoms.[46]

Nevertheless, not everyone accepted this change. For example, within Puritan society the connection between disease and God's retribution remained. That is not to say the Puritans did not seek medical attention, for it was also their duty as Christians to

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[42] Temkin, *Galenism*, 132.

[43] Roy Porter, ed., *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society* (New York: Cambridge University Press, 1985), 6, 9.

[44] Porter and Wear, eds., *Problems and Methods*, 68.

[45] King, *The Growth of Medical Thought*, 17; See also Porter and Wear, eds., *Problems and Methods*, 57, 61.

[46] Roy Porter, *English Society in the Eighteenth Century*, Revised Edition. (London: Penguin Books, 1982/1990), 284.

take care of their bodies. Within Puritan society, religion was not the only explanation for illness, there were medical reasons as well, but one must remember that they integrated medicine with religion. Any remedy's success was due directly to God's provision and blessing.[47]

As the seventeenth century came to a close in Europe, Isaac Newton, Francis Bacon, William Gilbert, and others slowly superseded Galen and Hippocrates.[48] As historian Raymond Muse noted, "[s]cience became experimental and the emphasis was placed on probing the depths of natural phenomena. Medicine followed science and philosophy and turned to nature for the discovery of the secrets of life."[49] However, as a foundation to medical practice Hippocrates and Galen continued despite the rise of new philosophies.[50]

As the eighteenth century entered, so, too, did another major medical man, Hermann Boerhaave, the founder of the modern academic hospital.[51] Leaving the ministry to practice medicine, some consider him to be the most influential physician of the entire eighteenth century. Boerhaave received his training in traditional medieval medicine but practiced modern science. By combining the old ways with the new,

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[47] Porter and Wear, eds., *Problems and Methods*, 70, 72, 78, 80, 89, 240; Siraisi, *Medieval & Early Renaissance Medicine*, 10.

[48] Ian Glynn and Jenifer Glynn, *The Life and Death of Smallpox* (Cambridge: Cambridge University Press, 2004), 21; Muse, "William Douglass," 27.

[49] Muse, "William Douglass," 27.

[50] Ibid, 28; Temkin, *Galenism*, 135.

[51] Victor Robinson, *The Story of Medicine* (New York: The New Home Library, 1931/1943), 327.

Boerhaave compiled a well-organized system of fact and theory which worked for his time.[52]

Boerhaave was critical of Galen's humoral theory and thought that there were rather more complex humors. By examining blood under a microscope, he learned that blood's red globules broke up and smaller yellow ones replaced them. After further standing, the yellow globules vanished leaving smaller "pellucid" spherules. Although he could not see them, Boerhaave believed progressively smaller particles existed as well. As a result, Boerhaave grew critical of the four humours of the Greeks. [53] Medical historian Lester King remarked:

> Boerhaave pointed out that the 'blood' of Galen, far from being homogeneous, was merely the aggregate of the red globules which imparted the red color. Galen's 'yellow bile' was only the blood serum and not bile at all. The 'phlegm' was only the altered serum into which the yellow bile changed by standing. And the atravilis, or 'black bile' of Galen, was only a part of the 'crassamentum' (red cell clot) which separated off an assumed a much darker color. The original four humors were, then, only different parts of the blood.[54]

With Boerhaave, a new appreciation for facts took center stage as a legitimate scientist studied and evaluated the evidence with care and precision. This development raised a new problem of learning how to determine when reasoning was "sound." [55] However, historian Richard H. Shryock noted, "[o]bservation and experiments, however

[52] Lester S. King, *The Medical World of the Eighteenth Century* (Chicago: The University of Chicago Press, 1958), 59-62.

[53] Ibid., 66-69.

[54] Ibid, 66-68.

[55] Ibid, 93, 95, 98, 100.

interesting, did not fit readily together."[56] While detailed analysis of symptoms were crucial, controlled analysis was very difficult to achieve. Scholars also interpreted observations of new phenomena through the lens of medicine already in place. However, through observation, disease identification was possible, and treatment could follow.[57] Throughout the eighteenth century, scientists made numerous observations on the empirical level. Many of these conclusions are still valid today even though scientists have attached new reasons to them.[58]

Movement to Professionalization

When William Douglass conflicted with Cotton Mather over the efficacy of inoculation in 1721 Boston, at the root of the disagreement was the fact that Douglass did not believe Mather fit the model of professional medicine and therefore had no right to meddle in medical affairs. Vern L. Bullough outlined the steps to professionalization of medicine in Europe his work *The Development of Medicine as a Profession: The Contribution of the Medical University to Modern Medicine*. This process, he argued, began when a body of medical knowledge unknown to the average laymen, took root. By institutionalizing a series of medical ideals, authorities had a knowledge base that they could effectively transmit only to those qualifying as professional physicians. This change required the development of an educational system, and with it they put into place

[56]Richard Harrison Shryock, *The Development of Modern Medicine: An Interpretation of the Social and Scientific Factors Involved* (New York: Alfred A. Knopf, 1947), 17.

[57] Ibid., 41; Siraisi, *Medieval & Early Renaissance Medicine*, 123, 127, 128.

[58] King, *The Medical World*, 103.

a series of unique standards, particularly requirements for licensure. Finally, Bullough argued, gaining both royal and papal support, medicine had achieved professionalization by the sixteenth century.[59] This conclusion, however, does not take into consideration that even by the eighteenth century professionalization of medicine had not reached beyond the metropolis. As a result, on the eve of exploration and expansion, much of England, with the rare exception of London, still followed an ancient/medieval approach to medicine.

In the twelfth and thirteenth centuries, the university system took root in Europe. By the beginning of the thirteenth century, Western Europe had four major medical schools: Salerno, Montpellier, Bologna, and Paris. While all four offered institutionalized medicine, only Bologna and Paris also allowed for the movement toward professionalization of medicine by setting standards for licensure.[60] John Catta supported the emphasis upon education stating, "[i]t is not the medicine it selfe, but the judgment and knowledge of the learned, and the right accommodation annexed unto the wholesome medicine, that added unto it a worth about it selfe . . . ."[61] Later, Catta continued "[a]nd

[59] Bullough, *The Development of Medicine*, 3-5. "[I]t appears that medicine had clearly emerged as a profession by the end of the medieval period." Bullough, *The Development of Medicine*, 108.

[60] Ibid., 46, 48. The ultimate sign of the development of professionalization of medicine in England was the adaptation of a licensing program. In 1511 London, they placed licensing of physicians, surgeons, and other practitioners under the church for the organizing and regulating of medicine throughout England. Later, authorities allowed only doctors licensed by the Royal College of Physicians to practice medicine in London, thus drawing an important distinction between the clergy's roles and the doctor's roles in society and raising the status of the doctors as a separate profession within society.

[60] Christianson, "Medicine in New England," 106; Porter, *English Society*, 75.

[61] Catta, *A True Discovery of the Empericke*, 45-46.

as education it selfe is of all learned esteemed and judged absolutely beyond exception or dispensation necessarie, so are his places common and therefore not obscure."[62]

At the university, students of medicine began their studies in the seven liberal arts.[63]

> Whoever whishes to become proficient in the art of medicine ought to be capable of prolonged study, so that by constant reading of different books his perception and judgment reach that point where the learning becomes easy . . . . Before studying medicine he should be well instructed in all subjects . . . . First of all he should be taught grammar, dialectic, astronomy, arithmetic, geometry and music . . . and be taught philosophy along with medicine.[64]

In some universities, literacy in Latin was a necessity for entry. As Christopher Merett, an English physician and scientist wrote, "first, it's most necessarily requisite, our young Student should be perfectly introduced in the *Latin* and *Greek* Tongues, being the universal keys to unlock all those Arts and Sciences, and no less a grace to the future Physician."[65] In other universities, the vernacular sufficed and in still others, they did not even require literacy.[66] Nevertheless, at the most prestigious universities, Latin was a necessity.

The course of study at university included a careful examination of the founders of modern medicine, Hippocrates and Galen. The instructors followed this foundation with a curriculum that revolved around learning rather than application. For some this

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[62] Ibid., 129.

[63] Bullough, *The Development of Medicine*, 48.

[64] Quoted in Talbot, *Medicine in Medieval England*, 135.

[65] Christopher Merret, *The Accomplisht Physician, the Honest Apothecary, and the Skilful Chyrurgeon* (London: Little-Britain, 1670), 17.

[66] Siraisi, *Medieval & Early Renaissance Medicine*, 50.

education meant book learning, for others learning by watching; but never did the acquisition of knowledge require any active participation.[67] Book learning, or the absence thereof, became a key dividing point between trained physicians and the average everyday lay practitioner. Although the lay practitioner had more practical experience, those from the university felt themselves superior simply because they had read and watched more about medicine. This idea of superiority linked to university education was a key point of emphasis Douglass used in the inoculation controversy of 1721.

In England, the medical faculties were weaker than those found on the continent and in Scotland. The two major universities in England, Oxford and Cambridge, both had medical programs, however because the benefactors left little money to support this program, medicine continually ranked last among the degrees conferred.[68] Oxford had a small and undistinguished medical faculty and in some colleges, scholars even discouraged the study of medicine. Cambridge had an even more unremarkable medical faculty. Ultimately, medical education at English universities was inadequate. Nonetheless, authorities granted graduates of Oxford and Cambridge special rights to practice medicine in London.[69] Medical professors did not oppose the advanced study of medicine as they encouraged the most serious students to seek medical training abroad.[70]

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[67] Mark H, Curtis, *Oxford and Cambridge in Transition 1558-1642: An Essay on Changing Relations between the English Universities and English Society* (Oxford: Clarendon Press, 1959), 153; Talbot, *Medicine in Medieval England*, 66, 70.

[68] Curtis, *Oxford and Cambridge in Transition*, 151-153.

[69] King, *The Medical World*, 3, 25; Talbot, *Medicine in Medieval England*, 68-69.

[70] Curtis, *Oxford and Cambridge in Transition*, 154; Porter, *English Society*, 162.

Some went north to Scotland where they could obtain a degree at Edinburgh, Aberdeen, or St. Andrews.[71] While English universities fell short in the early movement toward the professionalization of medicine, the continent pressed forward in the teaching and regulating of this science. As Bullough related, "Efficacy of treatment was not the criterion for determining who was or was not a legitimate medical practitioner, but educational requirements and membership in the faculty or an organized group were the most potent factors."[72] Thus, education did not necessarily make one a better doctor but it did make them *legitimate*, a major problem with the movement toward professionalization of medicine.

As the professionalization of medicine took root in Early Modern Europe, it posed a point of tension between the "gentleman" who commanded a position of honor in society and the "scholar" who at this time conflicted with societal ideals. For the gentleman, virtue was more important than book learning, which he believed had nothing to offer civil society. The English gentleman had the reputation of being "ignorant and proud," a designation dating back to the days of antiquity. As a result, the idea that a gentleman might fit the ideals associated with the high profession of medicine was a new notion that met with significant resistance.[73]

By the eighteenth century in England, however, authorities had come to define a "profession" as an occupation "fit for gentlemen" a shift in thinking that required a

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[71] Christianson, "Medicine in New England," 105.

[72] Bullough, *The Development of Medicine*, 102.

[73] George C. Brauer, Jr., *The Education of a Gentleman: Theories of Gentlemanly Education in England, 1660-1775* (New York: Bookman Associates, 1959), 13, 22; Shapin, *A Social History*, 282, 286-287.

meeting of the scholar with the gentleman.[74] Eventually, society reshaped the idea of a gentleman from a man who focused on proper etiquette to a man who sought after training for a professional career such as law, medicine, divinity, or the Army and Navy.[75] As a result, part of the professionalization of medicine included a shift in the ideal of a gentleman and gentlemanly society as a whole.

> A liberal university education would then breed a scholar and a gentleman. But the Oxbridge MD would further prove the 'open sesame' enabling a man, once set up in the metropolises where the choice patients and fat fees were, to leap-frog the licentiate, the mere outworks of that citadel of physic, the Royal College of Physicians, and jump straight into its inner sanctum, the fellowship, an ascent perhaps culminating in collegiate office and power.[76]

To be a gentleman, over time, became synonymous with being a man of great learning and practicing one of the learned arts including medicine.

As gentlemen began to fill the medical profession's ranks, a new dichotomy of trust was established between the gentlemen and the servants.[77] People considered gentlemen worthy of accurate observation and by their very title, deemed credible.[78] Being able to trust these gentlemen was important for, historian Steven Shapin related, "it is incorrect to say that we can ever have experience outside a nexus of trust *of some*

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[74] Daniel J. Boorstin, *The Americans: The Colonial Experience* (New York: 1958), 227.

[75] Brauer, Jr., *The Education of a Gentleman*, 95.

[76] W.F Bynum and Roy Porter, eds., *William Hunter and the Eighteenth-Century Medical World* (Cambridge: Cambridge University Press, 1985), 8.

[77] Here, the term servants refers to those assisting the professional doctors.

[78] Shapin, *A Social History*, 24, 78, 124.

kind."[79] Servants, on the other hand, as subjects of another were not assumed to be always telling the truth.[80]

> Servants were among the categories of persons who were thought to have reasons to tell untruths by virtue of their dependant and compromised standing. Their lack of integrity meant that they *might* be suspected of doing so, and there were few social costs attached publically to contesting their narrations.[81]

As a result, they deemed servants' testimony unreliable, even in a society which allowed for their testimony under oath.[82]

In 1518, King Henry VIII chartered the Royal College of Physicians giving the organization a monopoly on who practiced medicine and dispensed drugs.[83] Through the College of Physicians, authorities established a system of graduate education in medicine, improving upon the existing medical education available in England.[84] By 1640, authorities firmly established the College of Physicians as the keepers of the medical profession and closely guarded who could join them in claiming access to privileges.[85] In order to enter the fellowship of the Royal College, one must have a degree from either

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[79] Ibid, 121.

[80] Ibid, 91.

[81] Ibid, 393.

[82] Ibid, 93.

[83] Boorstin, *The Americans*, 228; King, *The Medical World*, 2. King puts the date at 1522-1523. Webster, *The Great Instauration*, 251. "The Century or more that elapsed between the introduction of English as a vehicle for medical writings and the foundation of the College of Physicians showed no significant advance in the medical knowledge." Talbot, *Medicine in Medieval England*, 198.

[84] Curtis, *Oxford and Cambridge in Transition*, 163.

[85] Webster, *The Great Instauration*, 308.

Oxford or Cambridge.[86] The Royal College did not welcome opposing points of views; rather they looked for those who supported their medical ideas.

By 1745, the College of Physicians had only forty-five fellows, and fewer than 400 practicing barristers.[87] By then, the Royal College had compromised all its claims to extensive entry requirements as they began accepting applicants based on social standing rather than accomplishment. Around this same time, Oxford and Cambridge also discontinued their medical schools.[88] English medical training's decline opened opportunities for foreign physicians to challenge this strictly English institution as they began to see the entry of physicians into the English court, physicians who were far superior to those of the Royal College, but who would pose a challenge to the English institution itself.[89]

In November of 1660, when medicine under the umbrella of the Royal College of Physicians was beginning to take root in England, a group of friends including Dr. John Wilkins, Dr. Jonathan Goddard, Dr. George Ent, Dr Glisson, Dr. Merret, Mr. Samuel Foster, and Mr. Theodore Hank came together at a series of informal meetings and initiated the idea of a Royal Society.[90] Their goal was to pursue experimental science without the radical reform of church, state, the economy or society hampering them. In

[86] Porter, *English Society*, 75; G.S. Rousseau and Roy Porter, eds., *The Ferment of Knowledge: Studies in the Historiography of Eighteenth-Century Science* (Cambridge: Cambridge University Press, 1980), 243.

[87] Porter, *English Society*, 75.

[88] Boorstin, *The Americans*, 229.

[89] Talbot, *Medicine in Medieval England*, 204.

[90] Charles W. Colby, ed. *Selections for the Sources of English History* (London: Longmans, Green & Co., 1920), 196-199.

December, this group of friends held their first scientific debate providing the foundations of the society. However, it was not until 15 July 1662 that the King granted a royal charter to the society giving them official corporate existence. In 1663, following a repealing of the original charter, authorities implemented the rules for how the society was to operate.[91] In particular, it was a self-governing society designed, as Stearns outlined, to promote "Physico-Mathematical Experimental Learning" and refused to meddle with "Divinity, Metaphysics, Moralls, Politicks, Grammar, Rhetorick or Logick."[92]

Membership in the society was gentlemanly in character yet changed a great deal over the years.[93] Originally, to obtain membership, one must go through a highly scrutinizing process. Much like the Royal College of Physicians, this self-perpetuating society increased its membership after 1700 when they relaxed entry regulations and extended participation to more people in more places. The Proceedings of the Royal Society demonstrate the wide variety of subjects and experiments considered by the Society and reflect this increasing scope. By rejecting the idea of an actual certainty of knowledge, they also allowed for a wide-range of ideas to circulate.[94] Members joined from as far away as the American colonies and included such famous names as John

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[91] Jacob, *Scientific Culture*, 55. Webster, *The Great Instauration*, 88-89. Others argue that in 1518 the Royal College of Physicians was founded as a licensing agency for physicians in London. Raymond Phineas Stearns, *Science in the British Colonies of America* (Chicago: University of Illinois Press, 1970), 90-91. Margaret C. Jacob argues that the Royal Society actually had its roots in the Civil War. See Jacob, *Scientific Culture*, 53.

[92] Stearns, *Science in the British Colonies of America*, 91.

[93] Shapin, *A Social History*, 122-123; Webster, *The Great Instauration*, 94.

[94] Stearns, *Science in the British Colonies of America*, 90, 96, 97-98, 108.

Winthrop Jr. and Cotton Mather.[95] While the society as a whole was open to innovation and change, not everyone in the Society welcomed "foreigners" in their institution and outright rejected their ideas, providing evidence of the early tensions between medical practitioners in the New World and those in the Old.[96] Although Cotton Mather used the Proceedings of the Royal Society to support his inoculation plan, not everyone (most importantly William Douglass) accepted these proceedings as a legitimate basis for such an experiment.

The Royal Society rejected a quest for absolute certain knowledge and sought to extend networks of trust.[97] As a result, Shapin argued, "[i]nto the 1660s and beyond, scientific practitioners in the Royal Society and their cultural allies repeatedly insisted upon the epistemic and moral merit of loosening the grip of traditionally constituted schemes of plausibility."[98] Members of the Royal Society often told stories of things they had heard from others, but had not seen with their own eyes. The Society did not take its printing of reports lightly, however, as one either needed to be a recognized member, or have someone vouch for their validity. The Society deemed reports that reached publication as worthy of one putting them into long-term institutional memory.[99]

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[95] Shapin, *A Social History*, 121; Ibid., 107. Colonial fellows including Cotton Mather often became problematic for the society because they had very different ideas from those trained in European medicine. Ibid., 110.

[96] Stearns, *Science in the British Colonies of America,* 415. fn 52.

[97] Shapin, *A Social History*, 121, 205.

[98] Ibid, 199.

[99] Ibid, 244, 303-5.

This opening of the Society, however, made Douglass skeptical about many of the writings present in the *Transactions*, particularly the pieces by foreigners on inoculation.

One should not interpret the role of all these colleges and societies to mean that Englanders highly valued the research behind medicine. In fact, in the early eighteenth century even the Royal Society did not reflect significant medical work.[100] As a result, to argue for the strength of professional medicine in early eighteenth century England, even among its own practitioners, is faulty.

While anyone could practice medicine, licensing provided a means of legitimizing these practitioners. At issue was not whether or not one was *competent* but rather whether or not they had the *right* to practice.[101] While a clergyman or layman might be a competent doctor, if they did not fulfill the qualifications of the professional organization, they had not earned the "right" to practice. Licensing's main objective was to secure physicians who had proof of their education and thus their competence. Despite attempts at regulation, many continued to practice medicine without a license.[102] Attempts at licensing and regulation also did not really improve society's views of the physicians.[103] Therefore, for Douglass to oppose Mather on the basis that he did not fit the profession was problematic not only in the colonies but in England.

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[100] Shryock, *The Development of Modern Medicine*, 42.

[101] Christianson, "Medicine in New England," 106.

[102] Siraisi, *Medieval & Early Renaissance Medicine*, 19, 20.

[103] Talbot, *Medicine in Medieval England*, 143.

Since the Middle Ages, the development of a professionalization of medicine embattled England. As Porter and Porter related:

> "Professionalization" theorists have emphasized the importance of the creation of a collective ideological carapace so as to set an idealized moral distance between occupations such as medicine and the public . . . . But, as this chapter has abundantly shown, Georgian patients had little conception of the medical profession as a comprehensive entity, as a collective abstraction. It was the individual, face-to-face encounters that tipped the balance between distrust and confidence.[104]

However, overall, by the eighteenth century the authorities were only relatively successful at firmly establishing a regulated system throughout the metropolis, leaving a major portion of the population untouched by these changes. This idea of the professionalization of medicine was more an ideal than a practice. The fight William Douglass had with Mather and Boylston over professionalization of medicine was the same fight England itself had been fighting for centuries, and had yet to decide decisively.

Who Can Practice Medicine

Despite the rise of professional medical organizations, some still questioned who had the authority to practice medicine. According to John Catta,

> For as God hath created all things for the good of man, so hath he appointed the Physition to fit and accommodate all things unto the necessitie and need of man, and hath farther also deputed him to supply unto man even those things which nature her selfe oft times cannot.[105]

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[104] Dorothy Porter and Roy Porter, *Patient's Progress: Doctors and Doctoring in 18th Century England* (Stanford: Stanford University Press, 1989), 69.

[105] Catta, *A True Discovery of the Empericke*, 119.

Christopher Merret echoed these ideas stating the practice of medicine belonged in the physician's hands.[106] Nevertheless, in reality, throughout the seventeenth and into the eighteenth centuries this institutionalized ideal of authority remained a work progress. As a result, the ministers, quack doctors, mid-wives, and even the laity themselves, joined the physicians in practice, particularly in the regions outside the metropolis; and it was these everyday practitioners with whom most Englanders were familiar.

Since the Middle Ages, visiting the sick had been part of the clergy's responsibilities because medical and religious healing went hand-in-hand. There were also practical reasons for the clergy practicing medicine: there often were not enough medical practitioners to meet demand, and the cost of a trained physician was usually more than many could afford. Consequently, the laity turned to the most learned men they knew, the clergy.[107] Relations between the clergy and the physicians were not always amicable and provided another point of tension between William Douglass and Cotton Mather when a minister in 1721 Boston introduced the new medical technique of inoculation.[108]

John Catta in particular spoke out against ministers meddling in medicine. In taking on the duties of others, "without conscience [ministers] impose upon themselves a

[106] Merret, *The Accomplisht Physician*, 50.

[107] Otho T. Beall and Richard H Shryock. *Cotton Mather: First Significant Figure in American Medicine* (Baltimore: The Johns Hopkins Press, 1954), 14, 18, 29; Patricia A. Watson, *The Angelical Conjunction: The Preacher-Physicians of Colonial New England* (Knoxville: The University of Tennessee Press, 1991), 36.

[108] Porter and Porter, *Patient's Progress*, 56, 61, 72.

necessary neglect of both by an unnecessary assumption of the one."[109] Rather, Catta continued, each man ought to follow his proper calling, because "this fluctuation of these men between two callings is offensive to God, scandalous unto religion and good men, and injurious unto commonweals, and but presumption borrowing the face of Divinitie."[110] When anyone besides a trained physician attempted to practice medicine, Catta argued, they become a danger to the community because of their ignorance in medical affairs.[111]

In addition to ministers, others who joined the medical ranks came from a variety of backgrounds: some from multiple generations of medical training and practice and others with little or no training at all. Aspiring doctors also came from a wide range of economic backgrounds as some were wealthy and others were not. In addition, economics did not drive one to the profession, as most physicians never really moved up the social hierarchy.[112]

With the establishment of universities in the late thirteenth and early fourteenth centuries, an informal hierarchy of medicine had begun to form reserving the top ranks for those who had achieved a university degree rather than those with the greatest skill and success. In particular, since so much of the education focused on literacy, the ability

[109] Catta, *A True Discovery of the Empericke*, 86.

[110] Ibid., 88, 89.

[111] Ibid., 93.

[112] Siraisi, *Medieval & Early Renaissance Medicine*, 21, 23.

to read and write separated the ranks.[113] When Douglass accused Boylston of being "illiterate," he denoted him as not belonging to the elite of medical professionals. This informal hierarchy underwent great change with the collapse of medieval institutions, as medical practitioners including surgeons and apothecaries sought to form their own guild organizations.[114]

With the rise of professional medicine came a fragmentation of occupational groups within medicine.[115] While people were willing to include physicians among the professionals, surgeons and apothecaries who many considered more as craftsmen, remained on the outside. Since university education played a key role in the movement toward professionalization, surgery, which was not part of the medieval university curriculum, did not keep pace with the university physicians who looked down upon them.[116] In England, it was more difficult for surgeons to gain professional organization than it was elsewhere, primarily on the continent.[117] In 1540, as medieval institutions began to wane, authorities officially recognized the guild of Barber-Surgeons.[118]

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[113] Ibid, 20. Of the English learned professions, next to the clergy and law, medicine was among the earliest and most elaborately subdivided vocations. Boorstin, *The Americans*, 228.

[114] Jacob, *Scientific Culture*, 88; King, *The Medical World*, 4.

[115] Bullough, *The Development of Medicine*, 82.

[116] Boorstin argued that they did not study surgery in medieval universities for two key reasons: first, because the clergy had banned the shedding of blood and second, they considered it inferior because it was a manual rather than a theoretical skill. Boorstin, *The Americans*, 227-228.

[117] Bullough, *The Development of Medicine*, 86.

[118] Boorstin, *The Americans*, 228; Webster, *The Great Instauration*, 252.

However, this division into separate organization widened the gulf between medicine and surgery.

Apothecaries, essentially grocers who sold a specialized product, had a more difficult time obtaining status and recognition.[119] In 1617, apothecaries received their own chartered monopoly in the guild structure giving them royal privilege and exclusive rights to practice in the metropolis.[120] Authorities did not confirm the apothecary's actual status until 1704 at which point the apothecary also became a general practitioner. As a result, in the eighteenth century, apothecaries practiced medicine even though they were not physicians, raising tensions between physicians and apothecaries and further alienating the various branches of medicine.[121]

While this guild structure formed the official basis of medicine in England, Ray and Dorothy Porter argued, "this neat and tidy picture of a hierarchically organized, corporate profession – upheld by some as an ethical career ideal, denounced by others as a sinister closed shop – hardly corresponds to reality, especially beyond the boundaries of the metropolis."[122] As a result, "[o]utside London, practitioners never had existed in sufficient concentrations to make the tripartite hierarchical structure relevant or

[119] King, *The Medical World*, 5.

[120] Boorstin, *The Americans*, 228; Roy Porter, *Health for Sale: Quackery in England, 1660-1850* (Manchester: Manchester University Press, 1989), 26; Webster, *The Great Instauration* 252.

[121] King, *The Medical World*, 6, 18-25.

[122] Porter and Porter, *Patient's Progress*, 18.

workable."[123] This guild structure really meant nothing to the larger population and thus it is no surprise that New World peoples had no official medical hierarchy.

The quack doctor stood in opposition to all these movements for regulation and control.[124] Professional doctors accused the "quacks" of having no official qualification to practice – they had no university education, no apprenticeship training, and authorities had not granted them a license to practice. In reality though, many of those so-called "quacks" had some training and many even held a degree.[125] Consequently, some "quacks" claimed they had superior education for they had traveled widely in the practice of medicine; they had the hands-on training those in universities never received. Thus, accusations of poor medical practice went both ways.[126]

Licensed physicians often spoke out harshly against the quacks claiming, "A *Quack-Doctor* is one of the Epidemical Diseases of this Age, a Younger Brother to the *Pox*, and the *Scurvy*, but more destructive than either . . . ."[127] "Professional doctors" believed quacks deceived people into calling them "doctor" by successfully performing small acts of medicine. Professional doctors with their university training scorned the quack who tried to treat a disease when he did not even know what it was. Often, their

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[123] Ibid., 18.

[124] The term quack doctor comes from the sixteenth century Dutch word "quackslaver" which described one who sold fraudulent medicine.

[125] Porter, *Health for Sale,* 1, 3-4; Porter and Porter, *Patient's Progress*, 100.

[126] Porter, *Health for Sale,* 5, 7. "Georgian public opinion was, of course, like everyone else, against quackery, but it did not always see eye-to-eye with the College as to who the quacks were." Porter, *Health for Sale,* 34.

[127] *The Character of A Quack Doctor, or the Abusive Practices of Impudent Illiterate Pretenders to Physick Exposed* (London: Thomas Jones, 1676), 1.

medical treatments only served to make people sicker.[128] "[W]orse are the bad after-consequences of ill applied medicines, then diseases themselves," proclaimed Catta.[129] Good intentions, he continued, had killed more people than open murder![130] Merret questioned why, if there were laws to protect people against gypsies taking their money were there not laws against those who claim to be physicians and abscond with people's money without doing anything for them.[131] These people "make it their business to ease the blind people of the weight in their Pockets, and plunge 'em into worse Diseases."[132] Despite all the good intentions, Catta argued, medicine could do more harm than good when exploited by those shrouded in ignorance.[133]

Ultimately, the physician claimed book knowledge over the quack as, "[o]nly theoretical knowledge acquired through education and books distinguishes a physician from a quack, and allows the physician to make a name for himself against all sorts of unskilled individuals."[134] This lack of education was a point of contention leading one to claim, "he rails at *Galen* and *Hippocrates* (as some *Bigots* do against the *Pope*) without

[128] Ibid., 2, 3, 6; Merret, *The Accomplisht Physician*, 36, 39.

[129] Catta, *A True Discovery of the Empericke*, 4.

[130] Ibid., 19.

[131] Merret, *The Accomplisht Physician*, 3.

[132] Ibid., 30.

[133] Catta, *A True Discovery of the Empericke*, 7.

[134] Campbell, Hall and Klausner, eds., *Health, Disease and Healing*, 172.

knowing whether they were *Men* or *Women* . . . ."[135] A "proper" education continued to be a dividing point between the professional and the "quack" practitioner.

Conflict often manifested itself in the form of verbal attacks as doctors frequently resorted to "wounding with words."[136] Since doctors and quacks both had little legal recourse, verbal attacks designed to slay reputations was key.[137] Conflicts between doctors led to intellectual confusion.[138] When Douglass, Mather and Boylston disagreed over inoculation, this point of contention was a common occurrence among those who practiced medicine. When Douglass verbally attacked Mather and Boylston, he followed a tradition to which he was accustomed. The inoculation controversy of 1721 Boston was not unique but rather addressed the issue in the very form Douglass, a European-trained physician, knew and understood.

Nevertheless, the quack doctor flourished against the "professional" competition because the regular practitioners were incapable of meeting the larger community's needs, particularly for those living outside the major metropolis. In fact, most people across England and her colonies never saw a professional doctor and depended solely upon the services of a quack – to them this practice was natural.[139] Reality demanded these doctors as desperate times created a demand for any healers readily available.[140]

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[135] *The Character of A Quack Doctor,* 2.

[136] Porter, *Health for Sale,* 188.

[137] Ibid., 189.

[138] Shryock, *The Development of Modern Medicine*, 21.

[139] King, *The Medical World,* 53; Porter and Porter, *Patient's Progress*, 106.

[140] Porter, *Health for Sale,* 26.

In addition to the clergy and the quack doctor, mid-wives also played an active role in the medical care of medieval and early modern Europe. Until the mid-seventeenth century, for most women, childbirth was a strictly female affair attended by female midwives. It was only when the mother, child, or perhaps both were thought dying that they called in a male physician, and then only in the cities where physicians were available.[141] In London, by the seventeenth century, mid-wives received some official sanction but along with this recognition came careful supervision and regulation. In many towns outside the city center, midwives "[l]ike physicians and schoolteachers … had to be licensed by a bishop and provide evidence of good character and religious conformity."[142] In the 1670s, authorities in London attempted to create a college of midwives. While this attempt proved unsuccessful, it demonstrates the vital role of female midwives for the thought of any other female role obtaining professional status was unimaginable.[143]

Despite these attempts at regulation, midwives remained as the one group outside the control of university physicians. As long as midwives did not move into other areas

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[141] Female midwives enjoyed a more public role than other women in the community did. For example, Capp related, "[h]er testimony might be crucial in determining paternity and equally in cases of child rape, incest, infanticide, and occasionally other forms of murder." B.S. Capp, *When Gossips Meet: Women, Family, and Neighbourhood in Early Modern England* (Oxford: Oxford University Press, 2003), 303. See also Merry E. Wiesner, *Woman and Gender in Early Modern Europe*, Second Edition. (Cambridge: Cambridge University Press, 2000), 79, 81. Some midwives also became famous and prosperous though their work. Capp, *When Gossips Meet*, 300.

[142] Capp, *When Gossips Meet*, 300; Wiesner, *Woman and Gender*, 82. "The whole community had a stake in their good character, for a carless, drunken, or responsible midwives threatened the lives of mothers and children alike." Capp, *When Gossips Meet*, 301. People also held the midwives responsible for the children's physical as well as the spiritual well-being. For example, they might perform an emergency baptism if the child's life was in immediate danger. Wiesner, *Woman and Gender*, 83.

[143] Capp, *When Gossips Meet*, 300.

of medicine beyond the care of mothers at childbirth, they were not a threat to the trained physician.[144] Ultimately, midwifery had not reached the status of professionalization as training and quality of work varied widely across those who claimed to be midwives.[145]

Despite all these physicians and quacks, the most popular recourse for medical treatment was self-treatment. People usually took the managing of their health as well as the caring for sickness into their own hands. In the late seventeenth century, manuals on health and medicine circulated widely throughout society. In the long eighteenth century, literature on health and medicine accessible to laymen flooded the presses.[146] Perhaps the greatest resource to the educated layman on medical self-help was the *Gentlemen's Magazine* founded in 1731 by Edward Cave. This Magazine had both a religious and political character and sought to maintain neutrality in the midst of heated debates. One of the digest's most popular topics was medicine and in nearly every issue one could find medical reports that spoke to a range of interests including history, advice, and present medical practice.[147]

It was common to find self-help manuals in the laity's homes as mothers were often the first called to care for the medical needs of their children or to aid their neighbors in a time of crisis. Neighbors often offered each other advice on how to

[144] Bullough, *The Development of Medicine*, 101.

[145] Capp, *When Gossips Meet*, 305.

[146] Porter and Porter, *Patient's Progress*, 10, 198, 209.

[147] Porter, ed., *Patients and Practitioners*, 290-291.

prevent and cure sickness.[148] This practice is not to say that people generally mistrusted medical professionals. Rather, Porter and Porter argued, "self-medication and professional care were not generally seen as rivals, but as allies within the larger enterprise of healing."[149] Self-help, like the help of "quack doctors" and midwives was the typical way of life and acceptable mode of healing in the eighteenth century.

In London, as the Middle Ages ended, the professionalization of medicine was beginning to take root although the system was far from complete. However, in the countryside, where the majority of the population resided, the practice of medicine looked very different. In the towns and countrysides isolated from the changes happening in London, people looked not to those with the university degree or guild membership but rather to the one who could relieve them of their pain and suffering. More often than not, this person was the lay practitioner whether in the form of a quack doctor or a neighbor treating a friend. Therefore, for the majority of the population, the practice of medicine in Early Modern Europe looked much as it did in the middle ages. As a result, many colonists who settled in the New World carried with them medieval ideas of medicine rather than the institutionalized medicine beginning to form in London.

William Douglass – From Europe to America

Although in London institutions including guilds, societies, and medical schools allowed for oversight, both the countryside in England and likewise the New World

[148] Porter and Porter, *Patient's Progress*, 33-35, 42, 44.

[149] Ibid., 36.

lacked formal requirements for medical practice. In the New World, resources were limited and, historian Daniel J. Boorstin noted, "[t]his attic-full of institutions was not transported to the New World, partly because of the lack of specialists."[150] William Douglass could fight for change, but without a quorum of physicians, any change was merely a thought. Instead, medical practitioners in New England generally received their training as apprentices and lacked any kind of formal university education. As a result, the New England medical practitioner was more of a craftsman than a professional.[151] Absent licensing authority in New England, anyone who choose to practice medicine could do so. This difference also meant that in New England, they lacked the struggle over professionalization and hierarchy of practitioners as the "doctor" became a sort of "general practitioner."[152]

Yet when looking at the big picture it comes as no surprise that they did not centralize medical practice in Boston just as it failed to reach the provinces of London.[153] Time and space removed those who came to New England from the struggles over the professionalization of medicine that centered in London and on the continent. Some believed this system afforded its benefits for, Boorstin argued, "[b]y allowing crude, fluid experience to overflow the ancient walls between departments of medical knowledge, men might see relations in nature to which has been obscured by guild monopolies and

[150] Boorstin, *The Americans*, 229.

[151] Schmotter, "William Douglass," 24; Christianson, "Medicine in New England," 121. The multi-generational family of doctors was also important. Christianson, "Medicine in New England," 126.

[152] Christianson, "Medicine in New England," 119.

[153] Ibid., 135.

by the conceit of learned specialists."[154] Medical practitioners in the New World were free to experiment with and practice medicine without the control of a larger authority dictating the terms of medical practice.

While European medicine progressed toward professionalization in the seventeenth and eighteenth centuries through the development of guilds and universities, New England moved toward a more practical standard of practice allowing for experience and experimentation. In 1649, Massachusetts Bay issued its first medical law stating that no person shall administer a medical remedy "without the advice and consent of such as are skilful in the same Art, (if such may be had) or at least of some of the wisest and gravest then present."[155] In reality, any medical oversight was rare in New England. North America also did not see its first medical school until establishment of the University of Pennsylvania in 1765. As a result, they conducted medical training through the personal hands-on apprentice system.[156] In addition, the first medical college in New England, namely at Harvard, did not accept pupils before 1783. In New England, they did not require education of doctors, though many had some training.[157] Education, and more importantly, literacy, which set the London doctors apart from their peers was not a dividing point among New England practitioners.

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[154] Boorstin, *The Americans*, 235.

[155] Boorstin, *The Americans*, 229.

[156] Ibid., 233.

[157] Christianson, "Medicine in New England," 120-121.

Although New England lacked a formal medical hierarchy, most New Englanders desired to turn to some kind of trained professional for medical attention and for many this preference meant looking to their clergy who may be the only professional they knew.[158] In New England, often the clergy and not medical professionals passed on medical learning.[159] The Puritans supported these efforts for as James Schmotter noted, "[a]ccording to Mather, God presented His clerical ambassadors with a double commission in the field of medicine."[160] Mather believed that tending to the medical needs of his community was well within his realm of responsibilities. Yet, Douglass argued, while this practice may have sufficed in the colony's early years, New England had progressed so that ministers no longer needed to practice medicine, and in fact should not be meddling in these affairs.[161] However, Douglass came from the center of professionalization in Europe, a structure that had yet to reach and influence the New World. Therefore, while he had come to accept this hierarchy and division of professions, most New England's inhabitants had not.

The colonists also perpetuated the practice of female midwives in the New World. Martha Ballard, a well-known midwife in Maine, like many New World midwives, was an "empiric," and was unconcerned with the theory that played a central role in professionalization of medicine in London. Rather, her primary concern was to treat the

[158] Schmotter, "William Douglass," 25.

[159] Boorstin, *The Americans*, 231.

[160] Schmotter, "William Douglass," 25.

[161] Ibid, 33.

painful symptoms of her patient. It would be a mistake, Laurel Thatcher Ulrich argued, "to describe her as a fringe practitioner preserving ancient English remedies lost to professional medicine."[162] While midwives including Ballard primarily assisted in childbirth, they also served in other medical capacities to their communities assisting in the outbreak of scarlet fever and attending to townsfolk's other maladies. Midwives such as Martha Ballard provided nearly all the medical service a regular practitioner might offer.[163]

Although professionalization of medicine took root in London, Ulrich argued, one cannot assume the same view prevailed in Boston, even by 1820. In theory,

> [t]o allow women to continue to practice midwifery, or, by extension, any other form of independent healing, deprived male doctors of the experience they needed and at the same time perpetuated the notion that uneducated people could safely care for the sick.[164]

Yet, this shift is not what happened; professionalization of medicine did not turn New World medicine upside down. Rather, Ulrich continued, "[t]he nineteenth century did not so much destroy social medicine as unravel it."[165]

Among midwives in the New World, herbs served as an instrumental part of their treatment drawn from generations of English Experience.[166] For example, Ulrich noted,

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[162] Laurel Thatcher Ulrich, *A Midwife's Tale: The Life of Martha Ballard, Based on Her Diary, 1785-1812* (New York: Knopf: Distributed by Random House, 1990), 53.

[163] Ibid.,54. Martha Ballard was aware of humoral therapies but never practiced the most extreme of these, namely bloodletting. Ibid., 56. "[I]n twentieth-century terms, the ability to prescribe and dispense medicine made Martha a physician, while practical knowledge of gargles, bandages, poultices, and clisters, as well as a willingness to give extended care, defined her as a nurse." Ibid., 58.

[164] Ibid., 254.

[165] Ibid., 255. No one challenged the practice of midwifery until after at least 1750. Christianson, "Medicine in New England," 138.

when Martha Ballard, a midwife in Maine, "used dock root to treat 'the itch' or applied burdock leaves to an aching shoulder, she was following Culpeper's practice whether she knew it or not."[167] While many of the herbs Ballard used had English names, others were distinctly American demonstrating the adaptation of the practice to the New World.[168]

Medical practice in the New World not only lacked the institutional framework falling into place in the Old World, but European trained physicians who settled in New England were introduced to a whole new realm of flora and fauna to consider as curatives. Hence, the exchange of medical ideas went both ways shaping both the New World and the Old. For example, in the New World, the "doctrine of signatures," or idea of "like by like," suggesting each unique place had the remedies for the diseases natural to the place served as the foundation to medical study and practice.[169] Colonists expected the plants of the New World to provide the remedies for the diseases unique to their settlement.[170] Ultimately, New World medicine had a great impact on the Old world for, as Stearns related, "[t]hese New World medicines not only greatly enlarge the Europeans' knowledge of cures but also free them from dependence upon the medicines of the Levant and the Far East."[171]

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[166] Ulrich, *A Midwife's Tale*, 50, 52.

[167] Ibid., 50.

[168] Ibid., 52.

[169] Boorstin, *The Americans*, 209, 211. "Briefly, the idea was that medicinal herbs are stamped by nature with a clear indication of their curative powers. This belief was prevalent among primitive peoples." Stearns, *Science in the British Colonies of America,* 14.

[170] Stearns, *Science in the British Colonies of America*, 5.

[171] Ibid., 31.

When Cotton Mather and Zabdiel Boylston first introduced inoculation to Boston in 1721 William Douglass, a European trained physician led the anti-inoculation calls against them. While Mather and Boylston saw inoculation through the eyes of New World medicine, anti-inoculators continued to hold that any practitioner of medicine must have the proper training before attempting medical treatments.[172] Douglass had a personal agenda and led the charge in the inoculation debate to bring professionalization of medicine to Boston.[173] As James Schmotter argued,

> Douglass's writings reflected his belief in the efficacy of a self-regulating European medical profession, and other practitioners soon followed his example. Their writings began as attacks on Boylston and inoculation, but ended as arguments for the redefinition of standards and qualifications for medical practice in New England.[174]

The argument was not so much about whether or not inoculation worked but about a redefining of the field of medicine and searching for the apprentice trained doctors' place in this new structure.

[172] Schmotter, "William Douglass," 23.

[173] Ibid., 26.

[174] Ibid, 27.

Chapter 2: "[A] Pretty Intelligent Fellow": Religion and Medicine in the African Atlantic

In the autumn of 1706 Cotton Mather, a prominent Boston minister and amateur scientist, recorded in his diary, "[t]his Day, a surprising Thing befell me. Some Gentlemen of our Church . . . purchased for me, a very likely *Slave;* a young Man, who is a *Negro* of a promising Aspect and Temper . . . I putt upon him the Name of *Onesimus* . . . ."[1] Because the dreaded malady of smallpox had become so closely intertwined with the slave trade, Mather was concerned that Onesimus would bring the disease into his household. Thus, as was common among Boston slaveholders, Cotton Mather enquired, "of my Negro-man *Onesimus*, who was a pretty Intelligent Fellow, Whether he ever had ye *Small-Pox* . . . ." Nothing, however, could have prepared Mather for what he was about to hear as Onesimus

> answered, both, *Yes*, and *No*; and then told me, that he had undergone an Operation, which had given him something of ye *Small-Pox* & would forever praeserve him from it; adding that it was often used among the Guramantee & whoever had the Courage to use it, was forever free from the fear of Contagion…

Intrigued, Mather listened intently as "[h]e described the operation to me, and showed me in his Arm the Scar . . . ."[2] There in the arm of Onesimus was a reminder of a world very

[1] Cotton Mather, *The Diary of Cotton Mather, 1681-1708,* Massachusetts Historical Society Collections vol. 7 (Boston: Published by the Society, 1911), 578-580.

[2] Cotton Mather, "Letter of July 12, 1716, to Dr. John Woodward," *New England Historical and Genealogical Society*, Mss A 5623. Slaveholders often viewed Muslim slaves as "more intelligent" because of their Arabic learning so that Mather deemed Onesimus a "intelligent fellow" could suggest his

different from Boston, where medicine could offer protection against the dreaded scourge of smallpox; while Onesimus reflected on his past Mather thought toward the future and the lives that the procedure of inoculation could save.

Although Mather had tried to manipulate this enslaved person by changing his name to Onesimus, this Atlantic African gives us a glimpse into his past when he speaks of the "Guramantee" whom he at least knew and likely lived among in Africa.[3] In recent years, modern day scholars including Jennifer Morgan have compiled ancient travel accounts and identified the Garamante people as a nation of Inner Africa, broadly speaking incorporating all the Libyan peoples on the eastern part of the Great Desert.[4] More specifically, "Garamante" refers to the people of the Phazania (now called the Fezzan) region which lies south of the Great Syrtis in the Sahara desert surrounded by the

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Islamic background. See Sylviane Diouf, *Servants of Allah: African Muslims Enslaved in the Americas* (New York: New York University Press, 1998), 39, 97, 99; Michael Gomez, *Black Crescent: The Experience and Legacy of African Muslims in the Americas* (Cambridge: New York: Cambridge University Press, 2005), 173.

[3] While we do not know much about the Guramante peoples, ancient scholars such as Herodotus of the fifth century BC called the Garamantes a great nation ten days' journey from the Augelae into the interior of Africa. In the first century, Pliny also offered a description of the location of the Garamantes speaking of the difficulty of keeping an open road for travel because of predatory bands. A century later, Ptolemy placed the Garamantes close to the center of Africa. James Rennell, *The Geographical System of Herodotus Examined and Explained, by a Comparison with those of Other Ancient Authors, and with Modern Geography*, vol. 2 (London: C.J.G. & F. Rivington, 1985), 274; Sir William Smith, ed. *A Dictionary of Greek and Roman Geography*, vol 1 (London: John Murray, Albemarle Street, 1873), 975.

[4] This region extended south and east to the lake Nuba and the river Gir and to the Garamantica Pharanz Mountains. The Garamantes, as Libyan peoples, were of the old race called Anazergh. Smith, ed. *A Dictionary of Greek and Roman Geography*, 974. Modern scholars debate who the Guramantee in this quote actually were. Sheldon Watts believed that Onesimus was from present day Burkina Faso of West Africa. Elizabeth Fenn argued that "Guramantee" actually referred to "Coromantee" from the Gold Coast. Donald Hopkins believed that Onesimus belonged to the Gumanche of the eastern Upper Volta rather than from the Garamantes of Fezzan in southern Libya as is most often argued and which I believe is correct. Elizabeth A. Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775–82* (New York: Hill and Wang, 2001), 32; Donald R. Hopkins, *The Greatest Killer: Smallpox in History* (University of Chicago Press, 2002), 174. Sheldon Watts, *Disease and Medicine in World History (*New York: Routledge, 2003), 113.

Black and White Haruj Mountains.[5] This strategic location allowed the Garamante peoples to play a major role in the inland trade between Egypt, Cyrenaica, the Tripolis, and Carthage and the interior of Africa making them inhabitants of the "African Atlantic."[6]

Living in the "African Atlantic," which was strategically located at the center of trade, Onesimus had learned of the larger world around him from Iberian Catholics, North African and Arab Muslims, and local influences in Atlantic West and Central Africa. Until the fifteenth century, slavers transported Africans via the early trans-

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[5] Smith, ed. *A Dictionary of Greek and Roman Geography*, 974-975. Aside from location and participation in trade, scholars know very little of these Garamante peoples. One thing several travelers' accounts do mention is the promiscuity of Garamante women. For example, Pliny described them as an Ethiopian race who did not practice marriage. See John Block Friedman, *The Monstrous Races in Medieval Art and Thought* (Cambridge, Mass: Harvard University Press, 1981), 15; "The Second voyage [of Master John Lock] to Guinea . . . 1554," in Richard Hakluyt, *The Principle Navigations, Voiages, Traffiques, and Discoueries of the England Nation,* in 12 Volumes, Volume VI, (London, 1598-1600), 168. In the third century, Solinus described the Garamantes as follows:

> The Ethiopian Garamantes have no knowledge of marriage: it is the custom of the country to have the women in common. Hence only the mothers recognize their sons; the honorable title of father cannot be applied to anyone. Who could, in effect, distinguish a father in the midst of such moral license? So the Ethiopian Garamantes are rightly regarded as a degenerate people since, as a consequence of that promiscuite, the family name is sadly lost.

Quoted in Gustav Jahoda, *Images of Savages: Ancients Roots of Modern Prejudice in Western Culture* (London/New York: Routledge, 1999), 30-31. In "the second voyage [of Master john Lok] to Guinea …1554" in his travelers accounts, Richard Hakluyt speaks of "other people of Libya called Garamantes, whose women are common: for they contract no matrimonie, neither have respect to chastity." "The Second voyage [of Master John Lock] to Guinea . . . 1554," 168.

[6] The idea of an "African Atlantic" is an interpretative framework developed by Jason Young in *Rituals of Resistance* to describe relationships both past and present between Europe, Africa and the Americas. This idea of an "African Atlantic" adds a new dimension to studies including Paul Gilroy's "Black Atlantic" and Ira Berlin's "Atlantic Creole." According to Young, "[t]he term 'African Atlantic' is used here to denote a certain set of composite relationships that developed around the Atlantic rim during the era of the transatlantic slave trade and New World slavery." Jason Young, *Rituals of Resistance: African Atlantic Religion in the Kongo and the Lowcountry South in the Era of Slavery* (Baton Rouge: Louisiana State University Press, 2007), 16 The "African Atlantic" then examines the complex movement of peoples and ideas on both sides of the Atlantic through various transnational lenses that examine politics, language, religion, economics, networks of communication and culture. Young, *Rituals of Resistance,* 15-18. See also Gomez, *Black Crescent*, 5.

Saharan trade from Africa into the Iberian and Mediterranean world. Then, with the rise of the trans-Atlantic slave trade, merchants carried Atlantic Africans into an even larger world, as they forcibly removed enslaved Africans to the Americas.[7] In addition to this movement of peoples, living in a region influenced by Islam meant that Onesimus would have at least had contact with this religion that promoted literacy, science, and the study of medicine. Islam also played a major role in shaping the day-to-day lives of many Atlantic Africans, providing them with common ground in a world of differences.

Medicine in Africa

The interconnected communities of Atlantic Africa meant that the vast waterways that carried the benefits of knowledge and goods also spread deadly diseases. This movement of peoples exposed Atlantic Africans to various illnesses, which overtime became endemic across the region. For a traveler lacking immunity to numerous diseases, a trip across Atlantic Africa, or to other regions of the world, could prove deadly. However, as diseases spread, so too did methods of treatment and eventually acquired immunity. This adaptation allowed merchants to continue their trade and travelers to explore new lands both near and far.[8]

In time, Atlantic Africans developed successful means to treat illness which were employed at the local level usually by an experienced elder or local healer. For example, travelers' accounts speak to the success of medicine in Atlantic Africa noting,

[7] Gomez, *Black Crescent*, 7.

[8] John Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800* (Cambridge: Cambridge University Press, 1992/1998), 14-15.

> [o]ther illnesses, such as smallpox, the French pox [syphilis], [swollen] glands, headache and hot fever are also found in their country, but since they heal themselves and need no special people, I could learn nothing from my barber, whom the Dutch were otherwise accustomed to use.[9]

The spread of disease across Atlantic Africa went hand in hand with developing medical techniques used to combat both epidemic illnesses and day-to-day maladies.

Upon sustained contact with Atlantic Africans, European travelers discovered that Africans already had access to a variety of medicines, some developed in Africa and others acquired through trade with the Europeans. For example, Johann Peter Oettinger on his 1692 voyage to Guinea noted, "[o]n the 18th I wanted to go ashore to sell medicament […] but found little demand for them."[10] However, he was surprised (and also disappointed) that Africans already had the knowledge and medicines needed to treat their own. Oettinger later recorded the reason:

> [t]he attempt to dispose of my medicaments failed altogether; for they led me to a room in which lay piled up large quantities of medicaments, which had been supplied from Hamburg, Amsterdam, Emden and other places and were accompanied by instructions for their use.[11]

Nearly a century later, as medicine took center stage in Europe, a late eighteenth-century European traveler named Thomas Winterbottom remarked, "[r]especting the practice of medicine in Africa, there is reason to imagine that it is not at present in a progressive state of improvement, but that it remains nearly as it was some centuries

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[9] Adam Jones, ed., *German Sources for West African History, 1599-1669* (Wiesbaden: Steiner, 1983), 122.

[10] Jones, ed., *Brandenburg Sources for West African History 1680-1700,* 198. Time and space influenced Africans understanding of medicine. Pieter de Marees, *Description and Historical Account of the Gold Kingdom of Guineas* (*1602)* translated from Dutch and edited by Albert van Dantzig and Adam Jones (Oxford: Oxford University Press, 1987), 173.

[11] Jones, ed., *Brandenburg Sources for West African History 1680-1700,* 198.

ago."[12] While Europeans were willing to acknowledge the presence of African medicine, they criticized its lack of advancement, thus elevating their own developing medical institution and supporting the merits for professionalization of medicine. The European tendency to look with scorn upon the medicine of Africa hindered their ability to accept life-saving treatments coming from there, including the practice of inoculation which offered protection against a disease that both stumped and horrified Europeans.

Although many diseases spread across much of Atlantic Africa, explanations for such illnesses varied greatly both between and within different regions. In seeking to understand illness, some looked to religious agents as causative factors while others blamed independent forces.[13] For example, some early Western Bantu speakers held to an ancestral ideal for their explanation of illness and utilized charms which had varied meanings including "ritual expert," "medicine man," or "tree."[14] Another component to this ancestral ideal was the concept of bewitching or witchcraft. For some of these Bantu-speaking peoples, witches represented evil as the work of humans and as a result, they looked first to witches when one died.[15] For those who linked illness to witchcraft, the term diviners meaning, "to cure," or "to divine" was the key factor in detecting

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[12] Thomas Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, Second Edition, vol. 2 (London: Frank Cass & Co. Ltd. 1969), 9.

[13] Richard B. Sheridan, *Doctors and Slaves: A Medical and Demographic History of Slavery in the British West Indies, 1680-1834* (Cambridge: Cambridge University Press, 1985), 73.

[14] Jan Vansina, *Paths in the Rainforests: Toward a History of Political Tradition in Equatorial Africa* (Madison: The University of Wisconsin Press, 1990), 96.

[15]Ibid., 96.

witches and thus the first action in recovery.[16] Medicine, within the western Bantu world held to this ancestral idea that appealed to the supernatural, Jan Vansina explained, because "illness was the quintessential manifestation of abnormality, and abnormality always resulted from the neglect of spirits of attacks by witches."[17] Just as the early Bantu peoples varied in their understanding of illness, so too, when an epidemic struck, they often sought different ways to deal with the crisis so that the worldview which underlay their beliefs on illness and healing was constantly changing.[18]

Like the early Western Bantu speakers, in Sierra Leone, we see a combination of forces attributed to illness. For example, in his late eighteenth century *Account of the Native Africans in the Neigbourhood of Sierra Leone*, Thomas Winterbottom reflected, "[a]lthough they imagine that every disease attended with danger is occasioned by witchcraft or poison, yet they readily admit that sickness may occur independently of these causes."[19] In support of this idea that poison causes illness, some argue that one must wash out the stomach with medicine from time to time in order to prevent the onset of illness from poison. Others in Sierra Leone who lived on the coast believed that the tide had an impact on illness, and they argued that one could only die at high or low tide as Winterbottom related, "Piso says, during the six hours of the increase of the tide,

[16] Ibid., 97.

[17] Ibid., 98.

[18] Ibid., 98.

[19] Winterbottom, *An Account of the Native Africans*, vol. 2, 10.

diseases are exacerbated and pains are greatly increased; but they gradually abate during the reflux."[20]

Other Atlantic Africans had different explanations for specific illnesses which plagued their society. For example, according to eighteenth century Dahomeyan religion, many believed that the origins of smallpox had a divine etiology: the gods sent it as punishment. Consequently, they believed that attempting to prevent the disease was futile for the gods would simply find another way to punish the people.[21] Because the Fon-speaking peoples of the kingdom of Dahomey saw medicine and religion as closely intertwined, moral behavior and social conduct played a key role in both the health and disease not only of individuals, but also of communities. The behavior of one's brother or neighbor was of concern for the offended spirit could strike serious illness against the offender or, more terrifying yet, against the whole community.[22]

Just as peoples across Atlantic Africa had various explanations for the origins of disease, they also derived their healing practices from different aspects of society.[23] Some practiced certain rituals including the wearing of ritual objects to protect against the arrival of disease. For example, in Guinea, Jean Barbot noted in 1732 that, "[w]omen

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[20] Ibid., 11.

[21] Eugenia W. Herbert, "Smallpox Inoculation in Africa," *The Journal of African History*, 16, no. 4 (1975), 547; Melville J. Herskovits, *Dahomey: An Ancient West African Kingdom*, vol 2 (Evanston Ill, 1967), 135-137.

[22] Kofi Appiah-Kubi, *Man Cures, God Heals: Religion and Medical Practice Among the Akans of Ghana* (New York: Friendship Press, 1981), 2, 14, 131; M. Gelfand, *Medicine and Custom in Africa* (Edinburgh, 1964), 14; George Way Harley, *Native African Medicine: With Special Reference to its Practice in the Mano Tribe of Liberia* (London: Frank Cass & Co. Ltd., 1970), 20.

[23] Appiah-Kubi, *Man Cures*, 2.

possess [ritual objects] in order to have a successful delivery; some of them heal headaches, others fever, others the pox . . . ."[24] Among Wolof-speakers of Senegambia, despite the influence of Islam, John Mbiti related, the people there still held amulets "round the waist, neck, arms, legs, both for protection against all sorts of possible evils, and to help them achieve certain desires."[25] Such religious icons were an important part of everyday life for many Atlantic Africans.

Travelers' accounts also present some of the other Atlantic African treatments of diseases. For example, describing the Gold Coast in the early seventeenth century, Michael Hemmersam reported,

> For headache and catarrh, instead of a cupping-pipe [i.e. scarificator] they take a piece of steel, which they sharpen and with which they cut the person's forehead, cheeks or arm. Instead of a cupping glass they take a coconut, place it on [the cut] and drew out the blood through it. The shell of such a nut is the size of an apple. They have not understanding of blood-letting. For stomach-ache I have seen them use ground-up herbs mixed with earth and made wet. . . .[26]

These peoples had very specific ways they addressed various elements. However, although they clearly practiced a means of bloodletting, Hemmersam did not believe they properly understood the procedure.

Wilhelm Müller's late seventeenth-century description of the citizens of Fetu also spoke of the use of the bloodletting which likely derived from European influences as by the late seventeenth century the Gold Coast polities including the citizens of Fetu had

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[24] P.E.H. Hair, Adam Jones and Robin Law, eds., *Barbot on Guinea: The Writings of Jean Barbot on West Africa 1678-1712* (London: The Hakluyt Society, 1992), 578.

[25] John S. Mbiti, *African Religions and Philosophy* (London: Heinemann, Educational Books Ltd., 1969), 245.

[26] Jones, ed., *German Sources for West African History*, 122.

been in constant contact with European traders.[27] Here, Müller noted, "[t]he best cure for this land illness, besides God's help, is purging and blood-letting. It is also important that the patient keep warm and drink as little cold water as possible."[28] Although African practices of medicine had proved sufficient, European traveler accounts suggest that they were still convinced their own methods were superior. As an Atlantic African, communication and contact both across Africa and with the Mediterranean World would have exposed Onesimus to various medical practices. Onesimus, and other Atlantic Africans, would carry this rich medical history with them to the New World.

Smallpox and Inoculation in Africa

One of the most dreaded illnesses in Atlantic Africa was smallpox, and evidence of that disease encompassed the day-to-day lives of Africans as an ever-present reality of its horrors. Among the Fon-speaking peoples of the kingdom of Dahomey, statutes representing smallpox served a practical purpose. For example,

> To make one of these *gbo,* a cactus of the type called *selu* which is sacred to Sagbatá is cut with a newly made knife, and allowed to remain in the temple of the Earth gods for three days. On the third day it is placed on the grave of a man or woman who has died of smallpox, where it rests for three days more before it is removed. In the meantime, its owner must have caught sixteen bees. These bees are rolled in black and white cotton with the piece of cactus and suspended from a tree for a day. The charm is next entrusted to an impotent man, who keeps it on

[27] Sustained contact between Europeans and the peoples of Fetu began in the fifteenth century when the Portuguese came looking for Gold and tapped into existing trade networks in the region. See Bayo Holsey, *Routes of Remembrance: Refashioning the Slave Trade in Ghana* (Chicago: University of Chicago Press, 2008), 28-29. The growing trade and contact between Europe and the citizens of Fetu allowed some leaders to become powerful using allegiances with European nations to increase both profit and power. See Eric R. Wolf, *Europe and the People without History* (Berkeley: University of California Press, 1982), 208-209.

[28] Jones, ed., *German Sources for West African History*, 150.

> his sleeping mat overnight. On the eighth day, it is given to a black man to take to the owners' field, where it is finally put in place, If the *gbo* is to be sold to another, the following right must be carries out when the transfer is made. *Ataku* pepper, millet flour, and palm-oil are first given to the *gbo.* Then three grains of *ataku* are taken in the hand of the buyer, who places them on the *gbo,* after which the ownership and control of it passes into his hands. It is believed that if someone steals the crops of a field protected by this *gbo,* he will contract smallpox in seven days, and if he does not confess what he has done, will die after seven more days.[29]

This object protected one's field using "good magic" which could also be "countered."[30]

One can also see the connection between smallpox and religious practices in the Dahomey warrior who wore a costume and a mask with Fon stylistic attributes demonstrating the suffering from smallpox. This mask was a direct reference to one of the most powerful Fon gods – Sagbata, the god of smallpox.[31] Sagbata's priests fought smallpox with prayers and medical knowledge, the most important of which was inoculation that afforded them great power over the people. Another image depicting smallpox with spots about it was a Gen sculpture. That Sagbata was one of the most powerful and feared gods speaks to the impact of both smallpox and inoculation in West Africa.[32]

Many Atlantic Africans had adopted this practice of inoculation to counter smallpox. It is unclear exactly where inoculation originated and as a result, travelers and scholars have long debated the history of inoculation in Africa. By the nineteenth

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[29] Suzanne Blier, *African Vodun: Art, Psychology, and Power* (Chicago: University of Chicago Press, 1995), 75. See also Herskovits, *Dahomey*, 286-287.

[30] Herskovits, *Dahomey*, 286-287.

[31] In Africa Sagbata was the god of smallpox but in the era of the slave trade Sagbata became a part of Vodun.

[32] Blier, *African Vodun*, 6, 303.

century, inoculation was clearly widespread throughout Africa but the question remains when and where did inoculation start.[33] In her article, "Smallpox Inoculation in Africa," Eugenia Herbert attempted to answer this question. Although there is still much to learn, Herbert found evidence for the practice of inoculation in the Gold Coast, Central Sudan, and northern Nigeria. Other regions, she argued, such as Sierra Leone, the lower guinea coast, the Nigeria river delta and West Central Africa did not seem to know of inoculation in the pre-colonial period.[34]

Travelers' accounts give further insight into the presence of inoculation in African. For example, when recounting a visit to Nigeria, Harley referenced inoculation stating, "[s]ome of the practitioners in the north vaccinate [for smallpox] as a prophylactic measure, a practice introduced by the Mandingos."[35] In 1771, Mungo Park related,

> The only disease which I observed to prevail among the Moors [interior of Africa], were the intermittent fever and dysentery, for the cure of which nostrums are sometimes administered by their old women; but, in general, nature is left to her own operations. Mention was made to me of the small-pox as being sometimes very destructive; but it had not, to my knowledge, made its appearance in Ludamar while I was in captivity. That it prevails, however, among some tribes of the Moors, and that it is frequently conveyed by them to the Negroes in the southern states, I was assured on the authority of Dr. Laidley, who also informed me that the Negroes on the Gambia practice inoculation.[36]

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[33] See Harley, *Native African Medicine,* 217.

[34] Herbert, "Smallpox Inoculation in Africa," 543-545, also see the chart on page 556; Winterbottom, *An Account of the Native Africans,* vol. 2, 135.

[35] Harley, *Native African Medicine,* 45.

[36] Ronald Miller, ed. *Travels of Mungo Park* (London: J.M Dent & Sons, 1907), 118.

It is probable that the practice of inoculation did not appear in Ludamar because inoculation had slowed its spread in the region. In order for this change to happen, they needed to implement inoculation for a number of generations prior to his visit. Writing of Guinea in 1785, Winsnes related,

> The pox is also rampant here, but in contrast to the Guinea worm, it has been introduced. One seldom hears of anyone dying from it. During my stay here I have not seen any natural pox, and I am inclined to believe that it has been totally wiped out in Akra, since variolation [or inoculation] is as common as circumcision.[37]

Again, to wipe out smallpox they needed to practice inoculation for some time before his stay at the end of the century. Writing of Sierra Leone a few years later, Winterbottom noted,

> They are acquainted with inoculation in the *interior parts* of the country; but the Moors do not inoculate, "except those who live on the mountains, the Brebes and the Shellu of the south (or aborigines) – hence it may be concluded that the small-pox was known in Africa before the invasion of the Arabs, and that the move of communicating it by insertion must have been more ancient in these countries than Mahometanism; because, however powerful the ascendant of religion may be, it is very slow in rooting out the prejudices and customs of nations."[38]

This account gives the most straightforward evidence that inoculation in fact was an ancient and widespread practice in parts of Africa, arguing that it was present in Africa before the arrival of the Muslims in the seventh century. In 1815 Thomas Bowdich who traveled through the Gold Coast noted the practice of variolation utilized among the Gold

[37] Ludewig Ferdinand Rømer, *A Reliable Account of the Coast of Guinea (1760)*, ed. and trans. from Danish by Selena Axelrod Winsnes (Oxford: Oxford University Press, 2000), 145.

[38] Winterbottom, *An Account of the Native Africans*, vol. 2, 135.

Coast peoples, a practice likely in place for centuries before.[39] These travelers all note the presence of inoculation across Africa at the end of the eighteenth century. Yet the rich history of inoculation contained in these sources suggests inoculation was there long before these travelers arrived in Africa.

Confirmation from the New World adds to this evidence and demonstrates the movement of African medicine across the Atlantic. For example, after Onesimus described inoculation to Cotton Mather a number of other Atlantic Africans in the New World presented a similar story arguing that inoculation was widespread across Africa and that they had practiced it for some time.[40] For example, in his *Angel of Bethesda*, Mather wrote,

> There has been a *Wonderful Practice* lately used in Several Parts of the World, which indeed is not yett become common in our Nation. I was first instructed in it, by a *Guramantee*-Servant of my own, long before I knew, that any *Europeans* or *Asiaticks* had the least Acquaintance with it; and some years before I was enriched with the Communications of the learned Foreigners, whose Accounts I found agree with what I received of my Servants, when he shewed me the Scar of the Wound made for the Operation; and said, That no Person ever died of the *Small-pox* in their Countrey that had the Courage to use it.[41]

When Onesimus first told Cotton Mather of this medical technique, he was but one voice; yet Mather's further exploration into this practice of inoculation among Africans in town corroborated Onesimus's story. Their clear and simple explanation of the procedure,

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[39] Oliver Ransford, *"Bid the Sickness Cease:" Disease in the History of Black Africa* (London: John Murray, 1983), 206.

[40] Herbert, "Smallpox Inoculation in Africa," 541-543, 552.

[41] *Angel of Bethesda* (ms. M.A.S.), Chapter xx p 134 quoted in George L Kittredge, "Some Lost Works of Cotton Mather," *Proceedings of the Massachusetts Historical Society* 45 (1912), 431-432.

Mather believed, demonstrated the truthfulness of their story; these Atlantic Africans were trying to help, not harm the American colonists. Mather continued,

> I have since mett with a considerable Number of these *Africans,* who all agree in One Story; That in their Country *grandy-many* dy of the *Small-Pox:* But now they learn This Way: People take Juice of *Small Pox;* and *Cutty-skin*, and Putt in a Drop; then by'nd by a little *Sicky, Sicky*: then very few little things like *Small-Pox;* and no body dy of it; and no body have *Small-Pox* any more. Thus in Africa, where the Poor Creatures dy of the *Small-Pox* like Rotten Sheep, a Merciful GOD has Taught them an *Infallible Praeservative.* Tis a common Practice, and is attended with a *Constant Success.*[42]

All of these Atlantic Africans both knew of the procedure of inoculation and were fully convinced of the safety and effectiveness of the method.

Cadwallader Colden also confirmed the findings of Mather that inoculation was wide-spread in ancient African. In a letter dated 1 October 1752 he recorded,

> [i]t has been commonly believed, that inoculation of the small pox was an invention of the Circassians. . . . But from what follows, it seems probable, that the practice is much older, and that is came from African originally, with the distemper itself. I have lately learned from my negroes, that it is a common practice in their country , so that seldom any old people have the disease[43]

Although inoculation may not have reached all parts of Africa, evidence suggests it was an ancient and fairly widespread practice there.

The actual means for implementing inoculation in Africa varied slightly by region. For example in Liberia, they used a thorn to do the inoculation.[44] In other

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[42] Ibid., 431.

[43] Quoted in George L Kittredge, "Some Lost Works of Cotton Mather," *Proceedings of the Massachusetts Historical Society* 45 (1912), 58.

[44] Harley, *Native African Medicine,* 225.

regions, "the pustules were smeared with palm oil and isolation practiced."[45] Ransford argued that in old Africa "[t]he pus was usually scratched into the skin, this resulted in what was generally a mild attack of smallpox, and thus conferred life-long immunity to the disease."[46] In 1717 Boyer, under the direction of François Chicoyneau at Montpellier composed a thesis entitled "An variolae sint morbus affinis febribus acutis, aut malignis phlegmonodies, et an eâdem method curare possint" which described inoculation as follows:

> Some of these pustules are then pierced with a needle at about the twelfth or thirteenth day of the disease, that is to say, at a time when one is sure, according to ordinary observation, that the purulent matter has attained full maturity. The puss flowing from the pierced pustules should be collected in suitable receivers and heated. Then after some incisions are made in the plump skin of the arm or leg of the subject to whom the disease is to be transmitted, the pus is mixed with the blood coming from the incision and then they (the incisions) are covered with the half shell of a walnut firmly held in place by a bandage. . . . On the seventh day following the inoculation, the pustules of smallpox happily develop in a discrete and satisfactory way. They soon reach maturity when they dry up and fall off without leaving cicatrices excepting at the incisions. It is also affirmed that those in whom the pustules only develop at the site of the inoculation remain free from smallpox for the remainder of their lives, although they may be in contact with smallpox cases.[47]

While the actual method of inoculation varied, the underlying idea was the same: to insert the disease of a sick person into the arm of one who is healthy with the intention of procuring a milder form of the disease and thus acquiring immunity.

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[45] Ransford, *"Bid the Sickness Cease,"* 33.

[46] Ibid., 206.

[47] Charles G. Cumston, "Historical Notes on Smallpox and Inoculation," *Annals of Medical History,* VI (1924), 469.

Cross-cultural communication allowed for both Africans and Europeans to shape medical traditions throughout the Atlantic World as cultural exchange via trade routes went both ways. The Europeans, however, were critical of African medicine as they attempted to justify their enslavement of these "barbarian" peoples. Yet their similarities were far more pronounced than their differences as Oliver Ransford related, "only a few centuries ago witches were burnt at the stake in Europe . . . Church bells were rung in Britain during epidemics, not for religious reasons, but to disperse the polluted air."[48] One key point of difference, Michael Gelfand remarked, was that while "the Western doctor confined himself to his medical work, the African medicine man was more concerned with the ordinary person living a typical life and how to treat him with what was available."[49] The hierarchy of European medicine in many ways stood as a barrier to practical everyday medicine.

Islam in Africa

Across much of Atlantic Africa, Islam played a key role in shaping the world of medicine. In the early seventh century, the Prophet Muhammad received a series of revelations from Allah that became the foundation of Islam.[50] By the mid-seventh century, Islam took root in North Africa as Arab merchants and travelers and Muslim armies brought it into the region. By the eighth century, the religion had spread across

[48] Ransford, *"Bid the Sickness Cease,"* 30.

[49] Gelfand, *Medicine and Custom in Africa,* 51.

[50] John S. Mbiti, *Introduction to African Religion* (London: Heinemann, Educational Books Ltd., 1975), 184.

much of Northern Africa carried primarily by merchants engaging in extensive trade networks. From there Arab merchants looking for gold and slaves carried Islam with them to West Africa. However, their interests were primarily financial rather than propagating the religion. In time, sustained contact and eventually military forces allowed Islam to spread across the Sahara. By the eleventh century Takrur in northern Senegal and Kosoy from Gao (modern day Mali) became the first two Muslim states in West Africa. With the spread of Islam into Northern and Western Africa, Muslim peoples began to settle in Africa and intermarry with local women. This allowed Islam to grow and expand. Consequently, Africans themselves became the propagators of Islam, carrying it across much of Atlantic Africa.[51]

Although Islam had penetrated West Africa, it was not the religion of the majority in its early years of spread. Until about the sixteenth century, Islam was primarily a religion of traders and rulers. As a result, Michael Gomez argued, it "became a vehicle by which alliances between commercial and political elites were forged."[52] Consequently, while some took their religion seriously, others were only casual believers. Although many West Africans did not convert in the early years of Islam, Muslim clerics

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[51] Diouf, *Servants of Allah*, 4, 37; Michael A. Gomez, *Exchanging our Country Marks: The Transformation of African Identities in the Colonial and Antebellum South* (Chapel Hill: The University of North Carolina Press, 1998), 61; Mbiti, *African Religions and Philosophy*, 242-3; Geoffrey Parrinder, *Religion in Africa* (New York: Praeger Publishers, 1969), 10.; Lorena S. Walsh, *From Calabar to Carter's Grove: The History of a Virginia Slave Community* (Charlottesville: The University Press of Virginia, 1977), 61; Gayraud S. Wilmore, *Black Religion and Black Radicalism: An Interpretation of the Religious History of African Americans*, 3rd ed. (MaryKnoll: Orbis Books, 1998), 13. Even before the arrival of Islam in Africa, Africans had contact with Arabians. Sulayman S. Nyang, *Islam, Christianity, and African Identity* (Brattleboro: Amana Books, 1984), 28-33.

[52] Gomez, *Black Crescent*, 10-12; 179. Many enslaved Muslims were from prominent backgrounds in West Africa. See also Diouf, *Servants of Allah*, 5.

had day-to-day contact with the larger Atlantic African population so they were at least familiar with the Islamic schools, dress, dietary laws, and daily rituals exhibited by these clerics. For example, in West Africa Muslims and non-Muslims alike could be fund carrying ritual objects containing Quranic inscriptions.[53]

By the early sixteenth century when the Trans-Atlantic Slave Trade was established, Islam became more dominant in West Africa. Later, *jihads* of the eighteenth and nineteenth centuries combined with resistance against colonialism increased conversion rates in West Africa and allowed Islam to dominate the region. As a result, by the time slavers took the first Africans to the New World in the sixteenth century Muslims had firmly established Islam in West Africa which influenced many who made the journey to the Americas.[54]

Regardless of their social position and sincerity of conversion, African Muslims were part of a larger Islamic world that had followers across much of Atlantic Africa as well as the Iberian, Mediterranean and even parts of the Asian worlds. As such, West African Muslims had a means of contact and communication with a wide variety of communities as there was a constant exchange of peoples, ideas goods, and perspectives across Africa and the Maghreb.[55] Diouf even argued that "the Muslims were the catalysts of change and modernization in West Africa."[56]

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[53] Gomez, *Black Crescent*, 10-12; 179.

[54] Diouf, *Servants of Allah*, 4. Ibid., 9-12, 179-180; Gomez, *Exchanging our Country Marks*, 61, 67. Some regions, such as Senegambia saw a more dominant influence of Islam as early as the eleventh century.

[55] Diouf, *Servants of Allah*, 5-6; Gomez, *Black Crescent*, 167. Gomez, *Exchanging our Country Marks*, 62.

[56] Diouf, *Servants of Allah*, 6.

Seeing the opportunity for economic profit, scholars, merchants, architects, philosophers and artisans arrived from the East and settled in the Maghrib. Continued trade between the Maghrib and sub-Saharan peoples spread Islam throughout the region.[57] One key component to Islam is a strong commitment to education as the ability to read the Quran was central to their day-to-day lives. As a result, many Muslims (as well as some non-Muslims) in Africa learned to speak, read and write in Arabic. Scholars taught children of all classes, both male and female, Muslim and non-Muslim how to read and write. Literacy as introduced by the Muslim world also allowed for the transformation of oral African languages into written languages in an effort to support intellectual conservation.[58]

One of the most important aspects of education among Muslim scholars was the study and pursuit of science and medicine. Therefore, across much of Atlantic Africa, Islam played a key role in shaping the world of medicine.[59] Although the Quran says

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[57] Nyang, *Islam, Christianity, and African Identity*, 30-31.

[58] Diouf, *Servants of Allah*, 7-8, 107; Gomez, *Black Crescent*, 179; Gomez, *Exchanging our Country Marks*, 85; Mbiti, *African Religions and Philosophy*, 245; Ibid., 50-51.

[59] The classical Islamic definition of "medicine" was different from Western ideas of "medicine" today. Feierman and Jazen defined classical Islamic medicine as,

> the composite body of knowledge of Islamdom [including medicine, psychology, divination, etc.] that came down to us in extant works that deal with the ever-lasting physical and mental problems of human existence, not only with regard to the more immediate problem of maintaining health and combating disease in human and beast, but also the problem guaranteeing success, and avoiding failure of misfortune in love, business, travel, marriage, education, war or politics as well as in all other situation in life in which humans face anxiety or uncertainty and for whose resolution or containment their unaided means and endeavors are considered inadequate or inappropriate.

Steven Feierman and John Janzen, eds. *The Social Basis of Health & Healing in Africa* (University of California Press, 1992), 180.

little directly about medicine and healing, one passage that supports the study of medicine reads, "and if any one saved a life, it would be as if he saved the life of all people." (Quran section 5, Surat Al-Maida verse 32)[60] The prophet Muhammad often administered medicine and at least 300 Hadiths associated with him discuss this practice.[61] Consequently, in the early years of the practice of medicine among African Muslims, the Prophet Mohammed encouraged the study of medicine and would eventually prove foundational to the study of medicine in Africa.[62]

While ideas from Greek antiquity provided one of the primary foundations of medicine in the Medieval European, Mediterranean and African Worlds, written sources on medicine derived from Islam also contributed greatly to the field. Following Muslim conquests, Arabic-speaking physicians would assimilate Greek philosophy and science from the material before them and subsequently added to these works, transforming them to meet their own agenda. By the end of the ninth century, scholars had translated many important medical works into Arabic including the writings by Galen, Hippocrates, and Paulos Aeginta. By the early tenth century, Islamic physicians had surpassed the ancient Greeks in the study and practice of medicine and by the eleventh century they had introduced more than 3,000 drugs. In the years that followed, Islamic physicians founded

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[60] Quoted in Stephen Lock, John M. Last and George Dunea, eds. *The Oxford Illustrated Companion to Medicine* (Oxford: Oxford University Press, 2001), 59; Feierman and Janzen, eds., *The Social Basis of Health & Healing in Africa*, 178; Watts, *Disease and Medicine in World History*, 51.

[61] Feierman and Janzen, eds., *The Social Basis of Health & Healing in Africa*, 180. A Hadith was a narration derived from things the Prophet Muhammad either said or did.

[62] Feierman and Janzen, eds., *The Social Basis of Health & Healing in Africa*, 180-181; Lock, Last and Dunea, eds. *The Oxford Illustrated Companion to Medicine*, 60.

great hospitals where access to libraries furthered medical pursuits. Therefore, just when Europe was entering the "dark ages" Arabs worked to preserve the writings from the classical civilizations of Greece and Rome.[63]

From the ninth century on, Muslims separated medicine from religion, eliminating the idea of a priest-physician. Consequently, physicians were able to work independent of religion and to treat it as a science rather than as a ritual or means of communicating with the supernatural. However, the decline of Arabic civilization brought changes in medicine and dependence on supernatural elements once again stood at the center of Islamic medicine.[64]

Islamic physicians were particularly interested in the study of epidemics and as a result, one common disease studied extensively by these scholars was smallpox.[65] By the ninth century, Abu Bakr Muhammad ibn Zakariyya al-Razi (Rhazes) composed his *Treatise on the Smallpox and Measles,* which offered the most detailed description of smallpox and serves as the first document clearly to distinguish it from measles. This document, according to Rhazes, was the first such discourse on the disease. Rhazes

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[63] Feierman and Janzen, eds., *The Social Basis of Health & Healing in Africa*, 181; Lock, Last and Dunea, eds. *The Oxford Illustrated Companion to Medicine,* 59; Nancy G. Siraisi, *Medieval & Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago: University of Chicago Press, 1990), 1, 49; Watts, *Disease and Medicine in World History*, 40, 42, 48, 49. The tradition of Greco-Roman-Arabic medicine reached the West in the eleventh century. Watts, *Disease and Medicine in World History*, 39. Caliph Al- Walid I established the first hospital in Damascus by in the eighth century. Lock, Last and Dunea, eds. *The Oxford Illustrated Companion to Medicine,* 60.

[64] Feierman and Janzen, eds., *The Social Basis of Health & Healing in Africa*, 185-186.

[65] Joel N. Shurkin, *The Invisible Fire: The Story of Mankind's Victory Over the Ancient Scourge of Smallpox* (New York: G.P. Putnam's Sons, 1979), 55; Watts, *Disease and Medicine in World History*, 47.

composed this discourse with the intent that he might "receive my reward from the Almighty and Glorious God, and awaiting his good pleasure."[66]

In explaining the causes of the distemper, Rhazes referenced the Greek scientist Galen by attributing smallpox to an imbalance of the humors. Accordingly, treatment of smallpox as presented by Rhazes, required bloodletting to bring the humors back into balance.[67] "It is necessary," Rhazes believed,

> that blood should be taken from children, youths and young men who have never had the smallpox, or who have only had the chickenpox, (especially if the state of the air, and the season, and the temperaments of the individual be such as we have mentioned above) before they are seized with a fever, and the symptoms of the smallpox appeared in them.[68]

This document serves as a prime example of the spread of smallpox across the Islamic world, the concern of Muslim scholars for the disease, and the interconnectedness of Greek science and Islamic medicine.

Medicine, Disease, Religion in the Journey to Enslavement

With the arrival of the Europeans on the coast of Africa in the fifteenth century and the subsequent rise of the Trans-Atlantic slave trade, the medicine, health, and religious beliefs of Africans would face new challenges. The mass movement of peoples in the slave trade increased the transmission of infection making the slave trade a deadly

[66] Quoted in Logan Clendening, ed., *Source Book of Medical History* (Mineola: Dover Publications, 1942), 72.

[67] Ibid., 72-75.

[68] Quoted in Ibid., 74.

endeavor.[69] The first stage of the journey to enslavement, the trek to the coast, could be long and treacherous as slavers took many captives through new disease environments exposing them to illnesses to which they had no immunity. Many captured in the inland of Atlantic Africa never reached the shore, succumbing to disease, lack of nutrition and dangers along the way.[70]

Outbreaks of disease at the coast before the ship sailed were a great concern to the ship's captain. If, for example, smallpox broke out before leaving port it could delay the ship for some time causing economic loss. Kenneth Kiple goes so far as to argue that a smallpox outbreak in port could devastate an entire generation of merchants.[71] Due to the enormous risk smallpox posed to traders, they implemented various precautions, including limited quarantines, to protect against loss.[72] Nevertheless, attempts to avoid devastating epidemics were not always successful.

Those who survived the journey to the coast and the wait for departure faced invasive inspections from the ship' surgeon or barber before the crew put them aboard

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[69] Dauril Alden and Joseph C. Miller, "Out of Africa: The Slave Trade and the Transmission of Smallpox to Brazil, 1560-1831," *Journal of Interdisciplinary History*, 18, no 2 (Autumn, 1987),196; Colin Palmer, *Human Cargoes: The British Slave Trade to Spanish America, 1700-1739* (Urbana: University of Illinois Press, 1981), 42.

[70] Vincent Brown, *The Reaper's Garden: Death and Power in the World of Atlantic Slavery* (Cambridge: Harvard University Press, 2008), 33-34.

[71] Percy Moreau Ashburn, *The Ranks of Death: A Medical History of the Conquest of America* (New York: Coward-McCann, 1947), 34; Brown, *The Reaper's Garden*, 37; Alden Dauril and Joseph C. Miller, "Unwanted Cargoes: The Origins and Dissemination of Smallpox via the Slave Trade from Africa to Brazil, c. 1560-1830," in *The African Exchange: Toward a Biological History of Black People,* edited by Kenneth F. Kiple, 35-109, (Durham: Duke University Press, 1987), 51, 53; Sowande Mustakeem, "'I Never have Such a Sickly Ship Before': Diet, Disease, and Mortality in 18th-Century Atlantic Slaving Voyages," *Journal of African American History.* 93 (Fall 2008), 475.

[72] Palmer, *Human Cargoes*, 114.

ship. Those who needed medical care received it from a company doctor, if one was available.[73] In his account, Alexander Falconbridge recounted,

> [t]hey then minutely inspect their persons, and inquire into the state of their health; if they are afflicted with any infirmity, or are deformed, or have bad eyes or teeth; if they are lame, or weak in the joints, or distorted in the back, or of a slander make, or are narrow I the chest; in short, if they have been, or are afflicted in any manner, so as to render them incapable of much labour; if any of the foregoing defects are discovered in them, they are rejected.[74]

The purpose of this careful inspection was to ensure Captains took no diseased person aboard ship thus threatening the lives of both the crew and the other slaves. Nonetheless, as Alden and Miller noted, economic greed superseded careful inspections and as a result even official health inspections did not prevent diseases from being carried upon ship as shipmasters were blinded by the economic profit that lay before them.[75]

Those who made it aboard ship alive still faced the ever-present and ever-growing danger of disease. Not only did enslaved persons encounter new illnesses in their journey to the coast but aboard ship, they also mixed with other Atlantic Africans and Europeans who had different diseases. As a result, during the seventeenth century, the practice of tight-packing ailing captives aboard ship resulted in high mortality rates.[76]

Some ships were equipped with the means to treat those who had fallen ill. Writing in 1732, Jean Barbot noted,

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[73] Jones, ed., *German Sources for West African History*, 79; Ibid., 45.

[74] Alexander Falconbridge, *An Account of the Slave Trade on the Coast of Africa* (London: Printed by J. Phillips, George Yard, Lomnard Street, 1798), 17.

[75] Alden and Miller, "Unwanted Cargoes," 40.

[76] Noble David Cook, *Born to Die: Disease and New World Conquest, 1492-1650* (Cambridge: Cambridge University Press, 1998), 173. See also, David Eltis, and David Richardson, eds., *Routes to Slavery: Direction, Ethnicity and Mortality in the Transatlantic Slave Trade* (London: Frank Cass, 1997).

> [a]s for the sick and wounded, or those out of order, our surgeons, in their daily visits betwixt decks, finding any indisposed, caused them to be carried to the Lazaretto, under the forecastle, a room reserved for a sort of hospital, where they were carefully look'd after.[77]

However, not all received such medical attention and treatment. Rather than attend to the sick, sailors often threw overboard many who were ill in an attempt to prevent diseases from spreading.

Most of the larger ships carried a surgeon, though their primary function was to examine the enslaved persons and judge their current state of health rather than treat those who fell ill aboard ship.[78] Surgeons who did attempt to treat the Africans only stirred further fear in them as this was the first time many Africans encountered western medicine.[79] For example, Ludewig Ferdinand Rømer speaking of the Danes on the Gold Coast in the mid-eighteenth century, wrote

> [w]hen in an unavoidable emergency, a surgeon has to bleed a slave, he should be sensible enough to do it, preferable in such a way that none of the other [slaves] see it. Indeed, if possible, not even the ill one himself should see it, because the Blacks do not understand that this is done for their benefit, and they think we are going to kill him.[80]

These enslaved Africans had a general fear of the Europeans as slavers carried them into unknown lands and implemented foreign practices upon them.

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[77] Hair, Jones and Law, eds., *Barbot on Guinea,* 781.

[78] Ashburn, *The Ranks of Death,* 3; Marcus Rediker, *The Slave Ship: A Human History* (London: Penguin Books, 2007), 59.

[79] Mustakeem, "'I Never have Such a Sickly Ship Before'," 476.

[80] Rømer, *A Reliable Account of the Coast of Guinea*, 199.

Recognizing the medical ability of enslaved persons, in some cases, the ship captains turned to the Africans to help in treatment when an epidemic broke out aboard ship. As Rømer observed,

> [s]hould the slaves fall victim to the [endemic] illnesses of the land, such as worms, etc., a couple of the female slaves can be allowed to take over, after we have supplied them with the *mallaget* and *piment,* palm oil, and citrons, from which they can prepare [African] medicines, and the sick will feel well afterward.[81]

Although shipmasters recognized that Atlantic Africans had something to offer in their medical treatment, they still refused to see them as anything more than slaves and a source of economic profit.

One of the most feared diseases aboard ship was smallpox. Although many Atlantic Africans had immunity to smallpox either through inoculation or natural contagion, not all Africans had such exposure.[82] Smallpox was endemic in both England and parts of Atlantic Africa and while some sailors and slaves were old enough to have been exposed to (and thus be immune to) smallpox, many were not.[83] The results could be catastrophic, as Captain Phillips, who sailed at the end of the seventeenth century wrote,

> [t]he negroes are so incident to the smallpox, that few ships that carry them escape without it, and sometimes it makes vast havoc and destruction among

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[81] Ibid., 199. For example, as Rømer related of the Danes on the Guinea Coast, they requested that they bring the materials necessary for African women to practice their medicine on both blacks and whites. Ibid., 199, see also, fn 31.

[82] Brown, *The Reaper's Garden*, 45; Rediker argues that smallpox was actually a less frequent cause of death as dysentery and fevers were more common. Rediker, *The Slave Ship*, 275*;* Thornton, *Africa and Africans in the Making of the Atlantic World*, 157.

[83] Cook, *Born to Die*, 96.

> them: but tho' we had 100 at a time sick of it, and that it went thro' the ship, yet we lost not above a dozen by it.[84]

Smallpox ravaged the ships of the seventeenth century and as a result European ship captains and masters implemented various treatments to try to reduce its effect. Treatments for smallpox aboard ship ranged from isolation to alterations in diet, use of tar-water, inoculation, and later vaccination.[85] In a 1667 letter to Thomas Prior, George Berkeley described the beneficial use of tar-water in preventing and curing plague and smallpox explaining,

> [b]riefly, it was not mere acid or distilled water, or tincture of tar, but tar-water, as commonly made, by affusion and stirring of cold water upon tar, which hath wrought all those great cures and salutary effects, which have recommended it as a medicine to the general esteem of the world.[86]

Tar-water, Berkeley, argued would allow boils to break out on the body releasing the morbid and horrific humours and bringing relief to the patient. Tar-water could also relieve symptoms including headache, drowsiness, anxiety, vigils, sinking of spirits, weakness, bloody urine, and spitting blood and thus was a useful remedy to employ aboard ship.[87] Eventually, ship captains replaced the use of tar-water with the more effective practice of inoculation (and later vaccination).

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[84] Quoted in Ashburn, *The Ranks of Death*, 34-5. Venture Smith, born around 1729 also speaks of the horrors of smallpox aboard ship recounting, "that the Atlantic crossing was 'an ordinary passage, except [there was] great mortality by the smallpox' and that of the 260 who left Africa, 'not more than' 200 were alive when the ship landed in Barbados." Quoted inJerome S. Handler, "Survivors of the Middle Passage: Life Histories of Enslaved Africans in British America," *Slavery and Abolition* 23 (2002), 38, 46. See also Mustakeem, "'I Never have Such a Sickly Ship Before'," 479 and Palmer, *Human Cargoes*, 49.

[85] Brown, *The Reaper's Garden*, 50; Sheridan, *Doctors and Slaves*, 118.

[86] George Berkeley and Alexander Campbell Fraser, *The Works of George Berkeley: Philosophical Works, 1734-52* (Nabu Press, 2010), 1734-52, 330.

[87] Ibid., 322-333.

Along with medicine and disease, Atlantic Africans also carried their religion aboard ship.[88] For example, with the introduction of the Trans-Atlantic Slave Trade Africans carried Islam with them from Africa into the Americas. By this time, Gomez argued, Islam was so deeply rooted in West Africa that it was able to transcend different ethnicities and allow various peoples with widely different backgrounds to relate to one another. There also were sufficient followers of Islam transported to the New World that allowed them to carry on their faith. Most often did so clandestinely, however, hiding their true religion from their masters for fear of punishment.[89]

The spread of Islam across Atlantic Africa prior to the rise of the European Slave Trade also meant that slavers transported to the Americas peoples from all classes in society holding to the Islamic faith. For example, clerics, teachers, students (including children), merchants, and members of the nobility all carried Islam with them to the New World. Once in the Americas, Gomez argued, Atlantic African Muslims made up a significant portion of enslaved Africans, with their numbers reaching into the thousands.[90]

Of these African Muslims deported to the New World, Sylviane Diouf argued, the majority were among the intellectual elite.[91] As Diouf explained,

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[88] Wilmore, *Black Religion and Black Radicalism,* 41.

[89] Diouf, *Servants of Allah*, 1; Gomez, *Exchanging our Country Marks*, 59-60, 69.

[90] Diouf, *Servants of Allah*, 35-39; Gomez, *Exchanging our Country Marks*, 60, 68, 85. South Carolina, Georgia, and Louisiana had the highest percentage of Muslims names in slave-for-sale advertisements. Gomez, *Exchanging our Country Marks*, 69.

[91] Diouf, *Servants of Allah*, 35-39.

> [t]he most dynamic segments of the Muslim population were thus made up of well-read, well-traveled, cosmopolitan, multilingual, resourceful, adaptable men who were prompt to see and seize opportunities, even in unfamiliar surroundings, and who were unafraid of the unknown.[92]

As a result, not only did they carry the religion with them, but these learned scholars also brought their knowledge of science and medicine that would greatly affect the New World. Once in the New World Islamic scholars sought to pass on their wisdom to subsequent generations, thus potentially spreading knowledge of inoculation among other medical techniques from Africa. In addition, taking advantage of their knowledge Muslims were often able to inprove their conditions under slavery or even escape the institution altogether. Perhaps one of the reasons Onesimus and other Atlantic Africans shared their knowledge of inoculation was an attempt to gain freedom in exchange for such valuable information.

Medicine, Disease and Religion in the New World

Upon arrival in the Americas, one of the ways Atlantic Africans shaped their new society was through their practice of medicine. For example, at the turn of the eighteenth century Willem Bosman found local remedies from the Gold Coast to be "very successful" and was amazed at the "strange efficacy" of the herbs with which "the negroes cure such great and dangerous wounds." In fact, Bosman continued, these herbs "'would prove more successful in the Practice of Physic than the European

[92] Ibid., 39.

Perperations.'"[93] Atlantic Africans carried such knowledge with them aboard ship and to the New World and once on land they continued to treat their own and eventually came to serve as nurses to their masters and the whites in the community. Many Europeans, however, were not convinced of the efficacy of African medicine. For example, Sir Dalby Thomas remarked that "'blacks, even those that are Trafficquers are so stupid and so ignorant, know nether thereof . . . all their cures are by Fettish men.'"[94] Many Europeans were still unwilling to see the benefits of African medicine.

Africans and their American-born progeny in colonial Virginia who practiced medicine often hid their medical practices from the whites for fear of punishment. Masters were weary of slave medicine because it presented a challenge to their ideal of authority and offered slaves a means to bring physical harm or even death upon an unsuspecting white community.[95] Sharla Fett, discussing the antebellum South argued that as a result medicine became one of the integral parts of the "invisible institutions" of slave religion.[96] Medicine, then, provided one way in which Atlantic Africans held on to their own culture in the face of dominating European ideals.

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[93] Palmer, *Human Cargoes*, 45-46.

[94] Quoted in Ibid., 46.

[95] Kathleen M. Brown, *Good Wives, Nasty Wenches, and Anxious Patriarchs: Gender, Race, and Power in Colonial Virginia* (Chapel Hill: the University of North Carolina Press, 1996), 354.

[96] Sharla Fett, *Working Cures: Healing, Health, and Power on Southern Slave Plantations* (Chapel Hill: University of North Carolina Press, 2002), 36, 143. Perhaps one of the most closely guarded medical secrets among the African population in the New World was inoculation. Africans knew of the practice for centuries before the Europeans and Americans did, however those in the Americas continued the procedure in secret until 1706 when Onesimus shared it with Cotton Mather. In the months and years that followed the negative repercussions of this revelation had an impact on blacks and whites in Boston and eventually throughout the Atlantic World.

Despite the fears of whites, many blacks in the antebellum South served as doctors in their communities, attending to the needs of mostly blacks but also some whites.[97] Kathleen Brown argued that in early eighteenth century colonial Virginia, slaveowners turned to enslaved peoples to treat other slaves, knowing their own medicine was failing to save the lives of the newly arrived Africans who were dying in high numbers.[98] In time, Atlantic African medicinal practices, including inoculation, came to be a part of accepted medical practices, and whites adopted these procedures and treatments as well.[99]

One thing that has become clear is that through medicine, Africans and African Americans have had a tremendous cultural impact on the New World.[100] Eventually, whites came to incorporate much of what they learned from Atlantic Africans as "[w]hite southerners wrote slave remedies into their private recipe books even as they wrote laws curtailing the practice of enslaved doctors."[101] These slaves influenced not only their own communities but also communities near and far, as their knowledge of roots and herbs spread throughout the New World.[102] However, Europeans continued to question

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[97] Ibid., 143.

[98] Brown, *Good Wives*, 354. In fact, Tom Shick argued, the medical practices of "Negro doctors" were superior to the European methods of bleeding and purging. Tom W. Shick, "Healing and Race in the South Carolina Low Country," in *Africans in Bondage: Studies in Slavery and the Slave Trade*, ed. by Paul E. Lovejoy (Madison: University of Wisconsin Press, 1986), 112.

[99] Shick, "Healing and Race in the South Carolina Low Country," 111.

[100] Fett, *Working Cures*, 2.

[101] Ibid., 5.

[102] Shick, "Healing and Race in the South Carolina Low Country," 112.

medicinal practices that they did not understand or were not privy too, including inoculation.

William D. Piersen in his work *Black Yankees: The Development of an Afro-American Subculture in Eighteenth-Century New England* argued that "blacks had little reason not to acknowledge the superiority of the alien European technology."[103] Yet it was the Africans who had the medical technology and understanding to practice inoculation, a procedure that in and of itself had the potential to save more lives than any other single technological advancement of the time.[104] If their technology was so great then why were Europeans still dying in huge numbers from smallpox which Africans had been inoculating against for centuries? Both William Piersen and Lorenzo Greene, the two foremost historians on Africans and African Americans in New England have argued that Africans had very little to offer the developing Euro-American society in the New World. Yet it was an Atlantic African who offered the technology of inoculation to the Euro-Americans, a contribution that would dramatically change Boston, New England, and eventually the entire Atlantic World.[105] In the end, of great interest is the undeniable fact that inoculation, which would come to save the lives of many American settlers, came from an African enslaved person and not a European doctor or scientist; thus

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[103] Piersen, 10.

[104] Gelfand, *Medicine and Custom in Africa*, 132. The idea of germ theory (the theory the microorganisms caused disease) in its modern form would not be accepted for another one hundred and fifty years. Arthur Allen, *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver* (New York: W.W. Norton & Company, 2007), 28.

[105] See Lorenzo Greene, *The Negro in Colonial New England* (Port Washington: Kennikat Press, Inc, 1942) and William D. Piersen, *Black Yankees: The Development of an Afro-American Subculture in Eighteenth-Century New England* (Amherst: University of Massachusetts Press, 1988).

Atlantic Africans played a key role in shaping the New World and were not just passive recipients of European Imperialism.

Scholars have long argued that the arrival in the New World of enslaved persons carrying the smallpox virus, who ship captains then released into dockside districts in colonial port towns, set the disease loose in North America.[106] Enslaved persons often carried diseases throughout the Atlantic World because their travels exposed them to numerous peoples on both sides of the Atlantic. Alden and Miller have supported the argument that Africans were leading carriers of smallpox to the New World, through a careful examination of the link between drought, famine, and disease. They argue, "[t]he simultaneous reappearance of smallpox in both northern and southern Brazil at this time coincided with new cycles of drought, attendant famine, and disease in both Sahelian West Africa and Angola."[107] Africans, they continue, carried outbreaks of smallpox as far as the New World with deadly effects on these societies across the Atlantic.

Once in the Americas, smallpox also wrecked havoc among Native Americans. Recording one bout of smallpox in 1634 among the Indians along the Connecticut River, Governor William Bradford wrote,

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[106] Thus aboard ship the Africans became carriers of both medicine and disease. In their article "Out of Africa," Alden and Miller argued that in the sixteenth century the Upper Guinea Coast was a major carrier of smallpox to Brazil. In the early seventeenth century Africans from Angola and, at the end of the eighteenth century, Africans from Mina were also major carriers of smallpox to Brazil. Nobel David Cook likewise argued the, "[a]ccelerating slave trade with Africa probably influenced the timing and virulence of epidemic outbreaks." Cook, *Born to Die*, 190. Many understood that epidemics often followed the arrival of enslaved cargoes. Thus while ship captains and masters in the New World knew of the dangers of spreading smallpox and other diseases, for them the benefit outweighed the risk. Alden and Miller, "Out of Africa," 195-6. See also Alden and Miller, "Unwanted Cargoes," 37; Palmer, *Human Cargoes*, 113.

[107] Alden and Miller, "Out of Africa," 201 and chart on pages 215-224. See also, Thornton, *Africa and Africans in the Making of the Atlantic World*, 158; Palmer, *Human Cargoes*, 114.

> This spring, also, those Indians that lived about their trading house there fell sick of ye small poxe, and died most miserably: for a sorer disease can not befall them: they feare it more then ye plague: for usually they that have this disease have them in abundance, and for wants of badding and lining and other helps they fall into a lamentable condition as they lye on their hard mats: ye poxe breading the mattering, and running one into another, their skin cleaving (by reason thereof) to the matts they lye on; when they turn them, a whole side will flea of at once, (as it were) and they will be all of gor blood, most fearful to behold; and they being very sore, what with could and other distempers, they dye like rotten sheep. The condition of this people was so lamentable and they fell downe so generally of his disease, as they were (in ye end) not able to help one another: . . . .[108]

Smallpox epidemics, however, were not as devastating upon the black population in the New World. In fact, even into the nineteenth century, some blacks saw the epidemic illness as divine intervention as many whites died of the disease while blacks tended to survive. In the eyes of the blacks, "smallpox served as a righteous 'medicine' sent by God to root out the injustices of the slaveholders."[109] Most likely, blacks either had smallpox as children since it was endemic in Africa, or someone had inoculated them and thus they were not susceptible to an outbreak.

Although Atlantic Africans had long had contact with the Iberian and Mediterranean worlds, in regions such as New England, the meeting of Europeans with Atlantic Africans (both Muslim and non-Muslim) brought new experiences for both worlds. African Muslims were more numerous and prominent in Latin America and the Caribbean. However, evidence of African Muslims also exists in British North America. The epicenter of the African Muslim community in colonial North America was on the

[108] Quoted in Ashburn, *The Ranks of Death,* 89-90.

[109] Fett, *Working Cures*, 40.

Georgia and South Carolina coasts although Muslims could be found all along the coast.[110]

Once in the Americas, many enslaved Africans developed new identities as members of pan-ethnic enclaves. Enslaved Muslims, however, formed communities around their common religion which superseded ethnic ties. As a result, Paul Lovejoy argued, "[r]eligious and ethnic factors were overlapping but not always inclusive influences on the patterns of cultural change within the slave communities of the Americas."[111] Rather than forming communities based on social identification, Muslims drew together through religion. Two Muslims who met in the new world then could form a community based upon a shared religion in spite of ethnic and cultural differences.[112]

Although many African religions fused with other beliefs once reaching the Americas, Islam did not allow for such reconstruction. Although the white Christian attempted to convince Muslims to abandon their faith, most refused to renounce their religion. Despite this adversity, many Muslims living in the Americas made a conscious effort to continue to practice their religion, especially within their own households where they were free from the watchful eye of their masters.[113]

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[110] Gomez, *Black Crescent*, 128, 143-4. Gomez derives this evidence from both sides of the Atlantic examining sources such as slaveholder ledgers, runaway slave advertisements, and recorded instances of Islamic activity.

[111] Paul E. Lovejoy, "Transatlantic Transformations: The Origins and Identities of Africans in the Americas," in *Africa, Brazil and the Construction of Trans-Atlantic Black Identities*, ed. by Livio Sansone, Elisée Soumonni, and Boubacar Barry (Trenton, NJ: Africa World Press, Inc., 2008), 82-83.

[112] Gomez, *Exchanging our Country Marks*, 75; Lovejoy, "Transatlantic Transformations," 85.

[113] Diouf, *Servants of Allah*, 49, 53, 186; Gomez, *Black Crescent*, 143; Gomez, *Exchanging our Country Marks*, 83; The five pillars of Islam include: Allah is God and Muhammad is his prophet, pray five times a day facing Mecca, give alms to the poor, make a pilgrimage to Mecca, and fast during the month of

Yet these African Muslims now found themselves in a world committed to removing any traces of "paganism" or "Muhammadanism." Despite this hostile environment, Muslims in America attempted to hold on to traditions associated with Islam including most importantly upholding the five pillars of faith but also speaking Arabic, continuing literacy, and following the dress code. However, Muslims also faced challenges to continuing their faith as they could not openly hold Quranic schools (or madrases) or have Islamic texts such as the Quran. Despite such restrictions, African Muslims living in the Americas were able to preserve many of the Islamic ways.[114]

Although many Atlantic Africans practicing indigenous religions did convert finding ways to incorporate Christianity with their own religion, Muslims refused to abandon their faith. For example, in Dutch New Netherland in the mid-seventeenth century, an enslaved African by the name of Anthony did not go to church, which Gomez argues may be evidence of Islamic sensibilities. Muslims held fast to their own faith even though they were familiar with the religion both from African Christians and passages in the Quran.[115] For African Muslims living in the Americas, their faith provided them with a source of hope and mental escape from the horrors of bondage.[116]

Ramadan. Gomez examined the lives of several African Muslims in early Georgia and found evidence of prayer mats, prayer beads, veiling, Qurans, dietary regulations and daily ritualized prayer – all evidence of a serious pursuit of Islam. Gomez, *Black Crescent*, 156.

[114] Diouf, *Servants of Allah*, 49, 69; Gomez, *Black Crescent*, 159; Lovejoy, "Transatlantic Transformations," 85.

[115] Diouf, *Servants of Allah*, 51-53; Gomez, *Black Crescent*, 134, 160; Gomez, *Exchanging our Country Marks*, 83. There is also evidence that some non-Muslims converted to Islam in the New World. See Gomez, *Black Crescent*, 153.

[116] Diouf, *Servants of Allah*, 59. African captives in Spain, Pike argued, underwent a counter acculturative experience as they actually strengthened their ties to Islam. See Gomez, *Black Crescent*, 12. The Spanish

Although Atlantic Africans and Europeans both had underlying similarities in terms of medicine, the Europeans (and American colonists) remained resistant to adopting African medical practices. The journey across the Atlantic, as horrid as it was, did not strip Atlantic Africans of their culture and religion. When they reached the New World, they continued to use their medical knowledge to treat their own. Atlantic Africans also held to their own religious beliefs which gave them hope in the face of trials. In time, Atlantic Africans came to influence the medicine of the New World where Europeans found themselves inadequate to treat unfamiliar diseases in new environments. While Africans were superior nurses and doctors, perhaps the best kept secret and eventually their greatest contribution to European and American medicine was the introduction of inoculation. Onesimus could have never imagined the firestorm that the idea of inoculation would set off when he showed Cotton Mather the scar in his arm.

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even tried to prohibit the shipping of known Muslims to the Americas because of they believed these slaves were more difficult to manage. See Gomez, *Black Crescent*, 15-16.

Chapter 3: "The grievous Calamity of the Small-Pox": The Introduction of Inoculation to the Colonists of the New World

Sitting at his window in his home on Ship Street in the spring of 1721 Cotton Mather, a prominent minister of Boston, saw ships coming and going into the harbor. Boston, strategically located on the Atlantic, had grown into a thriving town as a key nexus in the trans-Atlantic trade. Shipping was the life-vein of Boston, but every ship that entered the harbor also brought with it the potential for grave disaster. It had been nineteen years since smallpox last visited the town yet the memories of the horrid disease were still present.

A month after the *H.M.S Seahorse's* arrival from the West Indies on 22 April 1721, reports surfaced claiming the ship had brought smallpox to Boston. Reflecting in his diary on 26 May 1721 Mather recorded, "[t]he grievous Calamity of the Small-Pox has now entered the Town." For many, the memories of the disease came flooding back and Boston braced itself for the epidemic that now threatened the lives of a generation born since the last outbreak in 1702. Mather's mind, however, moved in a different direction – not toward the calamity which inevitably threatened Boston but on the possibility of limiting its devastation. What Mather next wrote in his diary set the stage for a change which dramatically reshaped not only Boston but also the larger Atlantic World.

> The Practice of conveying and suffering the Small-pox by Inoculation, has never been used in America, nor indeed in our Nation. But how many Lives might be saved by it, if it were practised? I will procure a Consult of our Physicians, and lay the matter before them.[1]

Primed to take direct action in fighting the disease, Mather found a willing partner in Dr. Zabdiel Boylston, an apprentice trained physician in Boston. On 26 June 1721 the pair became the first colonists to conduct inoculations in the New World; shortly after all three of the initial patients' recovered, Boylston inoculated seven more. Much to Mather's surprise, not everyone in Boston saw inoculation as good medical practice. Mather and Boylston received immediate opposition from Dr. William Douglass, the only university trained physician residing in Boston. Their disagreement escalated rapidly and enraged members of the town called upon the Selectmen to make a decision in the interest of public health. Believing this untested procedure's risks far outweighed the benefits, on 21 July 1721 the Selectmen voted unanimously to prohibit any further inoculations. Reflecting upon this decision, one member of the Board of Selectmen, William Hutchinson, recorded,

> [t]hat it appears by numerous instances, that inoculation has proved the death of many persons, soon after the operation, and brought distempers upon many others which, in the end, have proved deadly to them. That the natural tendency of infusing such malignant filth in the mass of blood is to corrupt and putrify it, and if there be not a sufficient discharge of that malignity, by the place of incision or elsewhere, it lays a foundation for many dangerous diseases. That the continuing the operation among us is likely to prove of the most dangerous consequence.[2]

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[1] Cotton Mather, *The Diary of Cotton Mather, 1709-1724* Massachusetts Historical Society Collections, Seventh Series, vol. 8. (Boston: Published by the Society, 1912), 620-621.

[2] Quoted in Thomas Hutchinson, *The History of the Province of Massachusetts-Bay, From the Charter of King William and Queen Mary, in 1691, Until the Year 1750* (Boston: Thomas & John Fleet, 1767), 274.

This ruling could have ended Mather's inoculation crusade, but he and Boylston chose not to listen, strongly believing in the lifesaving potential inherent in the procedure. Ten days later, Boylston inoculated another patient sparking a fierce controversy that raged on in Boston for the next six months.

This chapter places Cotton Mather in a crisis of faith and at the center of converging medical traditions of the Atlantic World setting the stage for the introduction of inoculation. I argue a number of key turning points prepared Cotton Mather to introduce inoculation to Bostonians in 1721. The first was the arrival of Onesimus, an African enslaved person, into his household. Mather, concerned for the health and safety of his household, questioned Onesimus on his physical health and then sought to ensure he was in proper religious standing. Mather's concern for the physical state of this servant set the stage for Onesimus to introduce him to inoculation. Additionally, Mather sought to the spiritual well-being of this servant who now lived under his roof. Mather wanted to convert Onesimus in hopes this would improve his behavior and cause God to look with favor upon his household. The second turning point was a crisis of faith as Mather began to question his worldview on the relationship between religion and disease. Puritans including Cotton Mather believed that epidemics were primarily the punishment of an angry God upon a community that had turned from him. In 1713, measles struck Boston and claimed the lives of many in Mather's family while the one person in his household whose behavior concerned him the most, namely Onesimus escaped unharmed. Later, in 1721, Joseph Hanno, the model Christian in the black community

who was the devoted Christian Mather hoped Onesimus might become, committed a horrendous crime and paid for it with his life on the eve of the smallpox epidemic.

New World Life

The story of medicine in Boston revolves around minister-physicians and apprentice trained doctors. On 9 February 1663 Increase and Maria (Cotton) Mather welcomed their first-born son, Cotton Mather into the world of Puritan New England.[3] Cotton Mather's namesakes, his grandfathers Richard Mather and John Cotton, were among the most prominent men of the founding generation of New England, a reputation society expected Cotton Mather to uphold.[4] Birth into this respectable family created many challenges for Cotton Mather but it also opened doors enabling him to leave his own stamp on Boston, New England, and even the larger Atlantic World.[5]

Seventeen years later, on 12 March 1680 Thomas and Mary (Gardner) Boylston of Brookline welcomed Zabdiel Boylston, their sixth of an eventual twelve children, into their home. Zabdiel Boylston was the firstborn son in this medical family, his father being the first physician and surgeon in the area.[6] Zabdiel was the only one of six male

[3] Annie Haven Thwing, *Inhabitants and Estates of the Town of Boston 1630-1800 and The Crooked and Narrow Streets of Boston, 1630-1822*. CD ROM – A Co-publication (Boston: The Massachusetts Historical Society, 2001).

[4] David Levin, *Cotton Mather: The Young Life of the Lord's Remembrancer, 1663-1703* (Cambridge and London, 1978), 1-2; Kenneth Silverman, *The Life and Times of Cotton Mather* (New York: Harper and Row Publishers, 1984), 3.

[5] Silverman, *The Life and Times*, 3.

[6] Scholars do not know where Thomas Boylston received his medical training though some have speculated he attended Oxford. Gerald Mager, "Zabdiel Boylston: Medical Pioneer of Colonial Boston" (PhD diss., University of Iowa, 1973), 3. Reginald H. Fitz, "Zabdiel Boylston, Inoculator, and the Epidemic of

siblings to follow his father's example and pursue a life in medicine. Like most other colonial doctors Boylston received his training through apprenticeship first to his father and then to Dr. John Cutler, another well known-physician and surgeon in Boston.[7] Boylston never had the opportunity to attend Harvard College although he wanted to attend university.[8] In the years to come, Mather and Boylston would join forces to save future generations from one of the greatest horrors of their world - namely smallpox.[9]

At the time of Cotton Mather's and Zabdiel Boylston's birth, Boston was a small town.[10] It did not remain so for long, however, as Boston grew into a bustling commercial entrepôt in the trans-Atlantic trade due, in part, to its position on the Atlantic coastline.[11] A seaport town active in trade across the Atlantic, Bostonians became susceptible to smallpox, particularly because of the extensive trade in enslaved persons with the Caribbean, a known center for the disease. The people of Boston knew the trade routes and exchange of goods, which were the foundation of their success, also brought the potential of a dreaded epidemic of smallpox. As Boston grew and prospered so too did

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Smallpox in Boston in 1721," *Bulletin of the Johns Hopkins Hospital* XXII, no. 247 (September, 1911), 315.

[7] Fitz, "Zabdiel Boylston," 315; Mager, "Zabdiel Boylston," 3, 5. Mather also attended a common school in his youth but his medical training came from apprenticeship. Mager, "Zabdiel Boylston," 5.

[8] Mager, "Zabdiel Boylston," 5.

[9] For a full discussion of Zabdiel Boylston see "Zabdiel Boylston: Medical Pioneer of Colonial Boston" by Gerald Mager.

[10] Ralph Boas and Louise Boas, *Cotton Mather, Keeper of the Puritan Conscience* (New York and London, 1928), 14.

[11] John Jennings, *Boston: Cradle of Liberty, 1630-1776* (Garden City: Doubleday & Company, Inc. 1947), viii, 35; Darrett B. Rutman, *Winthrop's Boston: Portrait of a Puritan Town, 1630-1649* (Chapel Hill: The University of North Carolina Press, 1965), 164, 200.

its chances of devastation; as the population increased so too did the intensity of an epidemic.[12]

While trade provided Boston's economic foundation, religion was the backbone of New England society.[13] Most seventeenth-century Bostonians viewed the natural and supernatural as one and understood physical illness within this larger framework of religious belief. They interpreted a strike of smallpox as God's divine judgment against a sinful people in need of repentance.[14] While God inflicted punishment in a variety of ways including natural disasters and diseases, many had long considered smallpox to be

[12] Lorenzo Greene, *The Negro in Colonial New England* (Port Washington: Kennikat Press, Inc, 1942), 22, 31, 38; 84; Donald R. Hopkins, *Princes and Peasants: Smallpox in History* (Chicago: The University of Chicago Press, 1983), 241, 243; Rutman, *Winthrop's Boston*, 187, 190, 252, 254; John B. Blake "The Inoculation Controversy in Boston: 1721-1722," *The New England Quarterly* 25, no. 4 (1952): 489; 495; *Medicine in Colonial Massachusetts, 1620-1820* (Boston: The Colonial Society of Massachusetts, 1980), 8; Richard D. Brown, "The Healing Arts in Colonial and Revolutionary Massachusetts: The Context for Scientific Medicine," in *Medicine in Colonial Massachusetts, 1620-1820*, ed. the Colonial Society of Massachusetts (Boston: The Colonial Society of Massachusetts, 1980), 36; Ole Elizabeth Winslow, *A Destroying Angel: The Conquest of Smallpox in Colonial Boston* (New York: Houghton-Mifflin, 1974), 24.

[13] "And through the growth of the little settlement numbering seven hundred at its founding in 1630 to the bustling seaport and provincial capital of seven thousand in the 1690s, the clergy had been the ultimate source of wisdom – not just on matters of faith or even of morals – but on politics, on science, and on societal and individual relationships. And second to them, as the public affairs of the town became more intricate and its social mix more complex were the magistrates – civil officers, appointed rather than elected, whose authority was wide-ranging, who represented the best instructed and the most accomplished of the lay community, and who, though few were lawyers, constituted the entire judicial system." Arthur Bernon Tourtellot, *Benjamin Franklin: The Shaping of Genius, The Boston Years* (Garden City, N.Y.: Doubleday, 1977), 82.

[14] Brian M. Barbour, ed. *Benjamin Franklin: A Collection of Critical Essays* (Englewood Cliffs: Prentice-Hall, Inc., 1979), 21; Charles E. Hambrick-Stowe, *The Practice of Piety: Puritan Devotional Disciplines in Seventeenth-Century New England* (Chapel Hill: The University of North Carolina Press, 1982), 3; Brown, "The Healing Arts in Colonial and Revolutionary Massachusetts," 37; Dennis Melchert, "Experimenting on the Neighbors: Inoculation of Smallpox in Boston in the Context of Eighteenth-Century Medicine"(PhD diss., University of Iowa, 1974), 115; G.B. Warden, *Boston 1689-1776* (Boston: Little, Brown and Company: 1970), 86.

one of the most deadly forms of judgment. While God could send smallpox at anytime they believed he saved such severe punishment the utmost of provocation.[15]

Dating back to the biblical days of Luke, church officials commonly played a key role in the medical needs of their parishioners. As a result, local parishes often selected men based on the dual criteria of religious qualifications and medical skills.[16] By highlighting the spiritual aspect of disease, Mather gave credence to the minister's role serving as a physician in Boston, and often spoke in his diary of providing medical treatments particularly those who did not have access to or could not afford a physician.[17] While Boston's number of trained doctors was slowly on the rise in the eighteenth century, in the 1720s they had a limited number of trained medical practitioners. A few including Zabdiel Boylston had the courtesy title of "doctor." Boston also had some apothecaries and midwives. Nevertheless, even into the eighteenth century, university trained physicians were reluctant to move to New England, knowing they could establish

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[15] Perry Miller, *The New England Mind: From Colony to Province* (Cambridge: The Belknap Press of Harvard University Press, 1953), 376; Patricia A. Watson, *The Angelical Conjunction: The Preacher-Physicians of Colonial New England* (Knoxville: The University of Tennessee Press, 1991), 15. Disease was not without cause, and "[t]he Puritans' readiness to detect God's hand in the daily events of the natural world is an essential feature of their religion." Watson, *The Angelical Conjunction*, 9. See also Otho T. Beall and Richard H Shryock, *Cotton Mather: First Significant Figure in American Medicine* (Baltimore: The Johns Hopkins Press, 1954), 12, 16.

[16] Beall and Shryock, *Cotton Mather*, 15, 29; Margaret Humphreys Warner, "Vindicating the Minister's Medical Role: Cotton Mather's Concept of the Nishmath-Chajim and the Spiritualization of Medicine," *Journal of the History of Medicine and Allied Sciences*, 36 (1981), 280; Watson, *The Angelical Conjunction*, 1, 3-4.

[17] Beall and Shryock, *Cotton Mather*, 14-15, 30; Geoffrey Marks and William K. Beatty, *The Story of Medicine in America* (New York: Scribner, 1973), 44; Melchert, "Experimenting on the Neighbors," 102, 108. Warner claims that before Mather, the minister-physician was actually on the decline in New England and perhaps even absent in Boston. Warner, "Vindicating the Minister's Medical Role," 280. While it is true there were more physicians in Boston by the time Mather took the pulpit, meaning he was not the only doctor in town, he did serve in some medical capacity throughout his career.

a thriving practice in Europe without the dangers of crossing the Atlantic. Because none of the English colonies had licensing authority, medical schools, or hospitals, they relied upon Europe to supply them with trained medical practitioners.[18]

While a young man, Mather intended to abandon his training and upbringing that was leading him into the ministry and become a physician instead. While Mather eventually assumed his father's role and entered the ministry, his love for the study and practice of medicine remained. Throughout his career as a minister, Mather often visited and attended to the sick. He also spent much of his time researching and writing medical treatises, causing some scholars, including Otho Beall and Richard Shryock, to call Mather "The First Significant Figure in American Medicine."[19]

One of the greatest challenges facing the medical practitioners in the New World was dealing with epidemic outbreaks of diseases including smallpox and measles. Since Boston's inception in 1630, smallpox epidemics regularly visited the town. The first epidemic struck the colony in 1633. Thereafter smallpox returned in epidemic proportions in 1648, 1666, 1677, 1689, 1702, 1721, 1731, 1751, 1764, and again in the 1770s.[20]

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[18] Beall and Shryock, *Cotton Mather*, 9, 28, 29. In 1720 there were thirteen medical practitioners in Boston and six ministers who also practiced medicine but Douglass was the only one among them with university training. Carl Bridenbaugh, *Cities in the Wilderness: The First Century of Urban Life in America 1625-1742* (New York: Alfred A Knopf, 1964), 242.

[19] Beall and Shryock, *Cotton Mather*, 8-9; Silverman, *The Life and Times*, 247.

[20] Ronald L. Numbers, ed., *Medicine in the New World: New Spain, New France, and New England* (Knoxville: University of Tennessee Press, 1987), 116.

On January 21, 1678 Thomas Thacher, physician and minister of the Old South (Third) Church, published a *Brief Rule to guide the Common People of New-England How to order themselves and theirs in the Small Pocks, or Measles*. This pamphlet was the first medical essay drafted by an author in the colonies and published in America.[21] In composing this pamphlet Thacher may have had access to the Islamic physician Rhaze's ninth-century description of the smallpox but it is more likely he drew his knowledge and information from the works of Thomas Sydenham, a seventeenth century English Physician, as well as his own personal experience as a physician.[22]

Thacher's *A Brief Rule* began with a definition of the disease noting, "[t]he *Small Pox* (whose nature & cure the *Measles* follow) is a disease in the Blood, endeavouring to recover a new form and state."[23] He then described exactly what the disease was trying to do "[b]y Separation of the impure from the pure, thrusting it out from the Veins to the Flesh . . . [b]y driving out the impure from the Flesh to the Skin."[24] He continued by discussing the disease's symptoms and ailments as it proceeded through the earliest phase, through signs of hope or doubt, to signs of pending fatality or recovery. As the body moved through these stages, the decision of doctors treating the patient of either

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[21] Maurice B. Gordon, *Aesculapius Comes to the Colonies: The Story of the Early Days of Medicine in the Thirteen Original Colonies* (Ventnor: Ventnor Publications, Inc., 1949), 83; Marks and Beatty, *The Story of Medicine*, 24. Thomas Thacher (1620-1678) was born in England where he received an education, and resettled in Massachusetts in 1635 at the age of fifteen. His pastoral and medical training both came from Charles Chauncy. Gordon, *Aesculapius Comes to the Colonies*, 83.

[22] Gordon, *Aesculapius Comes to the Colonies*, 83. Sydenham's 1676 *Observations Medical* provides the basic outline for Thacher's article.

[23] Thomas Thacher, *Brief Rule to Guide the Common People of New-England How to Order Themselves and Theirs in the Small Pocks, or Measles* (Boston, 1702), 1.

[24] Ibid., 1.

"hastening Nature beyond its own pace" or "hindering of it from its own vigorous operation," led to many deaths and Thacher sought to caution his readers against committing such errors.[25] Doctors faced a delicate balance of knowing when to be proactive in treating the disease and when to let nature just run its course.

Thacher's advice follows traditional humoral treatment as he warned his readers not to allow the body to become too hot or too cold, preventing the body from being either too dry or too moist, and advising which foods and drinks one should take at the various stages of the illness.[26] Thacher cautions that there is not just one correct answer for all, rather "the season of the Year, age of the sick, and their manner of life here require a discreet and different Consideration, requiring the Counsel of an expert Physician." In the end, the only thing to do is allow the disease to run its course, and to aid the purging process without unknowingly impeding it.[27] This guide was strictly a medical text designed for the common reader, and made no reference to religion's role in either sickness or healing.[28]

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[25] Ibid., 2.

[26] "The Separation by Ebullition in the Feverish heat is over heightened by too much Clothes, too hot a room . . . [t]he same separation is overmuch hindered by preposterous cooling that Feverish boyling head, by *Blood letting, Ghsters, Vomits, Purges, or cooling Medicines*" Ibid., 2. "When the *Pustules* are dry'd and fallen off, purge once and again . . . . Beware of anointing with *Oils, Fats, Ointments,* and such defensives . . . ." Ibid., 2. "Let the sick abstain from Flesh and Wine . . . . For food use *water-gruel, mater-pottage, &* other things having no manifest hot quality . . . . " Ibid., 4-5.

[27] Ibid., 4.

[28] "*These things have I written* Candid Reader, *not to inform the Lerned Physician that hath much more cause to understand what pertains to this disease then I, but to give some light to those that have not such advantages, leaving the difficulty of this disease to the Physicians Art, Wiston, & Faithfulness"* Ibid., 8.

Recognizing smallpox's threat to public health, the government of Boston took steps to prevent outbreaks of epidemic proportions.[29] In May 1684, the General Court passed its first set of orders designed to protect the public health of the town by requiring people to remove nuisances including filth and dirt from the streets of Boston within a twelve-hour timeframe. While they had no scientific evidence to prove their case, the Court believed the mess and odor common around butcher-shops was offensive and detrimental to public health.[30] Through the seventeenth century, Boston had dealt with the most offensive "noxious odors" but little regulation existed to address the public health of the town on a day-to-day basis. In 1692, following the new charter of 1691, the government took a more active role in maintaining public health. The Selectmen further legislated where those engaged in noxious trades could conduct their business without

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[29] In 1952 C.-E. A. Winslow in his *Man and Epidemics* defined public health as follows:

> Public Health is the science and the art of preventing disease, prolonging life, and promoting physical and mental health and efficiency through organized community efforts toward a sanitary environment; the control of community infections; the education of the individual in principles of personal hygiene; the organization of medical and nursing services for the early diagnosis and treatment of disease; and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health.

Quoted in John B. Blake, *Public Health in the Town of Boston, 1630-1822* (Cambridge: Harvard University Press, 1959), vii.

[30] "There being complaint made of great inconvenience by reason of Filth and Dirt cast into the Streets of Boston and other Towns, and of neglect of Butchers to cleanse their Slaughter-houses and Tards of Blood and other Filth; although such Houses and Tards are scituate near Streets and Lanes much frequented : This Court doth Order and Enact, that all Persons of offending shall forfeit twenty shillings to the use of the Town except such Annoyances be removed within twelve hours after Complaint thereof made to lawful Authority." William H.Whitmore, sup. *The Colonial Laws of Massachusetts. Reprinted from the Edition of 1672, with the Supplements through 1686* (Boston: Rockwell and Churchill, 1887), 312-313. The General Court specified the containing of "noxious odors" was for the benefit of the public health of the town stating in another entry, "ill stenches tend to breed infection." *The Acts and Resolves, Public and Private of the Province of the Massachusetts Bay: To Which are Prefixed the Charters of the Province. With Historical and Explanatory Notes, and an Appendix,* vol. I. (Boston: Wright & Potter, Printers to the State, 1869), 656.

being a nuisance and threat to others. The old policy of requiring the butcher to keep his shop clean proved insufficient, and authorities confined butchers and others including distillers and chandlers to certain areas least likely to threaten the health of the townsfolk. In the early eighteenth century, changes in Boston's local governing body, which for the first time "revised, consolidated and published its bylaws," coupled with improved methods of disseminating information to the public (primarily through newspapers), led town officials to actively try to improve public health.[31]

One result was the implementation of a quarantine system. Boston had experimented with quarantine throughout the seventeenth century but not until 1699 did the government establish a quarantine system under, "An Act for the Better Preventing of the Spreading of Infectious Sickness." A year later, complaints arose that this law hurt the shipping trade (primarily because Boston was the only port with these requirements) leading to a repeal of quarantine regulations. At the same time, the Court added a new provision empowering the Selectmen to remove any persons with infectious illnesses including plague and smallpox. In 1701, however, the Court established a more "merchant friendly" quarantine, requiring ship captains to volunteer information of disease aboard ship. This method proved disastrous as in 1702 smallpox once again entered Boston from the sea.[32]

A simultaneous outbreak of scarlet fever accompanied this epidemic which almost claimed the life of Zabdiel Boylston, many members of Cotton Mather's family, and

[31] Blake, *Public Health,* 23, 26; Melchert, "Experimenting on the Neighbors," 80, 92-93.

[32] Blake, *Public Health,* 32, 33; Melchert, "Experimenting on the Neighbors," 96-98.

many others throughout the town.[33] On 30 October 1702, the pain of this illness could be seen through the eyes of Cotton Mather who penned in his diary, "[o]n this Day, my little Daughter *Nibby*, began to fall sick of the Small-pox. The dreadful Disease, which is raging in the Neighbourhood, is now got into my poor Family. God prepare me, God prepare me, for what is to come."[34] Fortunately Nibby was "favourably visited" and recovered. However, the number of sick throughout the town rose rapidly.[35] Mather reflected, "God help me, not only on this Day, but at other Times with great Frequency, and Fervency to commit my Children into His merciful Hands, now the *Small Pox*, is on every Side of us."[36] By the end of the following month, Mather's children Nanny and Increase both fell ill along with his female servant. In the end, all three children recovered but the toll of suffering greatly affected Mather's views of epidemics.[37]

Overwhelmed by caring for his own family as well as the growing number of his flock visited with the disease, Mather penned a pamphlet titled *Wholesome Words, or, A Visit of Advise to Families visited with Sickness*.[38] He designed this pamphlet as a religious guide for those families in his congregation who he could not visit, and outlined

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[33] John Duffy, *Epidemics in Colonial America* (Baton Rouge: Louisiana State University Press, 1971), 49; Cotton Mather, *The Diary of Cotton Mather, 1681-1708*, Massachusetts Historical Society Collections vol. 7 (Boston: Published by the Society, 1911), 446; Silverman, *The Life and Times*, 182; Winslow, *A Destroying Angel*, 27.

[34] Mather, *The Diary of Cotton Mather, 1681-1708*, 445.

[35] Ibid., 445.

[36] Ibid., 443.

[37] Ibid., 447, 451.

[38] Ibid., 446; Silverman, *The Life and Times*, 182.

for them proper reaction to illness. Any family visited with the smallpox, Mather insisted, must acknowledge that sickness comes from God and people lacked power to control the situation. Consequently, the family must stand in humiliation recognizing their powerlessness in the presence of an almighty God. In order to restore right relationship with God, the household's master should lead a reformation of his family. Finally, the entire community must join together to mend their relationship with God and end his judgments which brought this sickness.

Mather then addressed the sick and those who had yet to feel God's judgment upon their household. Those not yet ill must give thanks to God, and prepare themselves spiritually as they too could fall ill and die. They should pray for their sick neighbors and offer alms to God. As for the afflicted, Mather instructed them to seek out the sin that caused their illness and repent, keeping in mind that their care lay in God's hands. If, however, God took their life, they must die in faith.[39] Unlike Thacher, Mather highlighted the religious beliefs underlying sickness. Designed as a pastoral sermon, this letter contained no advice on how to treat the illness medically; rather it focused solely upon the human soul.

The 1702 epidemic was a major turning point in Mather's life as the trials that surrounded him on every side, both within his own home and in the community at large, wore him down.[40] Reflecting in his diary Mather wrote,

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[39] Cotton Mather, *Wholesome Words. A Visit of Advice, Given unto FAMILIES That are Visited with Sickness; By A Pastoral Letter, Briefly Declaring the DUTIES Incumbent on all Persons in the FAMILIES, that have any Sick Persons in Them.* (Boston, 1713).

[40] Levin, *Cotton Mather*, 310; Mather, *The Diary of Cotton Mather, 1681-1708,* 447-451; Silverman, *The Life and Times,* 183.

> I kept this Day, as I kept two the last Week, in my Study. Both with respect unto the Condition of my Consort; and with respect unto the Condition of the Town, where the Small-pox begins to spread; and the Land, where a War is now proclaimed; and other sad Circumstances we have in our Government. But especially for my own poor Family I carried unto the Lord, by Faith getting it sprinkled with the Blood of Jesus Christ, that so the Destroyer may not, at this evil Time have any Commission to touch it.[41]

Mather spent what energy he had left pleading with a Holy God to take away the pestilence and spare his family from such great suffering.

Turning Point #1 – Onesimus Enters Boston

Four years later the smallpox epidemic had subsided, however the horrors of the disease and its possible return at any moment was never far from Mather's mind. As he often did, Cotton Mather set aside 23 October 1706 as a day of Thanksgivings to God for his favors to him in his ministry and to his family. In his diary entry on this day, Mather elaborated upon this ministry, outlining his visit to a society of devout women and a discourse he prepared for those who had fallen into iniquity. Nestled in this lengthy entry Mather recounts an event, which unbeknownst to him, would radically change his life, and affect the lives of those around him stretching into the reaches of the Atlantic World:

> This Day, a surprising Thing befell me. Some Gentlemen of our Church, understanding (without any Application of mine to them for such a Thing,) that I wanted a *good Servant* at the expense of between forty and fifty Pounds, purchased for me, a very likely *Slave;* a young Man, who is a *Negro* of a promising Aspect and Temper, and this Day they presented him unto me. It seems to be a mighty Smile of Heaven upon my Family; and it arrives at an observable Time unto me. I putt upon him the Name of *Onesimus*; and I resolved with the Help of the Lord, that I would use the best Endeavours to make him a

[41] Mather, *The Diary of Cotton Mather, 1681-1708,* 435.

> Servant of Christ, and also be more serviceable than ever to a Flock, which laies me under such Obligations.[42]

While Mather spoke in his diary about other enslaved persons acquired throughout his life (including Ezer, Obadiah, several Servant-Maids, and an unnamed "Negro Boy"), Onesimus commanded his greatest attention.[43]

Slavery existed in New England since the early seventeenth century and provided the foundation of the growing colonies.[44] In the 1640s slavery took root in New England and in 1646 Massachusetts entered into the Atlantic Slave Trade when the first slave ship sailed from Boston.[45] Throughout the seventeenth century, the enslaved population in New England remained low but by the eighteenth century, it was on the rise.[46] New England's connection to the Atlantic Slave Trade revolved around the merchants' role in commerce rather than on importation of enslaved labor into their colonies. By the

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[42] Mather, *The Diary of Cotton Mather, 1681-1708,* 578-580.

[43] Silverman, *The Life and Times,* 263-264.

[44] Daniel K. Richter, "It is God Who Has Caused Them to Be Servants": Cotton Mather and Afro-American Slavery in New England," *Boston: American Congregational Association,* vol. XXX (1979): 4-13. 4.

[45] Lorenzo Greene relates that some scholars place the date of the first black slave in New England somewhere between 1624 and 1630 while others such as George H. Moore and Elizabeth Dunnan and Greene himself claimed Europeans brought the first black enslaved persons to New England in 1638 aboard the trading vessel *The Desire*. Greene, *The Negro in Colonial New England,* 16-18, 20, 22; Robert J. Cottrol, ed., *From African to Yankee: Narratives of Slavery and Freedom in Antebellum New England* (Armonk: M.E. Sharpe, 1998) , xi, xii; John Daniels, *In Freedom's Birthplace: A Study of the Boston Negroes* (Boston: Houghton Mifflin Company, 1914), 1, 2, 4; Jennings, *Boston*, 86. Evidence exists, however, of a few enslaved persons living in New England before Winthrop's fleet arrived in 1630. Samuel Maverick had at least two enslaved persons himself before that date. Most historians, however, still use the date 1638 when Europeans exchanged several Indian servants for a few African enslaved persons. Richter, "It is God," 5.

[46] Edmund S. Morgan, *The Puritan Family: Religion & Domestic Relations in Seventeenth-Century New England* (New York: Harper Torchbooks, 1944, 1966), 111.

eighteenth century Boston was playing a major role in the trade.[47] While New England merchants sold most of their enslaved persons transported in the Atlantic Slave Trade to Southern planters and the Caribbean where demand brought a good price, New England, particularly seaport towns in Massachusetts and Connecticut, had a small market for enslaved persons. Because the profits were limited in New England, these colonies often received only those who merchants could not sell in the Caribbean due to sickness or some other malady. On occasion, a wealthy citizen might order ship captains to reserve some quality enslaved persons for the New England market.[48] Onesimus, who cost between forty and fifty pounds was likely an enslaved person set aside for sale in Boston.[49]

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[47] There are several reasons for the growth of the slave trade in New England in the eighteenth century including the revocation in 1696 of the Royal African Company monopoly, and the *Assiento* of 1713 in which England took from Spain the right to supply black slaves to Spanish America. In addition, an increasing demand for enslaved labor in the sugar islands and other islands of the West Indies as well as continental settlements in the south spurred the growth of the trade. There was also a chronic shortage of white indentured servants King William's and Queen Anne's Wars made worse. Finally, increased well-being and geographic conditions caused New England to look for ways to profit economically from this trade circuit. Greene, *The Negro in Colonial New England*, 23-24; Richter, "It is God," 6. Jennings actually argues Boston's role in the slave trade was not great most likely due to the risks involved in the trade. Jennings, *Boston*, 83, 87; Edgar J. McManus, *Black Bondage in the North* (Syracuse: Syracuse University Press, 1973), 9-10.

[48] Greene, *The Negro in Colonial New England*, 31, 34-35; Jennings, *Boston*, 86; William D. Piersen, *Black Yankees: The Development of an Afro-American Subculture in Eighteenth-Century New England* (Amherst: University of Massachusetts Press, 1988), 4; Richter, "It is God," 5.

[49] Before 1700, most enslaved persons in New England cost between twenty and thirty pounds. During the eighteenth century the prices went up some but fluctuated a lot with prime enslaved persons selling for between forty and fifty pounds and second-rate enslaved persons selling between fifteen and twenty pounds. Greene, *The Negro in Colonial New England*, 42-45. Merchants sold most enslaved persons in New England for between fifteen and twenty-five pounds so Onesimus was an expensive purchase at between forty and fifty pounds. Cecil Headlam, ed. *Calendar of State Papers, Colonial Series. America and West Indies June 1708-1709* (London: Published by His Majesties Stationary Office, 1922), 110. "Some Gentlemen of our Church, understanding (without any Application of mine to them for such a Thing,) that I wanted a *good servant* at the expence of between forty and fifty Pounds, purchased for me, a very likely *Slave;* a young Man, who is a *Negro* of promising Aspect and Temper, and this Day they presented him unto me." Mather, *The Diary of Cotton Mather, 1681-1708*, 579.

That Mather named this servant Onesimus speaks much of the relationship he intended to have with him. The name "Onesimus" comes from the New Testament book of Philemon where Paul writes "I beseech thee for my son Onesimus, whom I have begotten in my bonds: Which in time past was to thee unprofitable, but now profitable to thee and to me: Whom I have sent again: thou therefore receive him . . . ."[50] The biblical Onesimus, after converting, returned to his master Philemon with a letter from Paul entreating him to accept Onesimus back not just as a servant, but also as a brother to serve by his side in the ministry. As a member of his household, Mather hoped his new servant Onesimus would soon convert and be useful to him in his ministry. Mather intended to reshape Onesimus's life through conversion and instruction; however, he could have never foreseen that this relationship would alter his own life the most.

Upon acquiring Onesimus in 1706, one of Mather's main concerns was his new servant's health and he asked Onesimus if he had ever contracted smallpox. Most enslaved persons in Boston in the eighteenth century were African born. Upon arrival in the Americas, it was common to ask a slave if he had had the smallpox.[51] Mather wanted to know if Onesimus brought the risk of the disease to his household (and potentially the entire town), and if an epidemic should otherwise occur whether he would survive and be able to help care for the sick. While Mather does not reference this discussion in his diary at that moment, in July 1716 he spoke of the conversation in a letter he wrote to Dr. John Woodward of Gresham College, which eventually reached the Royal Society in

[50] Philemon 1:10-12. KJV.

[51] Eugenia W. Herbert, "Smallpox Inoculation in Africa," *The Journal of African History*, 16, no. 4 (1975): 539, 543. Slave advertisements from this period also testify to how common this question was.

London (of which Mather became a member in 1713). In this letter, Mather spoke of previous smallpox epidemics and the 1713 Measles outbreak in Boston.[52] Mather recounted,

> [e]nquiring of my Negro-man *Onesimus*, who was a pretty Intelligent Fellow, Whether he ever had ye *Small-Pox*; he answered, both, *Yes*, and *No*; and then told me, that he had undergone an Operation, which had given him something of ye *Small-Pox* & would forever praeserve him from it; adding that it was often used among the Guramantee & whoever had the Courage to use it, was forever free from the fear of Contagion. He described the operation to me, and showed me in his Arm the Scar which it had left upon him, and his description of it made it the same that afterwards I found related unto you by your Timonius.[53]

Onesimus showed Mather where he had been inoculated – an action that had tremendous consequences as from that moment America had a new means to combat smallpox.[54]

When Onesimus became a part of Mather's household he also became a part of the Boston community which contained numerous other enslaved persons. In 1706, as the town of Boston was growing as an urban center, so too grew its problems. Public drunkenness, growing numbers of poor, and rising petty crime raised fears among the white population in Boston. The growing number of enslaved persons in Boston also contributed to the civic problems as the enslaved population developed a reputation for

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[52] Mather was responding to two pieces he had read in the *Transactions* of the Royal Society one by Dr. Emanuel Timonius of Constantinople and another by a Venetian Dr. Jacobus Pylarinus, both of whom had written about inoculation as they witnessed it in parts of Asia and Africa. Miller, *The New England Mind*, 345-6. This letter was one of eleven letters in his series *Curiosa Americana*. Mather sent these letter to Woodward through Samuel Woodard who delivered them in August. George L. Kittredge, "Some Lost Works of Cotton Mather," *Proceedings of the Massachusetts Historical Society* 45 (1912), 420-422.

[53] Mather does not mention in this particular letter that this conversation occurred many years before. Letter of July 12, 1716, to Dr. John Woodward, New England Historical and Genealogical Society, Mss A 5623. It is unclear when Onesimus learned to speak English – perhaps he had learned English on his journey to enslavement, or possibly he had lived in the Americas for some time before he became a servant to Cotton Mather.

[54] Winslow, *A Destroying Angel*, 32.

arson, rape, theft, and murder. In 1711, the Court passed an act to deter robberies and assaults by assigning severe punishments to muggers.[55]

After noting the acquisition of Onesimus in 1706, Cotton Mather did not mention him again in his diary until five years later. By this point, life with Onesimus was not going as planned, and of utmost concern to Mather was the fear that God might punish his family for the misbehavior of this servant who was living in his household. Mather reflected:

> I must keep a strict Eye on my servant *Onesimus;* especially with regard unto his Company. But I must particularly endeavour to bring him unto Repentance, for some Actions of a thievish Aspect. Herein I must endeavour that there be no old Theft of his unrepented of, and left without Restitution. But then, upon every observable Miscarriage of any Person in my Family, I must make my Flight unto the Blood of my Saviour, as a Family-Sacrifice; that so the Wrath of God may be turned away from my Family.[56]

While Onesimus *might* have been a petty thief stealing goods from his Master's house, it seems more likely that he was rather a thief of time. In his book *Black Yankees*, Piersen relates that Yankee masters did not need to tolerate unruly slaves as they often sent them South as punishment. Mather never punished Onesimus for being a thief.[57] An enslaved person in Puritan New England had no right to a private life, yet one of the ways to deny

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[55] It was even rumored in 1723 that black people in Boston had planned to burn down the entire city. Silverman, *The Life and Times,* 281.

[56] Mather, *The Diary of Cotton Mather, 1709-1724,* 139.

[57] Mather eventually granted Onesimus his freedom primarily because Mather could not deal with his behavior anymore. Piersen, *Black Yankees,* 30. Mather later records in his dairy visiting an enslaved person sentenced to die for being a thief – again evidence of the severe punishments afforded for stealing. ""A poor Negro in the Prison, condemned to dy for Burglary." Mather, *The Diary of Cotton Mather, 1709-1724,* 351. See also McManus, *Black Bondage,* 9. Thievery was one of the most common forms of covert resistance displayed by enslaved persons in New England so it is possible Onesimus was simply a thief. Also, since Masters often left enslaved persons alone in homes so there was a need for some level of trust and respect between the two. Morgan, *The Puritan Family,* 124.

the absolute rule of the institution of slavery was through day-to-day covert acts of resistance, including "stealing time" from the master. According, to Edmund Morgan, a historian of the Puritan family, "[i]f he [a slave] did his duty as he ought, his time, day and night, was all his master's. Unless he were a good Puritan, however, he would not be likely to take his duties seriously except for fear of punishment."[58]

Preoccupied with this idea of theft, just over a year later on 11 January 1713, Mather delivered a sermon to his congregation entitled, "A Flying Roll, for the House of the Thief." It seems Onesimus was not the only thief in town for, as Mather related, "It is a Matter of Grief, that there should be such a Growth of *Thievery* in the Town, as to render a *Sermon* upon it, necessary; a most grievous thing that such a *Sermon* should be seasonable."[59] Preached to a congregation of both black people and white people, Mather defined the transgressor and the transgression: "A thief is an evil-doing. To Steal is a crime, A robber is a Criminal. I will call in another Text, that we may have a Legal Evidence. 'Tis that; Psal. LXIX 61 The Companies of the wicked have Robbed me. 'Tis a Wicked Thing to do so."[60] But a thief, Mather answered, did more than just steal from another. "The *Labourer* is not an *Honest Man,* if he alienate great Quantities of his Time, from the *Business* of those that imploy him, and pay him for his Time."[61] This "thievish

[58] Morgan, *The Puritan Family*, 123.

[59] Cotton Mather, *A Flying Roll, Brought forth, to Enter into the House and Hand of the THIEF. The CRIME & the DOOM of the Thief declared; The various Wayes of his THEFT Detected and Exposed; And a REPENTANCE demanded from the Malefactor* (Boston: B. Green, 1713), 4.

[60] Ibid., 3-4.

[61] Ibid., 10.

aspect" of behavior was the greatest thorn in Mather's side when calling upon Onesimus to repent. His failure to do so made Onesimus not a servant of the Lord, but rather a servant of the Devil "who is never idle."[62] Mather believed the only way to improve on Onesimus' behavior and protect his household from the judgment of God was through conversion, an action Onesimus outright refused, potentially suggesting Onesimus was a Muslim as they were often the most adamant in their refusal to convert.[63]

Concluding this sermon, Mather spoke directly to the servants in the congregation, perhaps even directly to Onesimus himself,

> I vehemently Call upon all the *Servants* in the Congregation, to lay that Word of God before them; Tit. II. 10 *Exhort Servants, that they be not Poisoning Ones, but shewing all Good Fidelt . . . Men*-Servants, In the *Ship,* in the *Shop,* in the *Storehouse;* Be sure, You don't wrong your Masters of a *Penny*; no, nor do not by *Slothfulness* wrong them of the *Time,* which is *Theirs* and none of *Yours.*[64]

From the time when Mather noted Onesimus' thievish behavior, Mather stewed over how his slave had robbed him of his intended purpose, namely to be a useful servant in the Lord. Throughout the course of the next year, Mather tried to use reason to alter the course of Onesimus' behavior.[65] He sought to fill Onesimus' time with useful activities including reading, writing, and learning the catechism. Mather recorded,

> There are several Points, relating to the Instruction and Management of my Servant *Onesimus*, which I would now more than ever prosecute. He shall be sure

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[62] Ibid., 33.

[63] Silverman, *The Life and Times,* 264.

[64] Mather, *A Flying Roll,* 31.

[65] "My Negro-Servant, is one more Easily govern'd and managed, by the Principles of Reason, agreeably offered unto him, than by any other methods. I would ofterner call him aside, and assay to reason him into a good Behaviour." Mather, *The Diary of Cotton Mather, 1709-1724,* 222.

> to read every Day. From thence I will have him go on to Writing. He shall be frequently Catechized. I would also invent some advantageous Way, wherein he may spend his Liesure-hours.[66]

Onesimus's propensity to steal disheartened Mather, but the state of Onesimus's soul concerned him even more; after five years in his household Onesimus had yet to convert. It seems that Mather took his failure to convert Onesimus very personally as Onesimus's resistance to conversion was affecting Mather's reputation. Mather was a vain man concerned more about his own reputation than about Onesimus' soul, particularly since many early eighteenth-century Puritans believed God would strike punishment on their household if any of its members failed to uphold God's laws. With Onesimus under his roof and in essence a part of his family, Mather was particularly concerned about his servant's salvation in order that he might protect his own family from God's judgment, the most feared manifestation of which was an epidemic outbreak of disease. Onesimus's poor behavior, coupled with his resistance to conversion, Mather feared, would cause God to strike punishment upon his family and community.

Turning Point #2 – October 1713 – Measles Epidemic in Boston

Cotton Mather realized his greatest fears in October of 1713 when one of the worst measles epidemics in colonial America broke out in Boston.[67] On 18 October, Mather reflected,

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[66] Mather, *The Diary of Cotton Mather, 1709-1724,* 271-272.

[67] Silverman, *The Life and Times,* 269.

> The Measles coming into the Town, it is likely to be a Time of Sickness, and much Trouble in the Families of the Neighbourhood. I would by my public Sermons and Prayers, endeavour to prepare the Neighbours for the Trouble which their Families are likely to meet withal."[68]

This epidemic started in Newport, Rhode Island, spread to Harvard College in September, and finally arrived in Boston where it infected thousands and claimed the lives of over 160 in just two months.[69] The horrors of the disease, Mather later recalled, was a "[m]alady Grievous to most, *Mortal* to many, & leaving pernicious Relicks behind it in all."[70] From the time Mather heard of the outbreak in Rhode Island, he began to fear for his own family and flock in Boston, a fear which became a reality as the measles epidemic struck his own household with a vengeance and forever changed his medical and religious worldview.

It did not take long for the epidemic to reach Mather's family. Increase Jr. fell ill first and although he recovered quickly, Mather questioned, "what Uneasiness is my Family to look for?"[71] Hoping to protect them from the rapidly spreading disease, Mather turned to introspection and encouraged his children and "Domesticks" to do similarly. Mather hoped by righting the wrongs of his household God would spare them from his wrath.[72] Despite these efforts, by the end of the month Mather's children Katy

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[68] Mather, *The Diary of Cotton Mather, 1709-1724,* 248.

[69] Silverman, *The Life and Times,* 269. In 1717 Boston's population was around 12,000.

[70] Cotton Mather, *A Letter, About a Good Management under the Distemper of the Measles* (Boston, 1713), 1.

[71] Mather, *The Diary of Cotton Mather, 1709-1724,* 249.

[72] We do not know exactly who Mather considered a "Domestick" but it was likely a household servant or enslaved person. "The spreading Malady of the Measles, which to many proves a Grievous one, having entered my Family, I must in my Family-Sacrifices have an Eye to the Condition of my Family. I must

and Nibby had contracted the measles. Three days later, Mather saw his wife Elizabeth, and children Nancy, Lizzy, and Jerusha, followed shortly thereafter by his son Sammy and his servant-maid all fall ill with the measles. While Increase, Katy, Nibby, Nancy, Lizzy, and Sammy all recovered, by the end of November Mather had watched his wife and "dear friend" Elizabeth, his servant-maid, the infant twins (Eleazar and Mather) and his toddler daughter Jerusha all pass away.[73]

Responding to the epidemic, Mather embodied the role of both minister and doctor. Speaking to his flock's religious needs, he called them to repentance, yet also addressed their medical needs by instructing them in proper care for the sick. Mather delivered his first sermon on 8 November 1713, just one day before the first death in his family from the disease. In *The Duty of Patient Submission to every Condition, which the PROVIDENCE of GOD Orders for the Children of Men,* Mather intended to comfort a friend who was burying his only son, reminding him that, "the Glorious God had a further Intention in it, which was to prepare the Preacher too, for Encounters, which he was not altogether aware of, until the Composure was finished." Mather spoke of the suffering Christ took for them and explained why his followers should likewise bear willingly the trials God brings their way.[74] Two weeks later on 22 November, having

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quicken the praeparation of my Domesticks, for the unknown Issue of the Calamity. And now, my son Increase is on his Recovery, I must oblige him unto it, as his first Work, to draw up in writing, some special Resolutions, for the future Conduct of his Life." Mather, *The Diary of Cotton Mather, 1709-1724,* 249.

[73] Upon the death of his maid-servant Mather repented for any bad behavior he had shown toward his servants, in other words this time he blamed himself and not his servant's poor behavior for her unfortunate death. Silverman, *The Life and Times,* 269-275; Barrett Wendell, *Cotton Mather* (New York: Barnes and Noble Books, 1992), 244-248. Mather, *The Diary of Cotton Mather, 1709-1724,* 249, 250, 252, 254-5.

[74] Nancy Isenberg and Andrew Burstein, eds., *Mortal Remains: Death in Early America* (Philadelphia: University of Pennsylvania Press, 2003), 59. Cotton Mather, *The Will of a Father Submitted to. The DUTY*

already lost several family members, Mather again preached a sermon in which he pleaded with his people to accept adversity and bear it with righteous behavior so they might be drawn back to God. Mather reminded his flock that since the sins of their first parents, adversity had plagued society. Nevertheless, adversity was ultimately for their own good, serving to bring them back to God. Again, he offered no advice on how to avoid the disease other than to live a righteous life.[75]

Mather, however, was already contemplating composing a medical pamphlet. He desired to work with the local physicians on completing this advice letter and although none of them actually helped in the drafting of the letter, they all approved of it. Like Thacher, Mather was not looking to usurp the physicians' position but rather wrote as "[n]othing but a pure *Act of Charity to the Poor,* where *Physicians* are wanting," being careful not to offer anything "but what a Number of our most Eminent Physicians have approved of."[76] Mather took particular care to specify this document did not replace doctors, but rather served as an aid to those (particularly in the countryside) who had no access to professional services.

Submitted in December, this pamphlet contained advice on two levels: religious and medical, and represents a key shift in Mather's thought on disease. Religiously, Mather encouraged his flock to take that which God had brought upon them in a

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of Patient Submission To every Condition, with the PROVIDENCE of GOD Orders for the Children of Men. (Boston, 1713), preface, 2, 14, 23, 30, 40.

[75] Cotton Mather, *Hezekiah. A Christian Armed with Strength From Above; To Keep him from FAINTING in a Day of ADVERSITY* (Boston, 1713) 2, 5, 9, 13, 15, 18, 22, 29, 35.

[76] Mather, *A Letter, about a Good Management under the Distemper of the Measles*, 4.

submissive manner, and to seek repentance so God might remove the sickness. First and foremost, Mather wrote, "[y]ou will by no means forget the first and main Care, which is, To have an Eye unto the Glorious GOD, who is, *The Lord our healer.*"[77] After addressing the spiritual, Mather proposed a medical remedy for the measles that was very similar to the advice offered by Thacher: to let the disease run its course and persuade people "out of the pernicious Methods of *Over-doing,* and *Over-heating,* and giving Things to *force Nature* out of its own orderly way of proceeding."[78] While balancing the humors was the primary medical procedure of the time, Mather, much like Thacher, also knew trying to bring the humors back into balance could do the patient more harm than good. Rather than offer proactive treatment, Mather suggested sometimes the best treatment is to do nothing at all and allow the disease to run its course. Therefore, Mather continued, "let this Advice for the *Sick*, be principally attended to; *Don't kill 'em!* That is to say, With mischievous Kindness." This advice alone, Mather believed, was enough to save more lives than wars had destroyed.[79] Mather then followed the ideas outlined by Thacher and described the stages of the disease and then offered remedies which one could employ on their own.[80] "The Usual Symptoms of an *Arrest* from the *Measles* are," Mather relates,

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[77] Mather, *The Diary of Cotton Mather, 1709-1724,* 252; Mather, *Measles,* 1.

[78] Mather, *A Letter, about a Good Management under the Distemper of the Measles,*

[79] Ibid., 1. While balancing the humors was the primary medical procedure of the time, Cotton Mather, much like Thomas Thacher in 1678, also knew trying to bring the humors back into balance could do the patient more harm than good. Rather than offer proactive treatment, Mather suggested sometimes the best treatment is to do nothing at all and allow the disease to run its course.

[80] Thomas J. Holmes, *Cotton Mather: A Bibliography of His Works* (Cambridge, Massachusetts, 1940), 527.

> [a]n *Headake*; Troubles in the *Eyes*; a Dry *Cough*; an Oppression on the *Breast* or *Stomach*; or a pain there, and in the *Back* and Limbs; and sometimes a *Faintness,* with *Sickness,* perhaps *Vomiting,* or *Griping* and *Purging;* A *Thirst,* with a constant *Fever,* which is mild at first, but grows high enough before it has done.[81]

With measles in his own family and throughout the town, Mather had seen enough of the disease to record its basic symptoms. The remedies, Mather continues, involve, sweating, a gentle vomit, keeping warm, and drinking tea.[82]

With all the sickness and death in his family, the one person who stands out as missing from Mather's record of the measles epidemic is Onesimus. Since Mather took great pains to elaborate upon the day-to-day effects of the epidemic on his household, including his servant-maid, it seems unusual that Mather made no mention of Onesimus. This curiosity is particularly interesting, for as Mather related in his pastoral letter *Wholesome Words. A Visit of Advice Given unto FAMILIES That are Visited with Sickness,* which he wrote during the smallpox epidemic of 1702 and reissued in 1713, "[w]hen *Sickness* comes into any *Family, tho' but One Person* should be Visited, it administers a *Manifold Occasion* for *Serious Religion* to be Exercised by the whole *Family,* even by *every Person* belonging unto it."[83] Prior to the measles outbreak, Onesimus's behavior was of significant concern to Mather. A week after measles made its first appearance in Mather's family, he records, "[t]he grievous Unsuccessfulness of my Ministry, ought to be unto me, the most pungent Matter of grief in the World."[84]

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[81] Mather, *A Letter, about a Good Management under the Distemper of the Measles,* 1.

[82] Ibid., 2-4.

[83] Mather, *Wholesome Words,* A.

[84] Mather, *The Diary of Cotton Mather, 1709-1724,* 249.

While he does not explicitly state it, Mather alludes to the notion that his failure to convert Onesimus brought this grief of measles on the family. With all the death surrounding Mather it is significant Onesimus survived this epidemic, which was no respecter of persons rich or poor, young or old, black or white.[85] While Mather never mentions this fact in writing, I argue that this reality caused Mather to question why this servant, who refused to convert, seemed to have a hedge of protection about him and avoid the punishment for his actions. The one person whose behavior most worried Mather for the repercussions it might bring on his family was also the one person besides himself to survive the epidemic unscathed – an event I believe changed Mather's thinking on medicine and opened the door for him to pursue active prevention of smallpox through inoculation eight years later.

Spreading Ideas of Medicine and Inoculation

The arrival of measles to Boston in 1713 came at a time when Mather was also beginning to carry on an extensive correspondence with the Royal Society of London.[86] Following his wife's death, Mather thought it his duty to communicate to others medical remedies he had the blessing to observe. This correspondence was not something new

[85] Sharla M. Fett has examined nineteenth century accounts from African American orators. In these instances, whites fell ill while black people escaped unscathed. African Americans came to interpret this as result of God's punishment of whites for the sins of slavery. Perhaps Onesimus would relate a similar story when recounting the measles outbreak of 1713. Sharla Fett, *Working Cures: Healing, Health, and Power on Southern Slave Plantations* (Chapel Hill : University of North Carolina Press, 2002), 40.

[86] The Royal Society of London was founded in December of 1660 and received its charter in July of 1662 from Charles II. Otho T. Beall, Jr., "Cotton Mather's 'Curiosa Americana' and the Boston Philosophical Society of 1683," *The William and Mary Quarterly,* vol 18 (July 1961), 360.

for Mather but rather another stage in his frequent study of science and medicine.[87] Since his early twenties, Mather had been reading the Royal Society's *Philosophical Transactions* and now he was ready to actively participate in the discussions of the Royal Society. In particular, Mather believed he had something to offer by communicating his unique findings in the New World with members of the Old World (and the New) though the Royal Society.[88]

In his correspondences, Mather was in contact with the Royal Society's leading men including Dr. John Woodward, Richard Waller, and James Jurin. Although Mather dabbled in a variety of subjects including, astronomy, botany, zoology, and geology, his passion was always in medicine.[89] One of Mather's most well known correspondences is his *Curiosa Americana* which is a collection of fifty-nine letters sent to the society as well as several dozen other related letters. Much to Mather's surprise and disappointment, the Society never published the *Curiosa* in its entirety; nonetheless, this collection stands as one of Mather's greatest medical contributions. Topics range from monstrous births to planetary motions, and Mather sought to write as much as possible from first- hand -experience. For example, he personally visited the conjoined twins who were the subject of one of his fascinating letters. According to Kenneth Silverman, one of Mather's primary biographers, the underlying purpose of this collection was to

[87] They founded this scientific society in Boston in 1683 which clergymen like Increase and Cotton Mather dominated. Ibid.," 361.

[88] Kenneth Silverman, ed. *Selected Letters of Cotton Mather* (Baton Rouge: Louisiana State University Press, 1971), 107-108.

[89] Beall and Shryock, *Cotton Mather,* 42; Melchert, "Experimenting on the Neighbors," 116; Silverman, *The Life and Times,* 247; Silverman, *Selected Letters,*109.

describe the "remarkables of the New World and to demonstrate what America uniquely was and what an American could do."[90]

On 12 October 1713 Mather recorded in his diary,

> [t]his Day, in Ships arriving from London, I receive Letters from the Secretary of the Royal Society, who tells me, that my *Curiosa* Americana being read before that Society, they were greatly satisfied therewithal, and ordered the Thanks of the Society to be returned unto me; they also signified their Desire and Purpose, to admit me as a Member of their Body. And, he assures me, that at their first lawful Meeting for such Purposes, I shall be made, A FELLOW OF THE ROYAL SOCIETY; Whereof he Expects then to send me the Advice, and some other Entertainments.[91]

Mather was aware of the great honor this prospect held, especially as he was the first colonist selected to the society. Mather had established himself as a disseminator of new scientific knowledge.[92] Yet his greatest contribution to the world of medicine was yet to be made.

Although Mather wrote prolific letters for the Royal Society, actually obtaining copies of the *Transactions* in the colonies was difficult considering the long Atlantic voyage. In 1714, however, William Douglass, a fellow member of the Royal Society,

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[90] Silverman, *Selected Letters* 107-108. Mather's letters followed the model of the *Ephemerides Medico-Physicorum Germanorum,* the scientific yearbook of the German Philosophical Society. Beall, Jr., "Cotton Mather's 'Curiosa Americana' and the Boston Philosophical Society of 1683," 364.

[91] Mather, *The Diary of Cotton Mather, 1709-1724,* 245-6. Mather however, was not officially elected until April of 1723 for reasons which are unknown. However, this delay proved key as Mather gets involved in the inoculation controversy in Boston in 1721. Mather's *Curiosa Americana* was a large collection of letters on his scientific research – only potions of which were printed by the Royal Society – an act of rejection which continued to bother Mather. Melchert, "Experimenting on the Neighbors," 129; Silverman, *Selected Letters,* 109.

[92] Boas and Boas, *Cotton Mather*, 204; Thomas H. Brown, "The African Connection. Cotton Mather and the Boston Smallpox Epidemic of 1721-1722," *Journal of the American Medical Association* 15 (21 October 1988), 2247; Silverman, *The Life and Times,* 253. Timonius likely addressed this correspondence to Dr. John Woodward, a leading member of the Royal Society. Kittredge, "Some Lost Works of Cotton Mather," 419.

arrived in Boston carrying several copies with him. Douglass lent at least two volumes of the *Transactions* to Mather. Mather was anxious to read what these volumes had to offer and found in them two accounts of inoculation that took his mind back to the conversation he had with Onesimus nearly ten years before.[93]

In the first account, published in 1714, Emanuel Timonius, a graduate of Padula and alumnus of Oxford, discussed how the Turks and others in Constantinople had practiced inoculation for about forty years.[94] Over the course of the past eight years of practicing medicine in Constantinople Timonius, a Greek, witnessed firsthand that inoculation had been widely practiced and had proven both safe and effective for all ages, sexes, temperaments, and even in the worst constitution of air.[95] Timonius reported,

> I have never observ'd any mischievous Accident from this Incision hitherto; and altho' such Reports have been sometimes spread among the Vulgar, yet having gone on purpose to the House whence such Rumors have arisen, I have found the whole to be absolutely false.[96]

Inoculation, Timonius argued, posed no danger to society.

In the second account, published in 1716, Dr. Jacobus Pylarinus, another Greek physician practicing in Constantinople, also discussed inoculation. In his entry, Pylarinus described the technique of inoculation stating that they made incisions with either a metal

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[93] Donald R. Hopkins, *The Greatest Killer: Smallpox in History* (University of Chicago Press, 2002), 248; Melchert, "Experimenting on the Neighbors," 141.

[94] William Douglass, *A Dissertation Concerning Inoculation of the Small-pox* (Boston, Henchman and Hancock, 1730), 2; Raymond Muse, "William Douglass, Man of the American Enlightenment, 1691-1752," PhD diss., (Stanford University, 1948), 44-45, Tourtellot, *Benjamin Franklin*, 242.

[95] Emanuel Timonius, "An Account, or History, of the Procuring the Small Pox by Incision, or Inoculation: As It Has for Some Time Been Practices in Constantinople," *Philosophical Transactions*, vol. 29 (1714-1716), 72; Tourtellot, *Benjamin Franklin*, 242.

[96] Timonius, *An Account,* 75.

or gold instrument on the forehead, cheeks, chin, or more preferably on an arm or leg. Following the incision, they placed pus in the wounds which they covered. Pylarinus then carefully outlined post-inoculation treatment including keeping the body in balance by avoiding the cold and following a strict dietary regime. The result was a less harsh reaction than when one contracted smallpox in the traditional way.[97] Reading these accounts Mather again contemplated this life saving technique that Onesimus first introduced to him in 1706.

By the end of September in the year 1716 (ten years after Onesimus entered the Mather household) Mather grew frustrated with his inability to convert Onesimus and change his behavior and decided to release Onesimus and replace him with another servant. Reflecting on this decision Mather related,

> [m]y Servant Onesimus, proves wicked, and grows useless, Forward, Immorigerous. My Disposing of him, and my supplying of my Family with a better Servant in his Room, requires much Caution much Prayer, much Humiliation before the Lord. Repenting of what may have offended Him, in, the Case of my Servants, I would wait on Him, for his Mercy.[98]

For his release, Onesimus paid a sum of money to Mather to purchase a new servant. Mather released Onesimus from service under him or anyone else under two conditions: first that he visit the family every evening and bring in fuel for the following day and help shovel when it snowed and second, to help the family whenever they needed it including helping out at the mill when an extra set of hands be required. While Onesimus

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[97] Solon S. Bernstein, "Smallpox and Variolation: Their Historical Significance in the American Colonies," *Journal of the Mount Sinai Hospital,* Vol. 18 (New York, 1951), 228.

[98] Mather, *The Diary of Cotton Mather, 1709-1724,* 363.

no longer lived with Cotton Mather, he kept close ties with the Mather household and remained in daily contact with them.[99]

Turning Point #3 - Joseph Hanno

Even though Onesimus was now gone from his household, Mather continued to contemplate inoculation. As he did, his worldview on religion and medicine faced a new challenge as Joseph Hanno, a professing Christian and example to the larger black community committed a horrendous murder. Here, on the eve of the smallpox outbreak in Boston one of Cotton Mather's black parishioners murdered his wife, setting into motion a notorious case that illuminated the complex relationship between race, religion, and medicine in colonial Boston.

In 1677 Joseph Hanno arrived in New England and after enduring thirty years as an enslaved person he received his freedom and set up his own home in Boston with his wife Nanny. In Boston, Hanno became the model Christian, demonstrating the positive impact Mather believed conversion would exhibit in black people. However, in May 1721 this ideal all changed as Joseph took Nanny's life by slitting her throat. Although he immediately called in the coroner and claimed his wife had committed suicide, Jonathan Pollard's report suggested she was the victim of murder.[100]

To the Puritans, Joseph Hanno had been a role model for the rest of the community as he was one of the few success stories in their attempts to convert black

[99] Mather, *The Diary of Cotton Mather, 1709-1724*, 363 fn. 1.

[100] Mark S. Weiner, *Black Trials: Citizenship from the Beginnings of Slavery to the End of Caste* (New York: Alfred A. Knopf, 2004), 34-36.

Bostonians. Hanno, Mather related, was the beneficiary of "a Religious Education, which Enabled him to Read the *Oracles* of GOD, and learn the *Principles* of Christianity."[101] He was baptized and stood as a candidate for communion and provided an example for others of his race until he proved "so Doubly and so Deeply *Black* a character."[102] This religious education gave Hanno the knowledge to determine right from wrong removing any excuse of ignorance for the crime he committed.

Cotton Mather had campaigned for black people's conversion upon the ideal that it would improve their behavior, and he became particularly concerned with determining what had gone so wrong with Hanno.[103] Because the accused knew the scriptures Mather hoped proper counsel might draw him back to the faith before his imminent death. [104] When reflecting on the murder, Mather did not blame Hanno's skin color but rather his lack of religion: although Hanno usually said his daily prayers, he admitted to Mather that on the night before the murder he had neglected them. Mather used this example to implore both black people and white people to continue in their prayers lest they fall to similar crimes.[105]

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[101] Cotton Mather, *Tremenda*, (Boston: B. Green, for B. Gray & J. Edwards, & sold at their shops, 1721), 23.

[102] Ibid., 23.

[103] "The conundrum must have passed through Mather's mind: here was the most knowledgeable of black Christians who also was the worst of criminals." Weiner, *Black Trials*, 40.

[104] Joseph Hanno may have been more an exception than the rule, as he claimed that "I have a Great deal of Knowledge. No body of my Colour, in Old England or New, has so much." To which Mather responded, if you are so educated then you are held even more responsible. Mather, *Tremenda*, 38.

[105] Mather, *Tremenda*, 26.

On 13 May 1721 Mather wrote in his diary, "[a] miserable Negro [Hanno] under Sentence of Death, for the Murder of his Wife, must be visited, instructed, counseled."[106] After meeting with him, he recorded,

> [t]he Providence of my glorious Lord, still strangely continuing and multiplying my Opportunities to glorify Him, it comes to pass, that on my Lecture, there falls out the Execution of a Negro, [Joseph Hanno] who has been instructed and baptized, and rendered himself a pretty noted Fellow, is this day to be hanged for murdering his Wife. A vast Assembly attends the Lecture; and with a great Assistance from Heaven, I bring forth many Things which I hope, will make a good Impression upon the People. More particularly, wicked and forward Husbands, (as well as our *Ethiopian* Slaves) have this Day their Portion with a due Pungency given them.[107]

In his execution sermon entitled *Tremenda. The Dreadful Sound with which the Wicked are to be Thunderstruck*, Mather elaborated upon Hanno's sins and warned the assembled congregation, composed of both blacks and whites to guard against falling into like sin.[108] Mather outlined what constituted a sinner, placing whites and blacks on even ground in terms of behavior and repentance. Every person present, regardless of the color of his or her skin, was as susceptible to sin as the African Joseph Hanno.[109] For each sin committed, "[t]he Law has its Penalties for the Breakers of it."[110] He lectured,

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[106] Mather, *The Diary of Cotton Mather, 1709-1724*, 618.

[107] Mather, *The Diary of Cotton Mather, 1709-1724*, 620.

[108] In 1692 the General Court of Massachusetts ruled, that "If any person shall commit wilful murder upon premeditated malice, hatred, cruelty or sudden heat of anger, every such person shall be put to death." *The Acts and Resolves, Public and Private of the Province of the Massachusetts Bay, vol. I*., 55. This Act was reconfirmed in 1697. *The Acts and Resolves, Public and Private of the Province of the Massachusetts Bay, vol. I*., 296. Joseph Hanno received the same penalty for murdering his wife that anyone, male or female, white or black would have received. In this case, his penalty was not any more or less severe because of the color of his skin.

[109] Mather, *Tremenda*, 1-9.

[110] Ibid., 10.

"[t]here are many *Woes* which the word of GOD threatens unto the *wicked*, in the concerns of *this* Life . . . ."[111] Yet of even greater alarm was "[a] Summons to appear before the *Judgment-Seat of God*."[112] Hope remained, for "*[b]e you never so wicked, there is a Great SAVIOUR willing to Receive you, and Redeem you, if you come unto Him*."[113] Mather believed that God offered grace equally to all. He asked, "[i]s the *Black Thing* that you have in Irons here before you, the only One that may be charged with *Murdering* his *Wife* among us? Now, Let all Base, and Bitter, and Forward *Husbands* consider it."[114] While the rest of the community pointed a finger at Hanno, for Mather, the issue was not only the behavior of a black man but the sinful tendencies of all, any of whom might bring God's wrath upon the community.

Although Mather believed both blacks and whites were equally sinful, the position of slaves concerned Mather. Recognizing their desire for freedom Mather was concerned that they understood the benefits they received under servitude where masters fed, clothed, and lodged them, and left them with no cares except to do as bidden. Mather assured them that they could fulfill their desires for freedom by giving themselves to God.[115] Freedom would not have prevented Hanno from killing his wife - to use that as an excuse was unacceptable to Mather; servitude was no excuse for sinning.

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[111] Ibid., 12.

[112] Ibid., 18.

[113] Ibid., 20.

[114] Ibid., 26.

[115] Ibid., 27. "There is a *Fondness* for *Freedom* in many of you, who live Comfortably in a very easy Servitude; wherein you are not so *well-advised* as you should be. If you were *Free*, many of you would not Live near so well as you do. . . ." Ibid., 27.

The Puritans believed that God held an entire society accountable for the sins of its members so when Hanno murdered his wife the entire community could potentially pay for his sins.[116] Joseph Hanno, the model Christian within the black community, had committed a horrible crime that contradicted all Mather believed about conversion and Mather feared the consequences might be the strike of an angry God against them: this fear became a reality on the next day as Mather noted the arrival of smallpox in Boston. While he never drew a connection between Joseph Hanno's behavior and the arrival of the pestilence in his diary, Mather's sermon made it clear he believed a direct correlation existed between man's wickedness and God's judgment.[117]

Mather's worldview had been shaken. First, Onesimus, whose behavior prompted what Mather believed was a punishment from God in the form of measles, escaped unharmed. Then Hanno, who was the model Christian he hoped Onesimus would become, committed a horrendous crime. Two months later, as smallpox gripped Boston, the authorities arranged Hanno's hanging. Hanno had paid the ultimate price for his crime, but Bostonians were just beginning to realize the consequences. [118] In the meantime, I argue, Mather began to question his worldview on the relationship between religion and disease.

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[116] Weiner, *Black Trials*, 38.

[117] See Mather, *Tremenda*.

[118] "In life, Joseph Hanno was a man of no special consequence. But his crime made him notorious, and to the anxious Puritan mind, which believed that individual crimes reflected the moral state of society as a whole, the outbreak of pox just before his execution must have seemed like a divine punishment visited on a community of sinners." Weiner, *Black Trials*, 33-34.

Smallpox arrives in Boston

On 22 April 1721, the *H.M.S. Seahorse*, owned by John Frizzell and Captained by Wentworth Paxton, entered Boston after making the journey from Tertudos (Saltertuda / Salt Tortuga) in the West Indies and docked at Long Warf in Boston Harbor.[119] All seemed well this spring day in April and activity at the harbor and in and around Boston proceeded as usual with people bustling about here and there. Just over two weeks later, however, the Selectmen made an announcement at their meeting sending chills down the spines of Bostonians: "a Certain Negro man is now Sick of the Smal pox in the Town who came from Tertudos in His Majesties Ship Seahorse," and more ominous, "a Certain negro man Servant to Capt. Wentworth Paxton of Boston is now Sick of the Smalpox at his masters House."[120] The Selectmen scrambled to prevent an all-out epidemic, ordering two men to stand guard at Paxton's house with orders to let no one come or go without permission.[121]

It had been nineteen years since smallpox last ravaged Boston.[122] Those old enough to remember the last epidemic immediately recalled its horrors. For some,

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[119] They built Long Warf just a decade earlier in 1710 and already it had become a key center of shipping and trade. Enslaved persons entering Boston here usually went through the West Indies first. Jennings, *Boston*, 35, 86, 120, 122; Joel N. Shurkin, *The Invisible Fire: The Story of Mankind's Victory Over the Ancient Scourge of Smallpox* (New York: G.P. Putnam's Sons, 1979), 145; Silverman, *The Life and Times,* 337.

[120] *A Report of the Record Commissioners of the City of Boston, Containing the Records of the Boston Selectmen, 1716-1736*, Vol. 13 (Boston: Rockwell and Churchill, City Printers, 1885), 81.

[121] Blake, *Public Health*, 54.

[122] Winslow, *A Destroying Angel*, 45. For generations smallpox had visited Boston approximately every twelve years. However, it had been nineteen years between the 1702 and 1721 outbreaks. It is unclear why there was a larger gap between epidemics but Mather has attributed it to the measles outbreak of 1713

including Zabdiel Boylston, who almost lost his life to the disease in 1702, the distant memories became all too real again. However, for an entire generation born since 1702 smallpox was just a terrible illness they had heard of but never witnessed. Lack of contact with the disease for nineteen years had left an entire generation with no immunity to its powerful forces. No one had knowledge of germ theory; they did not know what caused smallpox, but they did know it was highly contagious and spread rapidly from person-to-person. Establishing quarantine was their first line of defense.[123] The selectmen ordered the *Seahorse* to remove to Bird Island:

> Voted that the Select men be Desired and Directed to wait upon His Excellency the Governor and pray him to Call a Councell in Order to Advise about the Sea-horse man of war, being Sent down to Spectacel Island, and Pursuant to a Law of this Province to prevent (God willing) the Spreading of the Smal Pox in this Town & Province, Two or three men being Sick of that Distemper on board the Said Ship now in the Harbor.[124]

On 20 May, when officials had no new cases of smallpox to report, the Selectmen believed they had averted an epidemic.[125] However, a month after the *Seahorse's* arrival officials discovered the disease had taken root in the town. The *Boston News-Letter* spread word of the outbreak reporting, "[t]here are now eight Persons Sick of the Small-

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stating a compassionate God did not send a smallpox epidemic to a city devastated by measles. Silverman, *The Life and Times,* 336.

[123] Quarantine, to be effective, must be practiced in completeness, with no cases overlooked, a nearly impossible task. Blake, *Public Health,* 74; Melchert, "Experimenting on the Neighbors," 14, 87; Joel N. Shurkin, *The Invisible Fire*, 150. When faced with an epidemic Europeans, Colonists, and Native Americans all responded in the ways familiar to them. Suzanne Alchon, Native *Society and Disease in Colonial Ecuador* (Cambridge: Cambridge University Press, 1991), 43, 61.

[124] *A Report of the Record Commissioners of the City of Boston, Containing the Records of the Boston Selectmen, 1700-1728*. vol. 8 (Boston: Rockwell and Churchill, City Printers, 1883), 154.

[125] Blake, *Public Health,* 54.

pox in the Town, and no more, according to the best Information: One in Bennet-Street, at the North End of the Town, Three in Treamount, Two in School-Street, one in Battery-March, and one in Winter-Street."[126] Town officials tried to prevent all-out panic by suggesting they had contained the illness, but more persons aboard the ship fell ill and the number on shore with the disease increased daily.[127] By the end of May, people closed their businesses and the Court banned all public assemblies with the exception of church services.[128] On 31 May 1721 the House of Representatives "*Ordered,* That, *William Dudley, William Hutchinson,* and *John Chandler* Esqus, be a Committee, to wait on his Excellency the Governour, and desire him to Adjourn the House to *Cambridge*, by reason several People in *Boston*, are visited with the Small Pox."[129] Samuel Sewall recorded in his diary the next day, "Adjourn'd the Gen Court to Cambridge, to sit there, June, 6."[130] Everyday life was shaken at its core, and the tribulations had only just begun. The effects not only touched Boston but also reached out into the larger Atlantic World as ships and merchants refused to enter Boston completely disrupting the system of trade vital to Atlantic World societies.[131]

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[126] *The Boston News-Letter*, May 29, 1721 to June 5, 1721, 2.

[127] Silverman, *The Life and Times*, 337; Winslow, *A Destroying Angel*, 44.

[128] Shurkin, *The Invisible Fire*, 146.

[129] *Journal of the House of Representatives, 1721-1722,* vol. 3 (Boston: The Massachusetts Historical Society, 1922), 5.

[130] Samuel Sewall, *The Diary of Samuel Sewall, 1774-1729,* ed. M Halsey Thomas (New York: Farrar, Straus and Giroux, 1973), 980.

[131] Shurkin, *The Invisible Fire*, 146.

For Cotton Mather, the arrival of smallpox was just another in a series of tragedies that had stolen much of his family from him. Of his fifteen children, Mather had seen nine die – some from smallpox, others from measles, and some from other childhood maladies. Although immune to smallpox, himself, having had the disease in 1667, two of Mather's children, Sammy and Elizabeth, were among those in the town born since 1702 and thus vulnerable to the disease. Their faces immediately came to Mather's mind as he wondered if this epidemic might take more of his children from him.[132] Reflecting in his diary later that week Mather wrote,

> I have two Children that are liable to the Distemper; and I am at a Loss about their flying and keeping out of the Town. As I must cry to Heaven for Direction about it, so I am on this Occasion called unto Sacrifices; that if these dear Children must lose their Lives, the will of my Father may be duly submitted to.[133]

Following tradition Mather immediately called for fasting and prayer so God might see fit to take away this pestilence.[134] Nevertheless, the concept of inoculation weighed upon his mind:

> [t]he Practice of conveying and suffering the Small-pox by Inoculation, has never been used in America, nor indeed in our Nation. But how many Lives might be saved by it, if it were practised? I will procure a Consult of our Physicians, and lay the matter before them.[135]

Mather did not propose this resolution lightly or hastily. Rather it was something he had been considering since 1706 when Onesimus first put the idea in his head. In his earlier

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[132] Silverman, *The Life and Times,* 338.

[133] Mather, *The Diary of Cotton Mather, 1709-1724,* 621.

[134] Silverman, *The Life and Times,* 338.

[135] Mather, *The Diary of Cotton Mather, 1709-1724,* 620-621.

letter of 1716 to Dr. John Woodward of the Royal Society Mather asked Woodward to try inoculation in London. Mather also promised to introduce the practice in the New World when smallpox arrived again adding, "for my own part, if I should live to see the smallpox again enter into our city, I would immediately procure a consult of our physicians, to introduce a practice which may be of so very happy tendency."[136] True to his word, Mather turned to Boston physicians to conduct the experiment.[137]

On 6 June 1721 Mather wrote a letter to the physicians of Boston requesting that they consider inoculation. With smallpox spreading with unrelenting speed he pleaded,

> I am very confident, no person would miscarry in it, but what must most certainly have miscarried upon taking it in the *Common way…Gentlemen*, my *request* is, that you would *meet for a Consultation* upon this Occasion, and to *deliberate* upon it, that whoever first begins this practice (*if you approve that it should be begun at all)* may have the concurrence of his worthy brethren to fortify him in it.[138]

In this letter Mather cited both the entries by Timonius and Pylarini in the *Transactions* of the Royal Society and the information he had seen and learned firsthand from Onesimus. At this time Mather was not considering implementing inoculation himself but rather watned the physicians to consider the procedure. Mather delivered the letter to Nathaniel Williams, a local practitioner and schoolmaster, believing he would share it

[136] Letter to Dr. John Woodward on 12 July 1716 in Silverman, *Selected Letters*, 213-214.

[137] Silverman, *The Life and Times*, 338.

[138] Fitz, "Zabdiel Boylston, Inoculator, and the Epidemic of Smallpox in Boston in 1721," 315-327, quoted in Dennis Melchert, "Experimenting on the Neighbors: Inoculation of Smallpox in Boston in the Context of Eighteenth-Century Medicine." PhD diss., (University of Iowa, 1974), 137.

with the other Boston physicians. Williams, however, either failed to disseminate the letter or was left with a letter the physicians were simply too busy to consider.[139]

Just over two weeks later, on the 23 June 1721 Mather still had no reply from the physicians and recorded in his diary a second attempt at attracting their attention stating, "I write a Letter unto the Physicians, entreating them, to take into consideration the important Affair of preventing the Small-Pox, in the way of Inoculation."[140] On the very next day, Mather wrote a third letter, this time addressed solely to Dr. Zabdiel Boylston asking him to try inoculation.

> Sir,
>
> *You* are many ways endeared unto me, but by nothing more than the very much good which a gracious God employs you and honours you to do to a miserable world.
>
> I design it, as a testimony of my respect and esteem, that I now lay before you, the most that I know (and all that was ever published in the world) concerning a matter, which I have been an occasion of its being pretty much talked about. If upon mature deliberation, you should think it advisable to be proceeded in, it may save many lives that we set a great value on. But, if it be not approved of, still you have the pleasure of knowing exactly what is done in other places.
>
> The gentlemen, my two authors, are not yet informed, that among the [illegible – Africans?] 'tis no rare thing for a whole company, of a dozen together to go to a person sick of the small pox, and prick his pustules, and inoculate the humour, even no more than the back of an hand, and go home and be a little ill, and have a fever, and be safe all the rest of their days. Of this I have in my neighborhood a competent number of living witnesse.
>
> But see, think, judge; do as the Lord our healer shall direct you, and pardon this freedom of, Sir
>
> Your hearty friend and Servant,
> Co. Mather[141]

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[139] Ibid., 137-138.

[140] Mather, *The Diary of Cotton Mather, 1709-1724*, 628.

[141] Peter Thacher, *Massachusetts Magazine* (1789), vol I, 778, quoted in Dennis Melchert, "Experimenting on the Neighbors: Inoculation of Smallpox in Boston in the Context of Eighteenth-Century Medicine." PhD diss., (University of Iowa, 1974), 139.

Following receipt of this letter Boylston responded to the call and performed the first recorded inoculations in the New World.[142]

On Monday 26 June 1721 at the First Parish Church located in the center of Boston, Boylston, using a "sharp toothpick and quill," took live pus from a patient with smallpox, and inserted it into three individuals: his own son Thomas (aged 6) and his two enslaved persons, a father Jack (aged 36) and his son Jackey (aged 2.5).[143] Jackey had a relatively mild or "normal reaction." Jack had almost no reaction at all so it is likely he either had smallpox or received inoculation before. Boylston's son Thomas had the most severe reaction nearing death before he finally recovered.[144] Once Thomas recovered, Boylston agreed to continue inoculations, and over the next week seven more people underwent the procedure – Joshua Cheever, John Helyer, another unidentified black person, Boylston's son John, and three more unidentified persons.[145]

Almost as quickly as the inoculations began, Mather and Boylston faced opposition, the most heated of which came from Dr. William Douglass – the man who had placed the *Transactions* of the Royal Society containing entries on inoculation in

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[142] Arthur Allen, *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver* (New York: W.W. Norton & Company, 2007), 29; Blake, *Public Health*, 55-6; Thwing, *Inhabitants and Estates*.

[143] Thomas Hutchinson, in "The History of the Province of Massachusetts-Bay" argued that Boylston selected to inoculate his son and two enslaved persons first to demonstrate his confidence in its success. Hutchinson, *The History of the Province of Massachusetts-Bay*, 273. Because Boylston had smallpox before he could not try the operation on himself. Fitz, "Zabdiel Boylston," 318.

[144] Allen, *Vaccine*, 29; Hopkins, *The Greatest Killer*, 249; Melchert, "Experimenting on the Neighbors," 143-144. Both Mather and Boylston had had smallpox as children so neither were candidates for inoculation. Shurkin, 156-7.

[145] Blake, *Public Health*, 56.

Mather's hands several years before. What started out as a personal squabble, however, soon grew into much more as Mather recounts in his diary just four days after inoculations had begun:

> I have instructed our Physicians in the new Method used by the Africans and Asiaticks, to prevent and abate the Dangers of the Small-Pox, and infallibly to save the Lives of those that have it wisely managed upon them. The Destroyer, being enraged at the Proposal of any Thing, that may rescue the Lives of our poor People from him, has taken a strange Possession of the People on this Occasion. They rave, rail, they blaspheme; they talk not only like Ideots but also like Franticks, And not only the Physician who began the Experiment, but I also am an Object of their Fury; their furious Obloquies and Invectives.[146]

As Boylston continued to inoculate patients, the public uproar over its possible catastrophic effects on the community forced the Selectmen to step in.[147]

Town officials had a crisis on their hands. Attempts at quarantine had failed to prevent the epidemic and there was no end in sight. However, no one in Boston was prepared to handle the unprecedented practice of inoculation adding to the fear and confusion in Boston. Town officials, with the primary objective of protecting public health, called a meeting.[148] The Selectmen invited public officials, the medical community, as well as the general public to give testimony at the meeting but the primary evidence that swayed the Selectmen was a report written in French and translated into English by a doctor named Lawrence Dalhonde. Dalhonde testified that within the

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[146] Mather, *The Diary of Cotton Mather, 1709-1724*, 631-2.

[147] Shurkin, *The Invisible Fire*, 158.

[148] Selectmen Elected March 13 1721: Elisha Cooke, Nathaniel Green (replaced Oliver Noyes, deceased), Mr. John Marion, Mr. Isaiah Tay, Mr. William Clark, Mr. Thomas Cushing, Mr. Ebenezer Clough, and William Hutchinson. Robert Francis Seybolt, *The Private Schools of Colonial Boston* (Cambridge: Harvard University Press, 1935), 154-6.

French army he had witnessed firsthand inoculations leading to deaths in Italy, Spain and Flanders. The practice, he argued, was simply unsafe. Boylston countered by claiming he did not believe Dalhonde's testimony and invited the Selectmen to come see for themselves seven patients who were undergoing inoculation and all recovering well – but no one took him up on his offer.[149] The Selectmen were more willing to believe the testimony of a Frenchman than listen to Mather and Boylston, whose evidence revolved around the scar in the arm of an African enslaved man.

On 21 July 1721 the Selectmen voted to prohibit further inoculations.[150] What began as a private battle between Mather and Douglass had grown into a public controversy. While smallpox brought upon Boston a violent social upheaval leaving no life untouched, the ramifications of the parallel inoculation controversy had far-reaching implications not only for Boston but for the larger Atlantic World. Despite the Selectmen's orders, Mather and Boylston continued with inoculations sparking a controversy that took center stage in Boston.[151]

[149] Shurkin, *The Invisible Fire,* 158-9; Silverman, *The Life and Times,* 342. Dalhonde's testimony was later published and distributed spreading fear among the people of Boston. Fitz, "Zabdiel Boylston," 320.

[150] The vote aligned the selectmen, leaders of the Old Charter Party, against the Boston ministers, led by Cotton Mather. Leo Lemay, Benjamin Franklin: A Documentary History, http://www.english.udel.edu/ lemay/franklin/ printer.html.

[151] Blake, *Public Health*, 58.

Chapter 4: "With a Pox to you": The Question of Authority in the Inoculation Controversy

Despite the Selectmen's orders which banned any further inoculations in Boston, Cotton Mather and Zabdiel Boylston pushed forward in their quest to save lives through this new medical technique. William Douglass, drawing on his European medical education, was enraged and argued that trained physicians had not properly tested inoculation and therefore he could not yet deem it safe and effective. Mather and Boylston responded to Douglass's concerns by presenting evidence from the *Transactions of the Royal Society*, the testimony of Africans in Boston, and their own patients, all of which they believed offered sufficient proof that inoculation was a valid medical technique. While both sides agreed experience and proof was necessary what constituted sufficient proof divided them and put the issue of race at the center of the debate.

Growing divisions between the religious and medical authorities forced the townspeople to choose sides. In the midst of a terrible epidemic the town leaders were in an all-out war of words calling into question who to trust to save lives. Besides the medical aspects of the controversy, questions arose over whether the scriptures justified inoculation, the legitimacy of a practice with roots in the Muslim World, and if the procedure was ultimately a threat or an asset to public health. The issue of race entered

this discussion as well since Europeans often associated Africans with the workings of the devil and some raised fear that inoculation was a plot by Africans to destroy the town.

Africans, Asians, and others had practiced inoculation for centuries before Europeans and Americans discovered the life-saving abilities of the technique. This fact raised some overarching questions of why did it take so long to reach the Europeans and Americans and why did it finally emerge in Boston and in 1721 raising new questions of cross-cultural communication and offering yet another dimension of race to the story. I argue that Mather's previous decision affirming the rationality of blacks' souls put him in a position to bring this life-saving technique as learned from Onesimus to Boston.

The "Professional" Dispute

William Douglass came to the inoculation controversy with the unique position among Bostonians of having a European-based university education.[1] Throughout the entire controversy, European medicine influenced Douglass causing him to be intolerant of both New World medical practices and African folk medicine. Writing to Cadwallader Colden, who studied at Edinburgh University and was presently resident in New York, Douglass expressed his skepticism for "this novel and dubious Practice" which he believed had not been "sufficiently opined of its safety . . . ."[2] Early eighteenth-century

[1] Although he was the only university trained physician in town, few had heard of Douglass until the inoculation controversy. As Isaac Greenwald noted, "[h]owever, but little notice was taken of you [Douglass], till your *Opposition* to *Inoculation,* made you famous." Isaac Greenwald, *A Friendly Debate; or, a Dialogue Between Academics and Sawny and Mundungus, two Eminent Physicians, about some of their Late Performances Regarding Inoculation* (Boston, 1722), 19.

[2] Cadwallader Colden, *The Letters and Papers of Cadwallader Colden*, vol. 1, *Collections of the New York Historical Society* (New York: The New York Historical Society, 1918), 143.

European physicians, including Douglass, had been trained, to observe – tracing patterns and watching for signs to guide them in treatment and healing. For them balance was still the underlying key as they continued to hold on to the humoral paradigm. The problem with inoculation, and what made it so hard for Douglass to accept, was that it did not fit this paradigm.[3] Humoral medicine revolved around the idea of ridding the body of toxins, and inoculation required the inserting of a disease into the body. On the other hand, although Mather also accepted humoral pathology he was able to look beyond it, and as a result, his open mind and vast experiences made him more receptive to inoculation.[4]

Believing he held a superior medical position in Boston, Douglass unleashed a personal attack on Boylston who, lacking a university education, dabbled where he did not belong in medical innovation. Douglass claimed

> [i]t happened unluckily that the Undertaker [Boylston], being *illiterate*, was not capable of duly Understanding the Writings of those Foreign Gentlemen: being *Ignorant* for by his own Confession [he] never had but small Opportunities of seeing Practice in the Small Pox. . . .[5]

In calling Boylston the "undertaker" Douglass contrasted him to who cared for the dead rather than as a physician who saved lives. For Douglass, Boylston's lack of an education made him unqualified to practice a medical procedure as complex as

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[3] Dennis Melchert, "Experimenting on the Neighbors: Inoculation of Smallpox in Boston in the Context of Eighteenth Century Medicine" (PhD diss., University of Iowa, 1974), 38, 43.

[4] Otho T. Beall and Richard H Shryock, *Cotton Mather: First Significant Figure in American Medicine* (Baltimore: The Johns Hopkins Press, 1954), 26.

[5] W. Philanthropes, "To the Author of the Boston News Letter," *Boston News-Letter*, July 17 to July 24, 1721, 3.

inoculation. Douglass found it contemptible that Boylston did not follow the standard European practice of controlled observation, and instead, performed inoculations in the most public place of town (designated by Douglass as Dock Square). He also objected to Boylston's failure to quarantine his patients, opening the door for the disease to spread to others. Douglass concluded that there existed no evidence that the unsafe procedure even offered protection to the patient as "these sufferers *may notwhithstanding receive the Small Pox in the ordinary way*."[6] In the early months of the controversy, Douglass was simply not convinced of either the safety or efficacy of inoculation because European physicians had not yet tested and approved it.

The six ministers from Boston including both Increase and Cotton Mather responded in a press piece by reminding the town that Boylston's efforts had healed many from smallpox and various other ailments.[7] In Boylston's defense, the Ministers stated,

> [t]he Town knows and so does the Country how *long* and with what *Success* Dr. Boylston has practic'd both in *Physick* and *Surgery*; and tho' he has not had the honour and advantage of an *Academical* Education, and consequently not the *Letters* of some *Physicians* in the Town, yet he ought by no means to be call'd

[6] Ibid., 3.

[7] For example, in 1718 Boylston removed a woman's cancerous breast. Her husband praised his work in the *Boston Gazette* writing, "[f]or the Publick Good of any that have or may have Cancers --- Those may Certify, That my Wife had been labouring under the dreadful Distemper of Cancer – in her Left Breast for several Years and although the Care was attempted by sundry Doctors from time to time to no effect; And when Life was almost despair'ed of by reason of its repeated bleedings, growth & stench and Doctor Zabdiel Boylston of Boston, who on the [unclear] of July 1718 (in the presence of several Ministers & others assembled on the Occasion) Cut her whol Breast off and by the Blessing of GOD on his Endeavours, she has attained a perfect Cure. I deffered the Publication of this, least it should be brake out again. Edward Winslow." Edward Winslow, *Boston Gazette*, November 28 to December 5 1720. Issue 51, Page 2.

> *Illiterate, ignorant, &c.* Would the Town bear that Dr. Cutler or Dr. Davis should be so treated? no more can it endure to see *Boylston* thus spit at.[8]

On 14 August 1721, Douglass responded, "[h]ow boldly do [Mather and Boylston] tell the greatest Part of the Town that tho' many asserted Inoculation to be a Case of Conscience &c. few if any really believed it: This in plain English (pardon the Indecency of the Expression) is *calling the Town Lyer*."[9] Douglass explained that Mather and Boylston had fabricated their patients' inoculation results.[10] These accusations brought Boylston's creditability into question, striking fear into townspeople who looked to doctors to heal and not harm them. Most of the other doctors in Boston sided with Douglass and were skeptical at best over inoculation.

This medical controversy also included a debate over the use of the *Transactions of the Royal Society* as a valid source of evidence on inoculation. In 1721, Zabdiel Boylston and Cotton Mather corroborated and published *Some Account of What is Said of Inoculating or Transplanting the Small Pox.*[11] Mather and Boylston hoped to convince their fellow physicians and the general public that inoculation could save the town from

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[8] Increase Mather, Cotton Mather, Benjamin Colman, Thomas Prince, John Webb and William Cooper, "To the Author of the Boston News-Letter," *The Boston Gazette,* July 27 to July 21, 1721, Page 3.

[9] William Douglass, "A Continuation of the History of Inoculation in *Boston,* by a Society of the Practitioners in Physick," *The New-England Courant,* August 7, 1721, 1.

[10] Ibid., 1.

[11] On August 4, 1721 Mather wrote "I will allow the persecuted Physicain, [Boylston] to publish my Communications from the *Levant, [Transactions]* about the *Small-Pox,* and supply him with some further Armour, to conquer the Dragon." Cotton Mather, *The Diary of Cotton Mather, 1709-1724,* Massachusetts Historical Society Collections, Seventh Series, vol. 8. (Boston: Published by the Society, 1912), 636. Later, on 25 August 1721 Mather wrote, "I will assist my physician in giving to the Publick, some Accounts about releeving the *Small-Pox* in the way of *Transplantation;* which may be of great Consequence!" Ibid., 639.

smallpox. Their primary agenda was to summarize the writings of Timonius and Pylarinus from the *Transactions*. These men presented inoculation as safe and effective and argued it was successful at reducing the severity of outbreaks by offering immunity.[12] Mather and Boylston carefully described Timonius's use of inoculation and explained how this authority found that individuals who had "*[i]noculation* practis'd upon them, are subject to a very *slight Symptoms*, and sensible of but very little Sickness."[13] Of Pylarinus, they wrote, this Gentleman observed, "[t]hat this *Wonderful Invention* was first found out, not by the Learned Sons of Erudition, but by a Mean, Coarse, Rude soft of People, for the *Succour of Mankind* under and against one of the most *Cruel Diseases* in the World."[14] Discovered and practiced by the Greeks, Pylarinus affirmed, many found inoculation a great benefit.[15] There they performed the practice successfully, "with *no more than One* little Incision in the Arm . . . ."[16] The testimony from these essays in the *Transactions* reconfirmed to Mather and Boylston the testimony of Onesimus and other Africans and offered an authoritative source on the procedure.

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[12] By this point Douglass was quite upset with Mather and refused to lend out his *Transactions* to anyone else. As a result, Boylston recorded, that these accounts were based on what he remembered of the reports and not the actual documents. Zabdiel Boylston, *Some Account of What Is Said of Inoculating or Transplanting the Small-Pox, by the Learned Dr. Samuel Timonius, and Jacobus Pylarinus* (Boston: S. Gerrish, 1721), introduction, 1-8.

[13] Ibid., 3.

[14] Ibid., 5. Interestingly the Greeks, who provided the foundation of humoral medicine, are now seen as outside the scope of the "Learned Sons of Erudition."

[15] Ibid., 5.

[16] Ibid., 7.

Also speaking out in defense of the *Transactions*, Increase Mather wrote, "I have read, that in *Smyrna, Constantinople,* and other Places, Thousands of Lives have been saved by Inoculation, and not one of Thousands has miscarried by it."[17] Mather took at face value the reports from Asia, written in the *Transactions* by "wise men," which stated inoculation was a safe technique. Cotton Mather, much as he had done earlier that fall, echoed this argument stating, "it's being used with constant Success in the Levant."[18] Benjamin Coleman, another Boston minister, likewise suggested the accounts in the *Transactions* were worthy of speaking to the success of inoculation because they were eyewitness testimonies of learned men.[19] Thus, the leaders of the pro-inoculation crusade argued for the legitimacy of the procedure based on the evidence of the *Transactions,* which corresponded with the physical evidence they had seen on Onesimus's and other African's bodies.

These remarks outraged Douglass. In response he argued, "[i]f all that is published in the *Philosophical Transactions, viz.* Amusements and Projects, credulous Relations &.c. ought to be put in Practice, the World would be soon turn'd upside down."[20] Douglass not only discredited the sources written by European men, but even

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[17] Cotton Mather and Increase Mather. *Several Reasons Proving That Inoculating or Transplanting the Small Pox, Is a Lawful Practice, and That It Has Been Blessed by God for the Saving of Many a Life* (Boston, 1721), 1.

[18] Cotton Mather, *Sentiments on the Smallpox Inoculated* in Cotton Mather and Increase Mather, *Several Reasons Proving That Inoculating or Transplanting the Small Pox, Is a Lawful Practice, and That It Has Been Blessed by God for the Saving of Many a Life* (Boston, 1721), 1.

[19] Benjamin Coleman. *Some Observations on the New Method of Receiving the Small-Pox by Ingrafting or Inoculating* (Boston, 1721), 1.

[20] William Douglass, *Inoculation of the Small-Pox* (Boston, Henchman and Hancock, 1730), 3.

suggested they were not firsthand accounts. He believed Timonius's and Pylarinus's reports were incomplete and portrayed to the public a certain agenda designed to promote inoculation.[21]

Disagreement over legitimate sources of proof for new medical procedures continued in the inoculations performed in Boston by Boylston.[22] Speaking on his own behalf, Boylston reported, "I have made my *Experiments* with all the *Disadvantages* that can be imagined . . . But more than *twice Seven,* I can assure you; and it has succeeded well in all, even beyond Expectation."[23] Boylston never suggested that there was not more he could learn about the procedure, but he believed the benefits outweighed the risks for, "[m]any *Lives* might be saved . . . and the Health of the Town much sooner restored; if the Practitioners and the People in the Town would come more into the Practice."[24]

As Boylston continued to perform inoculations and amass statistics, local Ministers including Increase Mather, Cotton Mather, and Benjamin Coleman as well as a growing number of laymen in the town championed the evidence of success demonstrated by Boylston's patients. In November 1721, Increase Mather wrote, ". . . in Boston where some Scores, yea above an hundred have been *Inoculated,* & not one

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[21] Ibid., 4, 6.

[22] Cotton Mather, *An Account of the Method and Success of Inoculating the Smallpox, In Boston and New England. In a Letter from a Gentleman there, to his Friends in London* (Boston: J. Peele, 1722), 8.

[23] Boylston, *Some Account*, 11.

[24] Ibid., 14.

miscarried; but they Bless GOD, for his discovering this Experiment to them."[25] The increasing number of patients coming to Boylston for inoculation, Mather wrote, showed they were not alone in their estimations.[26] Increase and Cotton Mather attached great weight to the evidence of people in Boston who survived the procedure.

This local source of Boylston's patients was most attractive to Coleman. After observing their success, Coleman wrote, "I humbly present You with the following *Observations* which I have made in my Visits among the *Sick* . . . whereby I have determined (so far as I am) in favour of the *New Method. . . .*"[27] Several months after the first inoculations all the patients were still doing well. Consequently, Coleman believed they were beginning to answer the long-term question of the effectiveness of inoculation, and Boylston's work was proving a valid source on the success of the procedure.[28]

The Question of Africans

In the fall of 1721, Cotton Mather countered Douglass's anti-inoculation campaign in an anonymous letter to a friend in London using the history of the procedure to demonstrate its safety and success. This letter was later published as, *An Account of the Method and Success of Inoculating the Small Pox*. Mather began with the history of how he believed inoculation had reached the New World; interestingly, he followed a

[25] I. Mather, *Several Reasons*, 1.

[26] Mather, *An Account*, 18.

[27] Coleman, *Some Observations*, Introduction.

[28] Coleman, *Some Observations*, 8.

similar pattern of organization in defending inoculation as Douglass had used to oppose it. However, when viewing the story through the eyes of Mather we learn,

> [a] Gentleman well known in the City of *Boston* [Mather], had a *Garamantee* Servant [Onesimus], who first gave him an Account of a Method frequently used in *Africa*, and which had been practis'd on himself, to procure an *easy Small-Pox*, and perpetual Security of neither *diying* by it, nor being again infected with it.[29]

Unlike Douglass who did not mention Onesimus or any other Africans, Mather put Onesimus's testimony at the forefront in his writing on the history of inoculation. Whereas Douglass suggested Mather had firstlearned of inoculation from the *Transactions*, Mather used this letter to correct the story and give due credit to the Africans.[30]

Mather justified the use of Onesimus as a legitimate source; but not just Onesimus, for "[a]fterwards he [Mather] successively met with a Number of *Africans*, who all, in *their* plain Way, without any Combination of Correspondence, agreed in *one Story* . . . ."[31] Mather proceeded to gather information from many Africans and found no evidence in their story to suggest that they were secretly conspiring to destroy Boston though inoculation; rather he saw hope in what they offered. These Africans reported

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[29] Mather, *An Account*, 1.

[30] Mather endured great ridicule for relying on the testimony of Africans so that "A Lieutenant of a Man of War, whom I am Stranger to, designing to putt an Indignity upon me, called his *Negro-Slave* by the Name of COTTON-MATHER." Mather, *The Diary of Cotton Mather, 1709-1724*, 666. Thomas H. Brown, "The African Connection. Cotton Mather and the Boston Smallpox Epidemic of 1721-1722," *Journal of the American Medical Association* 15 (21 October 1988), 2249; Kenneth Silverman, ed. *Selected Letters of Cotton Mather* (Baton Rouge: Louisiana State University Press, 1971), 199. In the 1720s some began to name their enslaved persons "Cotton Mather" as a way to mock Mather for his support of black people. Daniel K. Richter, "It is God Who Has Caused Them To Be Servants": Cotton Mather and Afro-American Slavery in New England," *Boston: American Congregational Association*, vol. XXX (1979), 4.

[31] Mather, *An Account*, 1-2.

"that in their Country . . . it is now become a *common thing* to cut a Place or two in their Skin . . . and put in a little of the Matter of the *Small-Pox* . . . and that no Body ever dy'd of doing this, nor ever had the *Small-Pox* after it . . . ."[32] These Africans agreed with Onesimus' testimony that the procedure was simple, safe, and effective. Evidence of the effectiveness of inoculation, Mather argued, "is confirm'd by their constant Attendance on the Sick in our Families . . . ."[33] This fact alone for Mather was sufficient "[p]roof of the *Practice, Safety,* and *Success* of this Operation, as we have that there are *Lions in Africa.*"[34]

Much to Douglass's dismay, Mather first turned to other Africans rather than European medicine to corroborate Onesimus' story. Mather did not exclude Asia and the Mediterranean from the history but clarified the timeline explaining, "[s]ome Years <u>after</u> he had receiv'd his first *African* Informations, he found publish'd in our *Philosophical Transactions*, divers Communications from the *Levant*, which, to our Surprize, agreed with what he had learned from Africa."[35] Mather made it clear that his first exposure to inoculation came from his conversation with Onesimus.

Mather concluded by returning to a discussion of the African's role in inoculation. He wrote, "and tho', till *now*, the mention of a *Negro* (or of any Thing from *Africa*) was

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[32] Mather does not specify who these other Africans were. However, their testimony does suggest that perhaps inoculation was more widespread in Africa than scholars previously recognized. Or perhaps Mather specifically questioned other Africans whom he knew to be Muslim suggesting the practice was well known in the Muslim community. Ibid., 1-2.

[33] Ibid., 1-2.

[34] Ibid., 1-2.

[35] Ibid., 2. Underlining mine.

hiss'd at, yet *now*, all on a sudden, a *Negro* was become good Authority, and poor *Inoculation* was like to be knock'd on the Head."[36] Despite Boylston's success, Mather argued that credit for inoculation still belonged to the Africans; should inoculation succeed in "knocking smallpox on the head" it would all be because Onesimus showed Cotton Mather the scar in his arm.

Later that fall, in another letter to the *Boston Gazette*, Cotton Mather and Zabdiel Boylston argued that Africans not only brought them the concept of inoculation, but also offered sufficient and legitimate proof of its safety and success. The success of inoculation in Africa gave hope that American lives might too be saved. Recording their testimony Mather and Boylston wrote,

> [i]n Africa, the manner is, that in a Village, where the *Small Pox* has already delved upon six or seven Families, and it is like to spread; presently all the rest of the Town at once, fetch the *Inoculation* from them. The Families first Infected, generally dye; But the Inoculated Live . . . . But it is hoped, that besides the *Precious Lives* of so many pious and worthy people, which have been saved here which have been done more may prove an Introduction of saving some hundreds of thousands of Lives, in other places, where the *Arts of Self-Destructions* will not hinder it.[37]

Although Mather and Boylston did not specify where in Africa this village was located, the letter once again presents testimony suggesting inoculation was widespread in Africa. Mather and Boylston had hoped that inoculation would save lives in Boston as well as throughout the larger world if people were more receptive to the procedure. These men

[36] Ibid., 23.

[37] "Of the Rest of the Following Account," *The Boston Gazette,* October 23, 1721 to October 30, 1721, 3.

were annoyed that anti-inoculators were attacking them for saving lives in Boston and hoped that others would not make the same mistake.

Benjamin Coleman, another minister in the town, who was at first skeptical of the legitimacy of African information on smallpox conducted his own interviews among the Africans in Boston seeking out single Africans whom were unlikely to conspire with others. Coleman begins, "I lately had with a *poor Negro,* whom I found at work where I made a visit, and the *Gentleman* of the House told me the Fellow had been Inoculated in his own Country."[38] This enslaved person, like Onesimus, was willing to discuss inoculation, when asked. This testimony intrigued Coleman who,

> put several questions to him, in answer to which he told me, That he liv'd in a great Town in his own Country, and when the Small-Pox came into it they did what they could to prevent the spreading of it; that the Families that were first visited usually died among them; but when the Sickness got into five or six houses, so that the People began to despair of being able to stop it, then all who had not had it went presently & receiv'd it in the way of Inoculation, (as we call it) and that not one more died of it thro' the whole Town. We do not stay therefore (said he) till the Town be infected, and People have many of them got the Sickness within them, and they go & take it; but a whole place takes it in a Week & are well in a Week. (I use but some of his words here, giving the true sense of what he said to me.)[39]

This African related to Coleman what others had told Mather, that African's had feared smallpox but inoculation protected them against the threat. Although smallpox infected those inoculated as well, all of them recovered. Coleman continued,

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[38] Once again, we do not know the exact location of this African, yet he adds to previous testimony and offers more evidence of inoculation in Africa. This testimony reflects what Mather and Boylston also recorded, that smallpox came and took several lives and then they implemented inoculation to halt its progress and save lives. Coleman, *Some Observations*, 15-16.

[39] Ibid., 15-16.

> [h]e went on in answer to the questions I put to him, and told me, 'That he never knew of any blains of boils following this practice in his Country, that as to himself none had troubled him, and more then what others are subject to; & that He never heard of any bodies having it again in his Country, to prove that his Country men think themselves as secure from it as any of us may do, he told me, that Sometimes when young men among them wanted to go a trading two or three hundred Miles off, but were afraid because they had not yet had the Small-Pox, it was common for them to enquire where it was, & go to the place & be Inoculated, & then go & trade any where without fear."[40]

Coleman justified the use of these African sources by stating, "And he that has learnt any thing as he ought, has this ---- to be willing to learn of the poorest *Slave* in the Town."[41] Not only did this account eventually convince Coleman that the African testimony offered legitimate proof of success but he also argued that it was wise to listen to and learn from their slaves. Mather and Boylston had found another counterpart in the crusade on inoculation and also for their campaign for others to give respect to the intelligence and medical techniques of their enslaved Africans. Coleman, like Mather and Boylston, saw the combination of the *Transactions*, evidence of Boylston's patients, and the testimony of Africans all as offering legitimate proof on the legitimacy of inoculation.

Nearly two years later, on 4 May 1723 an anonymous letter to Dr. James Jurin of the Royal Society also confirmed the testimony of an "Army of Africans" in Boston on inoculation. This author wrote,

> [b]ut we find likewise and Army of *Africans*, among our Domestic Slaves, to be our Auxiliaries in this Cause, who had the Operation Performed upon them, while

[40] Ibid., 15-16.

[41] Ibid., 16.

> they were yett in *Barbary;* and as they show the *Marks* of it, so we as well as they reap the *Fruits* of it, in their Secure Attendance upon our Sick.[42]

Unlike previous sources, this anonymous author believed these Africans came from Barbary (or the Maghreb). Once again, this places the concept of inoculation in a region of Africa influenced by Islam. Like Mather, the legitimacy of their testimony for this anonymous author could be seen in their constant attendance upon those sick with smallpox without falling ill themselves.

The similarities of this testimony to that of the other Africans becomes clear as this author continued,

> [a]nd we understand, That in *Barbary*, the Common Usage is this: when about half a Dozen in a Village fall Sick of the *Small-Pox*, presently all the Sound at once repair unto them to be furnished with the *Pus*, for the *Inoculation* of the *Small-Pox* upon them; All of whom, after a Small Indisposition, have a few Pustules, which forever secure them from the Distemper; Whereas, the first Half a Dozen generally dy; yea, the Poor Negro's generally Dy like rotten Sheep, when the *Small-Pox* gets among them, and this *Method of Safety* is not practiced.[43]

Once again the testimonies are strikingly similar as several are first infected and then inoculation is implemented, saving numerous lives. The overwhelming similarities of these accounts suggests that either this anonymous author was once again Cotton Mather, or that these men all questioned the same Africans who never changed their story, or perhaps that inoculation was so commonly used and widespread in Africa that all would give the same report.

"The Case of the Small-Pox Inoculated; further cleared. To Dr. James Jurin," quoted in George L. Kittredge, "Some Lost Works of Cotton Mather," *Proceedings of the Massachusetts Historical Society* 45 (1912), 438.

[43] Ibid., 438.

In his 1722 letter *Inoculation of the Small Pox as Practiced in Boston*, William Douglass finally confirmed this African testimony writing, "[Mather and Boylston's] second Voucher is an Army of half a Dozen or half a Score *Africans*, by others call'd Negroe Slaves, who tell us now (tho' never before) that it is practiced in their own Countery."[44] Douglass, however, did not accept this corroborated story as legitimate. He continued, "[m]any *Negroes* to my knowledge have assured their Masters that they had the Small Pox in their own Countery or elsewhere, and have now had it in *Boston.*"[45] Unlike Mather and others who wrote of the success of inoculation as demonstrated by their attendance to the sick, Douglass questioned whether or not inoculation work based upon the evidence that some who claimed to have received inoculation later contracted smallpox in the common way. Douglass, however, never gave specific examples to prove his point. Finally, he discredited this African testimony altogether by questioning the legitimacy of information from a "Negroe Slave" rather than accept from an African knowledge of a life-saving medical technique. Once again, race proved a barrier to Douglass's acceptance of inoculation.

The Controversy Gets Personal

The heated debate between Mather and Boylston and Douglass over inoculation intensified the sense of fear among a population already frightened by an epidemic. Mather and Boylston tried to convince Bostonians that these Africans were not liars and

[44] William Douglass, *Inoculation of the Small Pox as Practiced in Boston, Consider'd in a Letter to A---S---M.D. & F.R.S* (Boston, 1722), 6-7.

[45] Ibid., 6-7.

likewise were not plotting a revolt through inoculation. They argued, instead, that the Africans told the truth about a procedure which held potential to save many lives. At the same time, the doctors and the ministers lashed out against each other leaving an already terrified and confused population uncertain of whom to turn to in the midst of this upheaval. Initially, the majority of the population sided with Douglass's medical expertise; however, as the number of inoculation success stories increased, many began to see merit in this new procedure. The epidemic had turned day-to-day life upside down, even for those not directly impacted by the disease.

By the time of the inoculation controversy, respect for the clergy was already waning in New England and their interference in a medical technology which many believed posed a danger to public health sparked anger throughout the town. In the years leading up to the inoculation controversy, Mather's persistent meddling had won him enemies on many fronts. For one, Mather chose to side with Governor Shute, a man with many opponents who also opposed Mather for this loyality.[46] Mather had also become involved in banking issues and politics when he never should have done so.[47] Failure to solve the financial crisis, and division within the clerical community over this crisis showed the clergy's weakness.[48] On top of all that, Cotton Mather himself had witnessed

[46] See Silverman, ed. *Selected Letters*, 286.

[47] See Melchert, "Experimenting on the Neighbors," 121.

[48] G.B. Warden, *Boston 1689-1776* (Boston: Little, Brown and Company, 1970), 86.

a disgruntled flock, many of whom left his church for the new Brick Meeting House, leaving him with an almost non-existent congregation.[49]

When Benjamin Coleman, Charles Chauncy, and Cotton Mather joined forces to promote inoculation the town was baffled because it was unusual for these three ministers to agree on anything.[50] Cotton Mather and Benjamin Coleman actually had a long history of resenting each other over issues of theology and church structure but when it came to inoculation, the two joined forces rooted in their commitment to the Puritan way demonstrating flexibility to adjust to changing times.[51] Just as noticeable as the ministers who agreed are those missing from the record, because none of the most vocal advocates

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[49] Silverman, ed. *Selected Letters*, 319, 320; Kenneth Silverman, *The Life and Times of Cotton Mather* (New York: Harper and Row Publishers, 1984), 335. This shift away from the authority of the clergy was a major change in New England. "And through the growth of the little settlement numbering seven hundred at its founding in 1630 to the bustling seaport and provincial capital of seven thousand in the 1690s, the clergy had been the ultimate source of wisdom – not just on matters of faith or even of morals – but on politics, on science, and on societal and individual relationships. And second to them, as the public affairs of the town became more intricate and its social mix more complex were the magistrates – civil officers, appointed rather than elected, whose authority was wide-ranging, who represented the best instructed and the most accomplished of the lay community, and who, though few were lawyers, constituted the entire judicial system." Arthur Bernon Tourtellot, *Benjamin Franklin: The Shaping of Genius, The Boston Years* (Garden City, N.Y.: Doubleday, 1977), 83.

[50] Warden, *Boston*, 86. "Boylston was a member of the Brattle Street Church, and the others [supporters of inoculation] were all clergymen in dissenting Protestant churches. Along with Increase and Cotton Mather, they were Benjamin Colman and his associate pastor William Cooper of Brattle Street Church, Thomas Prince of Old South Church, and John Webb of New North Church. W. David Sloan, "The New England Courant: Voice of Anglicanism," *American Journalism*, 7 (1991), 116 fn 20. Thomas Prince served with Reverend Sewell at the Old South Church and was a long-time friend of Cotton Mather. Prince had the smallpox in Britain in 1710. John Webb watched his father, uncle, and aunt all suffer from smallpox in the natural way in 1721. William Cooper was also a good friend of Cotton Mather and was the husband of Judith Sewall, the daughter of the Judge and his mother was the cousin of Zabdiel Boylston. Melchert, "Experimenting on the Neighbors," 152-153.

[51] See Silverman, *The Life and Times*, 146-156. This controversy enveloped the Brattle Street Church itself forming another irony that the Brattle Street contingent following Boylston was the other major supporter of Mather and inoculation.

of inoculation were Anglican.[52] In addition, for reasons unknown, Peter Thacher (of the New North Church), Joseph Sewell (of the Old South Church), and Benjamin Wadsworth and Thomas Foxcroft (both of the First Church) never became directly involved in the controversy.[53]

Following Douglass's lead, the town laymen also used the newspapers to express their dismay with the clergy promoting inoculation in their town. On 30 October 1721, shortly after the first round of public debates had circulated through the presses, a townsman Peter Hankins (under the penname of Eyre) wrote of the clergy involved in inoculation,

> and [I] shall only mention what *Dr. Gumble in Monk's Life* says of a Clergyman "Doubtless (says the Dr.) a Clergyman, while he keeps within the Sphere of his Duty to God and his People, is an Angel of Heaven; but when he shall degenerate from his own Calling, and fall into the Intrigues of State and Time-Serving, he becomes a Devil; and from a Star in the Firmament of Heaven, be becomes a sooty Coal in the blackest Hell, and receiveth the greatest Damnation."[54]

While Cotton Mather was within the realm of acceptability to preach on the conversion of black people, he overstepped his bounds and diverted from his sphere of duty when he lobbied for inoculation. On 9 December 1721 the weight of the personal attacks upon Mather were evident as he wrote,

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[52] Sloan, "The New England Courant," 116. This Puritan Anglican divide grew personal as John Checkley, and avid opponent of inoculation drew Mather's nephew Thomas Walter to the Anglican church (at least temporarily) not long before. Raymond Phineas Stearns, *Science in the British Colonies of America* (Chicago: University of Illinois Press, 1970), 419-420.

[53] Melchert, "Experimenting on the Neighbors," 153.

[54] John Eyre, "To the Author of the New-England Courant," *The New England Courant,* October 30, 1721 – November 6, 1721, 3-4.

> [w]arnings are to be given unto the wicked Printer, and his Accomplices, who every week publish a vile Paper to lessen and blacken the Ministers of the Town, and render their Ministry ineffectual. A Wickedness never parallel'd any where upon the Face of the Earth![55]

That one might challenge the minister's authority, particularly in Puritan New England, was a new concept.[56] As James Schmotter explained, "[Bostonians] could accept the advice of their trusted spiritual guides or follow the physicians, men of weak religious conviction. The choice taken by many of his townsmen would surprise [Mather]."[57] By 1721, the populace of Boston had come to recognize and respect Douglass's training as a physician on a professional level and sided with him in the controversy, instead of the ministers of whom they grew increasingly wary.[58] Douglass had become a new authority within Boston. However, until a large contingency of university-trained physicians took up residency in Boston, necessity dictated that minister-physicians and lay doctors still practiced medicine.

The fear and confusion of the epidemic and inoculation controversy escalated when one angry citizen threw a grenade into Cotton Mather's home. The timing was hardly coincidental as the incident occurred while his nephew, Mr. Walter, a minister at

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[55] Mather, *The Diary of Cotton Mather, 1709-1724,* 663.

[56] Tourtellot, *Benjamin Franklin*, 252.

[57] James W. Schmotter, "William Douglass and the Beginnings of American Medical Professionalism: A Reinterpretation of the 1721 Boston Inoculation Controversy," *Historical Journal of Western Massachusetts* 6, (Fall, 1977), 29.

[58] Margot Minardi, "The Boston Inoculation Controversy of 1721-1722: An Incident in the History of Race," *The William and Mary Quarterly*, 61, (2004), 9.

Roxbury, was visiting Mather for inoculation treatment.[59] Recalling the event Mather wrote,

> [t]owards three a Clock in the Night, as it grew towards the Morning of this Day, some unknown Hands, threw a fired Granado into the Chamber where my Kinsman lay, and which uses to be my Lodging-Room. The Weight of the Iron Ball alone, had it fallen upon his Head, would have been enough to have done Part of the Business designed. But the *Granado* was charged, the upper part with dried Powder, the lower Part with a Mixture of Oil of Turpentine and Power and what else I know not, in such a Manner, that upon its going off, it must have splitt, and have probably killed the Persons in the Room, and certainly fired the Chamber, and speedily laid the House in Ashes. But, *this Night there stood by me the Angel of the GOD, whose I am and whom I serve;* and the Merciful Providence of GOD my SAVIOUR, so ordered it that the Grandado passing thro' the Window, had by the Iron in the Middle of the Casement, such a Turn given to it that in falling on the Floor, the fired Wild-fire in the Fuse was violently shaken out upon the Floor, without firing the Granado. . . ."[60]

Although unexploded, the message attached to the grenade, as the *Courant* reported, was made: Cotton Mather, "you Dog, and Damn you; I'l inoculate you with this, with a Pox to you."[61] Following the attack, false reports circulated though the town via word of

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[59] Thomas Hutchinson, *The History of the Province of Massachusetts-Bay, From the Charter of King William and Queen Mary, in 1691, Until the Year 1750* (Boston: Thomas & John Fleet, 1767), 275.

[60] Mather, *The Diary of Cotton Mather, 1709-1724,* 658. Although he was spared in the grenade attack Mather continued to fear for his life. See Mather, *The Diary of Cotton Mather, 1709-1724*, 659-660. Mather also recounts this event in a letter to John Winthrop dated 27 November 1721. See Silverman, ed. *Selected Letters,* 345-6.

[61] Cotton Mather, [No Headline] *The New-England Courant,* November 13, 1721 to November 20, 1721, 2.

"A Message by *Penn Townsend, Addington Davenport & Thomas Hutchinson* Esqrs. *Viz.* In Council *Novemb*. 15. 1721". Whereas the Board are well informed, That on *Tuesday* Morning last, some hours before day, a Grando Shell loaded with combustible matter having a lighted Fuze, was by some unknown Villain thrown into the House of the Reverend Doctor *Cotton Mather* of *Boston* thro' the Glass Window of one of his Chambers, to the great terror and hazard of the Family, and endangering the Neighbouring Houses. [15]

Resolved, That a Reward not exceeding [blank] be granted to such persons as shall discover the Author and Actor of the above-said Wickedness, that so he be brought to Exemplary Justice, and that his Excellency the Governour be desired to Issue out a Proclamation accordingly. *J. Willard,* Secretary.

mouth so Cotton Mather wrote his own account of the event for the *News-Letter*. The incident contributed to the rising ire in the town and brought new fear to a people shaken by an epidemic and concurrent inoculation controversy. The attack did not intimidate Mather as he continued to publicly push for inoculation, hoping "some hundreds of thousands of lives may in a little while come to be preserved." [62] Despite the physical and emotional attacks, Mather did not concede.

Spiritual and Public Health Implications?

Although questions of authority and boundaries dominated the controversy among the doctors and ministers, the personal implications of inoculation concerned the lay individuals in Boston. In particular, the populace of Boston, led by Samuel Grainger, expressed concern over the spiritual and physical impacts inoculation would have upon their lives. Some questioned whether inoculation was even legal according to God's law while others contemplated the legitimacy of using a medical technique derived from a Muslim, and still others wondered if inoculation posed a legitimate threat to public health, thus breaking the secular laws of society.

Journal of the House of Representatives, 1721-1722, vol. 3 (Boston: The Massachusetts Historical Society, 1922), 150.

[62] "Particularly, in spreading false Reports about the Countrey. For this Purpose, I convey unto our News-Writers, a true Account of the *Tuesday-Affair*, which is very much talk'd of, that it may be published." Mather, *The Diary of Cotton Mather, 1709-1724*, 658. See Samuel Shute, "A Proclamation," *The Boston News-Letter,* November 13, 1721 to November 20, 1721, 1.

Some of the strongest opposition to inoculation came from the population of Boston at large who feared the ministers deserted orthodox religious practices. [63] Consequently, by promoting inoculation the ministers broke the covenant and could no longer tell people their suffering was a direct result of their sin, an idea Mather had struggled with for the last ten years as the behavior of Onesimus and Hanno challenged his religious worldview.[64] Illness and death belonged solely in God's hands and when an epidemic threatened the welfare of the public people were supposed to turn toward repentance and live a better life that God might be pleased to take the disease away.[65] From a religious perspective, the objections against inoculation were two-fold. First, the Puritans of New England believed it was a sin for a healthy person to interfere with God's will by making himself sick with an illness God did not choose to bring on him.

[63] John T. Barrett, "The Inoculation Controversy in Puritan New England," *Bulletin of the History of Medicine*, vol. XII (1942), 176; John B. Blake, *Public Health in the Town of Boston, 1630-1822* (Cambridge: Harvard University Press, 1959), 58; Perry Miller, *The New England Mind: From Colony to Province* (Cambridge: The Belknap Press of Harvard University Press, 1953), 335, 347; Silverman, *The Life and Times*, 353, Patricia A. Watson, *The Angelical Conjunction: The Preacher-Physicians of Colonial New England* (Knoxville: The University of Tennessee Press, 1991), 20. For a discussion of the Jeremiad in Puritan Society see Miller, *The New England Mind*, 29-31, 363-366.

[64] See chapter 3 of this dissertation. The Puritans had a two-fold covenant – a covenant of Grace between the Puritans and God in which the Puritans sought out and follow God's will and in return, he blessed their society and looked favorably upon them; and a social covenant between the members of the Puritan community in which they watched out for each other and kept each other on the right path.

[65] Arthur Allen, *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver* (New York: W.W. Norton & Company, 2007), 27; Brown, "The African Connection," 58; John D. Burton, "'The Awful Judgments of God upon the Land': Smallpox in Colonial Cambridge, Massachusetts" *The New England Quarterly*, 74, no. 3 (2001), 495; Hopkins, *Princes and Peasants*, 252-3; Miller, *The New England Mind*, 346, 349; Silverman, *The Life and Times*, 270; Watson, *The Angelical Conjunction*, 3, 9, 11.

Second, they believed God sent epidemics, including an outbreak of smallpox, and the only proper recourse to such outbreaks was to repent.[66]

In the minds of most Bostonians, inoculation interfered with the will of God by attempting to prevent the very sickness designed to bring one to repentance. Moreover, purposefully bringing sickness upon oneself through inoculation ran contrary to God's will. As Harris (under the penname Scammony) wrote,

> I look upon it very strange, believe me Sir, that there should be so many, who, blest with a sound and vigorous Constitution, should be desirous to bring upon themselves a *Distemper*, of which themselves are afraid, and from which so many flee, that they should be discontented when God brings it upon them, yet can be very well satisfied to bring it upon themselves, after the new Fashion![67]

While man was required to "use all the means he could command for extricating himself from any predicament into which he was *already* brought by the providence of God,"[68] to intentionally bring illness upon oneself to avoid the natural contraction of the disease was another issue. Opponents of inoculation believed that by inoculating oneself with the intent of getting the disease precluded allowing God to decide who would and who would not be afflicted.[69] For these opponents, a clear distinction existed between the treating of

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[66] Although Mather supported inoculation he never argued that it replaced repentance. For example, on 9 August 1721 Mather wrote, "Some Kinsmen in continual Fears of being seized by the *Small-Pox*; I lay hold on the Opportunity to press the Lessons of Piety upon them." Mather, *The Diary of Cotton Mather, 1709-1724,* 637. And again on 13 September 1721, "I have two Kinsmen recovering of the *Small-Pox*. What shall I do, to produce in them, the grateful Improvements of serious Piety." Mather, *The Diary of Cotton Mather, 1709-1724,* 646.

[67] Frank Scammony, "To the Author of the New England Courant," *The New-England Courant,* August 21, 1721 to August 28, 1721, 1-2.

[68] Ibid., 1-2.

[69] John B. Blake "The Inoculation Controversy in Boston: 1721-1722," *The New England Quarterly* 25, no. 4 (1952), 498; Mager, "Zabdiel Boylston," 144.

the disease and attempting to acquire a milder form of the disease to prevent God's wrath.[70]

Interference with God's will also carried the weight of even greater sin for, historian Arthur Tourtellot remarked,

> [w]hile a hundred deaths from natural causes of the disease could be accepted as the will of God, a single death from inoculation was the result of man's intervention into God's affairs – the opinions and reassurances of the six distinguished ministers to the country notwithstanding.[71]

The populace left no room for error in the practice of inoculation: they viewed any procedure resulting in death as murder and a violation of the will of God. It was this accusation that Mather feared most when his son Sammy fell very ill after receiving inoculation remarking, "[i]f he should miscarry, besides the Loss of so hopeful a Son, I should also suffer a prodigious Clamour and Hatred from an infuriated Mob, whom the Devil has inspired with a most hellish Rage, on this Occasion."[72]

Samuel Grainger, one of the leading citizens of Boston, wrote a pamphlet, *The Imposition of Inoculation: As a Duty Religiously Considered* in the form of an address to a friend who supported inoculation and posed two questions: was it lawful to interfere with the judgments of God and would inoculation work without presenting a greater

[70] Allen, *Vaccine*, 27.

[71] Tourtellot, *Benjamin Franklin*, 260-261.

[72] Mather, *The Diary of Cotton Mather, 1709-1724,* 638-639.

threat to public health?[73] Responding specifically to Boylston's claims on the history of inoculation, Grainger wrote,

> But the Author of the account of what was said of *Inoculation* by *Timonius* and *Pylarinus,* wrapt up with the strange and wonderful discovery of *Inoculation,* tells us, for what he can see, 'tis a great Blessing to Mankind, and should be thankfully received, as being (a Way *to defend our selves against a Dreadful and 'Deadly Disease,* by OVER-RULING notwithstanding it is to be look'd upon as a Judgment) *the way of its coming at us when we see 'tis a coming.*[74]

Grainger expressed concern that inoculation overruled the judgments of God upon his people by giving them a way to effectively circumvent punishment.

While the Puritan Ministers and European trained physicians defended their roles in society and attacked each other for meddling, Grainger questioned whether or not inoculation was interfering with an even greater force, namely the will of God. Grainger continued, "As God Designs in his Visitations, is Repentance and Amendment; this practice doubtless tends to take *off the fear of his Judgments, and the Spiritual Advantage that arises* from such *Fear.*"[75] Grainger believed that the question of whether or not inoculation worked was secondary to whether or not it God allowed it.[76] Grainger concluded by adding yet another dimension,

> [y]our other Arguments of *Example*, Numbers and Success, are very insufficient, though supported with the Testimony of a *News Paper*; that it is safe and Useful for all this is but *Argument Turbae.* To bring Armies of *Africans*, and Troops of

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[73] [Samuel Grainger], *The Imposition of Inoculation as a Duty Religiously Considered, in a Letter to a Gentleman in the Country Inclin'd to Admit It* (Boston, 1721), 4. This pamphlet contained the motto from Pliny, "Alquid Monstri simper prosert AFRICA."

[74] Ibid., 6-7, 14, 26.

[75] Ibid., 9.

[76] Ibid., 14.

> *Mahometans*, to prove it [inoculation] lawful by their Success with it, is like their proving the Religion of *Mohomet*, as true Religion, because successfully propagated, and maintained by the Sword, and protest by vast Numbers, which fill whole Nations of the *Eastern* World. *Example*, Numbers and Successes, are far from being a sufficient proof that it is Lawful."[77]

In Grainger's mind, just as Muslims presented a threat to Christian society, Africans in offering inoculation posed yet another danger to the Puritan worldview. When speaking of the "Troops of Mahometans," Grainger may have even been referring to Onesimus who being "an intelligent fellow" and of "the Garamante" was potentially a Muslim himself. Grainger gave the most straightforward evidence that some in Boston associated inoculation with Islam. In his opinion, numbers suggesting the safety and effectiveness of the procedure did not matter and did not prove the practice lawful.

The interworking of science, medicine, religion and the invisible world had entered the smallpox inoculation controversy.[78] However, negotiation between science and religion relied upon the ability to separate the workings of God in the invisible world from the workings of the devil. This task of distinguishing between good and evil in the

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[77] Ibid., 25-26.

[78] In her 1991 article *Cotton Mather, the 'Angelical Ministry,' and Inoculation*, Louise A. Breen argued, "[t]he pamphlet war between inoculators and anti-inoculators was made doubly distressing because participants on both sides emphasized not only an immediate life-and-death consideration but also the otherworldly implications of their respective positions." Breen proceeded to argue that the debate in Puritan New England was far more than a debate over medical preventative procedures but more importantly became a "spiritual testing ground on which New Englanders were to struggle against Satan for their earthly survival and eternal salvation." Thus, Breen argued, to understand Mather's role in the debate one must understand he was protecting his own reputation which came under attack from those who claimed inoculation was of the devil. What is more, Breen argued, Mather thus predicated his medical recommendations on his attempt to make New England the world's fortress as an example of true religion. According to Breen, Mather saw in inoculation a way to convey grace to a people who came to think they were too sinful to deserve grace. Just as inoculation could save one of a physical disease so grace, Mather argued, saved the sin-sick soul. Louise A. Breen,"Cotton Mather, the 'Angelical Ministry,' and Inoculation," *Journal of the History of Medicine and Allied Science* 46 (July 1991), 333-338, 346, 353, 356.

invisible world was made even more difficult as inoculation came from an African, and many questioned if God could show mercy through a heathen soul. Mather, however, countered such arguments by reminding people that they often used the medical arts of Hippocrates and Galen despite the fact they too were heathen men.[79]

Cotton Mather also countered Grainger and his fellow townspeople's fears by arguing that inoculation was God's mercy upon a judged people. This concept signified a change in Cotton Mather's religious beliefs as historian Arthur Allen noted, "[t]he Congregationalist clergy . . . accustomed to speaking for an angry, merciless God, found themselves in the position of defending a practice on the grounds its life-giving properties could only have been put in their hands by a gentle, loving deity."[80] However, it took Boston's wider population much longer to come to terms with this idea and thus they remained opposed to inoculation.[81]

Boylston echoed Mather's openness to accepting God's mercy from an African when he wrote, "[h]ere we have a clear Evidence, that in *Africa*, where the Poor Creatures dye of the *Small Pox* in the common way like Rotten Sheep, a Merciful GOD has taught them a *Wonderful Preservative.*"[82] Boylston argued that God first demonstrated compassion to the many Africans dying of smallpox by showing them the

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[79] Gerald Mager, "Zabdiel Boylston: Medical Pioneer of Colonial Boston" (PhD diss., University of Iowa, 1973), 145. "Indians" in this context probably refers to "Native Americans" as Mather often spoke of the medical practices, including remedies for snake bites, learned from Native Americans.

[80] Allen, *Vaccine*, 31.

[81] Blake, "The Inoculation Controversy in Boston," 499.

[82] Boylston *Some Account*, 9. Boylston would continue later, that many see inoculation as a heathen practice and thus reject it on those grounds. Boylston *Some Account*, 21. See also [Grainger], *The Imposition of Inoculation*, 3.

way of inoculation. These Africans then extended God's mercy to the white people by sharing the gift of inoculation that had saved so many lives in Africa with those in America. If God could show his compassion upon the Africans, Boylston argued, then why not Americans also.

Because the Puritan faith prohibited the purposeful destruction or scarring of the body, the physical scar left behind by inoculation became another point of contention. Both the Old and New Testaments speak about treatment of the body. For example, Leviticus 19:28 reads, "Ye shall not make any cuttings in your flesh for the dead, nor print any marks upon you: I [am] the LORD."[83] Scripture strictly forbids the cutting of the body because scarring and tattooing the body were heathen practices. Many Puritans believed making the incision for inoculation, a purposeful cutting and scarring of the body as learned from an African – a heathen himself - was a sin against God. Furthermore, I Corinthians 6:19-20 states, "What? know ye not that your body is the temple of the Holy Ghost [which is] in you, which ye have of God, and ye are not your own? For ye are bought with a price: therefore glorify God in your body, and in your spirit, which are God's."[84] Puritans believed their body was God's temple and belonged to God himself and the purposeful injection of the disease of smallpox into the body, the very temple of God, was a sin. For that reason, in the minds of many New Englanders

[83] Leviticus 19:28, KJV; Likewise Deuteronomy 14:1, KJV reads, Ye are the children of the LORD your God: ye shall not cut yourselves, nor make any baldness between your eyes for the dead.

[84] I Corinthians 6:19-20, KJV.

putting a foreign object into the body was a real fear, not just in terms of physical health but of spiritual health as well.[85]

In the end, Allen argued, "[h]istory had chosen Mather to introduce vaccination [or inoculation as Mather called it] to America, although he was setting in motion the sort of changes which would someday crumble his God-fearing tower of belief."[86] Some have argued that we can view inoculation as another step in the decline of the clergy's influence on New England society, spreading these religious changes that Mather personally experienced throughout New England.[87] At the same time, Mather's own religious worldview had undergone dramatic challenges. As discussed in the previous chapter, first Onesimus who refused to convert and obey escaped the measles epidemic unscathed. Then Hanno who had done everything right and converted to Christianity committed one of the most unthinkable crimes in murdering his wife. Immediately following this crime smallpox arrived in Boston and Mather began to question the relationship between religion and medicine. Nevertheless, offering a way to avoid an epidemic which did not involve turning toward God went against the very idea of the "city upon a hill."[88] The introduction of inoculation caused people to question why they

[85] In addition, the inoculation scars was another feature on the bodies of Africans which defined them as such and whites were hesitant to make scars in their bodies which would match that of an enslaved person. See, Robert E. Desrochers, Jr, "Slave-For-Sale Advertisements and Slavery in Massachusetts, 1704-1781," *The William and Mary Quarterly* 59 (2002), 647.

[86] Allen, *Vaccine*, 26.

[87] The declension thesis states that subsequent generations of the original Puritans began to falter away from the goals of their utopian society.

[88] Watson, *The Angelical Conjunction*, 17. See also, Daniel J. Boorstin, *The Americans: The Colonial Experience* (New York: 1958); Francis J. Bremer, *The Puritan Experiment: New England Society from*

must turn to prayer and fasting when inoculation would protect them from sickness, reflecting changes in the very core of Puritan society.

Beyond inoculation's influence on one's spiritual life, there were also concerns over its impact on public health. Many Bostonians thought Mather would try to force inoculation upon them. If the Selectmen could rule against the use of inoculation because of the danger it posed to the public, many feared they might likewise turn around and legislate for its full implementation. On both sides of the controversy, people argued over one's duty to either avoid or participate in inoculation. Grainger, for example, suggested it was one's duty not to participate in inoculation for the danger it posed to one's neighbor. As his *The Imposition of Inoculation* stated, "IT IS LAWFUL TO SAVE LIFE, and a *Duty* incumbent upon us, but the Means us'd for the preservation of mine, must no ways offend or endanger my Neighbours safety, for it is written, *Thou shalt love thy Neighbour as thy self.*"[89] Grainger explained, "*Pylarinus* has discovered another way, and some [Mather and Boylston] say it is our Duty to practice it."[90] Inoculators, including Mather, countered this argument stating,

> *[t]hat when People have their Lives endangered by the* Small Pox *hovering about them, they not only may use the Method of Inoculation, to save their Lives, but they even* ought to do it, *if they can. They keep not in good Terms with the* Sixth Commandment, *if they do it not.*[91]

Bradford to Edwards (Hanover: University Press of New England, 1995); Perry Miller, *The New England Mind: From Colony to Province*.

[89] [Grainger], *The Imposition of Inoculation*, 2.

[90] Ibid., 6. Later Grainger continued, "hearing that Inoculation is urg'd as a Duty by several, as well Magistrates as Ministers, Persons of Eminent Piety and Integrity." Ibid., 20.

[91] Mather, *Some Reasons*, 2; See also Ibid., 6.

As long as many still opposed inoculation, its success would be limited. The side the authorities choose could cause panic in a town divided upon the safety, or lack thereof, of inoculation. Although the authorities decided to side with protection of public health, divisions in the town over inoculation meant that not everyone saw it that way.

In the 11 December 1721 issue of the *New England Courant* Franklin published an article signed by Absinthium - known to be George Steward, another doctor in Boston. In this piece, Steward gave four reasons to oppose inoculation, the fourth of which reflected the primary fear of many Bostonians,

> altho' we see sundry Persons have the Small Pox favourably that are inoculated and so escape; yet we see (and these Gentlemen own it themselves) that they are capable of infecting their Neighbours to as great a Degree as those that are smitten the Common Way…because they could not have inoculated Twenty Personas in the Heart of the Town, as Mr. B----n did, but that they must infect many of their Neighbours, how many, God knows.[92]

As reports of the possibility that inoculation spread the disease appeared in the newspapers so increased the fear and panic within Boston.

In her work, *A Calculating People*, Patricia Cline Cohen examined how Douglass used mortality rates to build his case against inoculation. Drawing on his knowledge of previous epidemics, "[i]n 1702, the greatest month of mortality was December, when 80 people died; this time, in the greatest month, October, more than 400 had died. Douglass was convinced that inoculation was the cause of the magnified mortality."[93] Inoculation,

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[92] Absinthium, "To the Author of the New England Courant," *The New-England Courant*, December 11, 1721 to December 18, 1721,1-2.

[93] Patricia Cline Cohen, *A Calculating People: The Spread of Numeracy in Early America* (Chicago: University of Chicago Press, 1982), 101.

Douglass argued, had spread the epidemic causing a greater public health hazard than if the disease had only spread in the natural way.

Another threat to public health stemmed from Mather's insistence on bringing family members from outside the town into his home for inoculation. For example, Mather allowed an out-of-town friend come to his home for inoculation. Reflecting upon this decision Mather remarked, "[i]nstigate a Neighbor-Minister to take proper Methods, for the Saving of his Life, now in extreme Danger by the Contagion spreading among us."[94] On another occasion, Mather invited the minister at Marblehead to his house for protection while undergoing inoculation.[95] In addition, "[t]his Kinsman at *Roxbury* needs to be advised as well as assisted by me, for the Accomplishment of his desire to suffer and escape the *Small-pox*, in the Way of Inoculation."[96] On 25 October 1721, Mather made the decision for "[m]y kinsman at *Roxbury*, I will send for him, to lodge at my House, that he may there have the *Small-Pox* in the way of *Inoculation* upon him."[97] On November 4 the freeholders tried to put a stop to outsiders coming to Boston for inoculation.[98] Although the townspeople grew furious about this action, Mather continued to promote inoculation in both Boston and elsewhere.[99]

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[94] Mather, *The Diary of Cotton Mather, 1709-1724,* 637.

[95] "Make an offer to a Minister at *Marble-head,* likely to be murdered by an abominable People, that will not let him save his Life, from the Small-Pox, in the Way of Inoculation. Offer to receive and cover him." Mather, *The Diary of Cotton Mather, 1709-1724,* 670.

[96] Ibid., 653.

[97] Ibid., 654.

[98] "Voted that that whosoever Shal come into this Town of Boston from any other Than Presumpteously to bring the Smal Pox on him or her selfe, or be Inoculated, Shal be forthwith Sent to the Hospital or pest house, unless they See cause to depart to their own home of in any Person be found in Town under the

Why Boston? Why 1721?

Africans, Asians and others had practiced inoculation for centuries before the Europeans and Americans colonists acknowledged the life-saving abilities of the technique. This fact raises the questions of why it took so long to reach the Europeans and American colonists, and why it finally emerged in Boston in 1721. Africans and Europeans had extensive contact throughout the Atlantic world for centuries and while the opportunity existed, Europeans had failed to adopt inoculation.[100] Consequently, Africans had been in New England for a century before American colonists experimented with the practice of inoculation. It is clear that long before Europeans understood germ theory, African peoples had found a way to purposefully manipulate the contracting of smallpox in order to prevent its spread.[101]

The colonists themselves offered a defense for their lag in adopting a life-saving medical technique already in use by Africans and Asians. For example, Cadwallader Colden, a New Yorker who wrote in support of William Douglass and the anti-

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operation, which may be an Occasion of Continuing a malignant Infection and Increacing it, among us, that they be Remoued Immediately Least by allowing this practis the Town be made an Hospital for that which may prove worse then the Smal pox, which has already put So many into mourning, And that the Justices & Select men be desired to put the Method abouesaid in practis without Delay as the Law Directs." *A Report of the Record Commissioners of the City of Boston, Containing the Records of the Boston Selectmen, 1700-1728*. vol. 8 (Boston: Rockwell and Churchill, City Printers, 1883), 159.

[99] Nancy Isenberg and Andrew Burstein, eds., *Mortal Remains: Death in Early America* (Philadelphia: University of Pennsylvania Press, 2003), 63-64.

[100] Minardi, "The Boston Inoculation Controversy," 26.

[101] M. Gelfand, *Medicine and Custom in Africa* (Edinburgh, 1964), 132. Scientists did not accept the idea of germ theory (the theory the microorganisms caused disease) for another one hundred and fifty years. Allen, *Vaccine*, 28.

inoculation cause, suggested that the reason the colonists did not know of inoculation before,

> is not to be wondered at, since we seldom converse with our Negroes, especially with those who are not born among us: and tho I learned this but lately when the smallpox was among us last spring, by some discourse being accidently overheard among the Negroes themselves, I have had the same Negroe above 20 years about my house, without knowing it before this time.[102]

The colonists, Colden realized, did not know because they did not ask. They had no reason to listen to a people whom they believed lacked intelligence. William Douglass also offered insight into why such conversations did not take place when he wrote, "[t]here is not a race of men on earth who are more false liars, and their accounts of what was done in their country were never depended upon until now."[103] Douglass ultimately dismissed the idea based on social convention, believing no one of such low status had anything to offer in the world of medical innovation – a world well above enslaved persons.[104]

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[102] Quoted in Donald R. Hopkins, *The Greatest Killer: Smallpox in History* (Chicago: The University of Chicago Press, 2002), 253.

[103] Quoted in Allen, *Vaccine*, 37.

[104] Minardi, "The Boston Inoculation Controversy," 22-23. This distrust went both ways as African Americans came to be weary of white medicine after years of medical abuse and neglect. Sharla Fett, *Working Cures: Healing, Health, and Power on Southern Slave Plantations* (Chapel Hill : University of North Carolina Press, 2002), 147. In his 1968 foundational work *White Over Black: American Attitudes Toward the Negro, 1550-1812*, Winthrop Jordan examined in depth the connection between race and slavery. In initial contact, Englishmen saw Africans as their fellow man. Over the course of several generations, direct contact with Africans continued and Europeans reshaped their attitude toward this foreign race. By the end of the seventeenth century, Europeans no longer viewed the Africans as fellow men but rather saw them only as slaves. Building off this dichotomy, the African became the counter image for Europeans. The European was white, Christian and therefore incapable of being enslaved. The African on the other hand was black, un-Christian and therefore reduced to a life of slavery. With this dichotomy established, by the early eighteenth century whites in New England came to see blacks as ignorant, most specifically incapable of grasping Christianity. This stupidity came to be seen as innate and therefore marked Onesimus as incapable to offering a useful medical procedure. Wintrop D. Jordan, *White*

John Williams, an Anglican in Boston offered a different argument on the question of why Africans (and not Europeans) had the knowledge of inoculation, by suggesting that "[a]s for all that I have heard or seen treat of Inoculation, they have not any Scripture light for themselves, otherwise I believe we should have heard of it long ago."[105] If inoculation worked, God would have revealed it to His people, and not to the heathen. One thing all three of these men had in common was their opposition to inoculation. Thus, it seems that the ability, or lack thereof, to move beyond the barriers of race were necessary in the adoption of inoculation as a valid medical procedure.

On the other hand, pro-inoculators including Cotton Mather and Zabdiel Boylston demonstrated their willingness to accept an African's testimony. Long before he promoted the idea of inoculation, Mather lobbied for the rationality of black people. He was, however, almost the sole Puritan voice in Boston publicly calling for a reconsideration of the African population. In his 1706 tract *The Negro Christianized,* Mather wrote,

> [i]t has been caviled, by some, that it is questionable Whether the *Negroes* have *Rational Souls,* or no. But let that *Brutish* insinuation be never Whispered any more. Certainly, their *Discourse,* will abundantly prove, that they, have *Reason. Reason* shows it self in the *Design* which they daily act upon. . . . there is a *Reasonable Soul* in *all* of them. . . . They are *Men,* and not *Beasts* that you have bought, and they must be used accordingly.[106]

Over Black: American Attitudes Toward the Negro 1550-1812 (Chapel Hill: The University of North Carolina Press, 1968), 27, 28, 43, 56, 91, 98 187, 188, 190; See also, Piersen, *Black Yankees,* 10, 50.

[105] John Williams, *Several Arguments, Proving that Inoculating the Small Pox is Not Contained in the Law of Physick, Either Natural or Divine, and therefore Unlawful* (Boston: Printed by J. Franklin, 1721), 9.

[106] Cotton Mather, *The Negro Christianized. An essay to excite and assist the good work, the instruction of Negro-servants in Christianity* (Boston: B. Green, 1706), 23, see also "…to make you treat, not as *Bruits* but as *Men,* those *Rational Creatures* whom God has made your *Servants.*" Mather, *The Negro Christianized,* 4.

This consideration of Africans pre-disposed Mather to listening to Onesimus when he presented the procedure of inoculation to him. Likewise, listening to Africans was not a foreign idea to Boylston. For years, Boylston had employed the medical techniques of Native Americans in his practice of medicine. Therefore, Boylston wrote, "I don't know why 'tis more unlawful to learn of *Africans*, how to help against the *Poison* of the *Small Pox*, than it is to learn of our *Indians*, how to help against the *Poison* of a *Rattle-Snake.*"[107] The ability to rise above the issues of race enabled Mather and Boylston to promote a medical technique conveyed by Africans. Together, Onesimus, Mather and Boylston paved the way for inoculation to enter Boston in 1721. Mather and Boylston were open-minded and as a result were willing to listen and Onesimus who on the other hand, was willing to share his personal experiences related to inoculation.

As smallpox and inoculation began to wane in the spring of 1722, Mather wrote to Sir Hans Sloane of the Royal Society, "[a]nd the experiment has been made upon almost three hundred objects in our neighborhood, young and old (from one year to seventy) weak and strong, male and female, white and black, in mid-summer, in autumn, in winter; and it succeeds to admiration."[108] As the success of Boylston's inoculations grew, and as the numbers of healthy patients rose, so too did support for the procedure. In time, this success even convinced Douglass, who by the return of smallpox in 1730 became one of its greatest advocates.

[107] Boylston, *Some Account*, 9.

[108] Silverman, ed. *Selected Letters*, 348.

Cotton Mather was convinced inoculation was beneficial and sought to pass on this information not only to Boston but also across the Atlantic to his European counterparts.[109] After all, Mather stated, "[i]f [inoculation] had been unsuccessful or been attended with bad Consequences, it must needs have been put out of Countenance, and have ceased long ago."[110] Inoculation, however, continued and so too did Mather persist in his efforts to spread this life-saving technique to his family, friends, and eventually to Europe and its colonies.

On 15 March 1722 the General Court, "*Ordered,* That Mr. *Cooke,* Mr. *Heath,* Mr. *White,* Mr. *Osgood* and Mr. *Rand* be a Committee to draw up a Bill to prevent the Spreading of the Infection of the Small-Pox by the practice of Inoculation."[111] On 20 March the Court once again attempted to ban inoculation when "A Bill for Preventing the Spreading of the Small-pox, by way of Inoculations, was Read a 1st time."[112] Over the next two days, they read the report two more times and then sent it for concurrence.[113] Although passed by the Court, the bill never became law.[114] Reflecting on this in April 1722 Douglass wrote,

> Inoculation in this Place has much left its Credit and does not go forward at present: *The Lower House,* or Representatives in Assembly, passed a Bill

[109] Sloan, "The New England Courant," 136.

[110] Mather, *Sentiments on the Smallpox Inoculated,* 2.

[111] *Journal of the House of Representatives, 1721-1722,* vol. 3, 178.

[112] Ibid., 181.

[113] Ibid., 184-185.

[114] Francis R. Packard, *The History of Medicine in the United States* (Philadelphia: J.B. Lippencott, 1901), 78.

> *restricting* that Practice under severe Penalties, next to *forbidding* the same; but our Governour, (a Man devoted to Mr. *Mather* and a great stickler for Inoculation) with the Council, would not pass it, until hey heard how that Practice was received in *England.*[115]

Whether or not the Assembly was actually waiting for a response from England, Douglass made it clear that he still relied upon them for guidance in medical affairs. In May 1722 Boylston formally promised the Selectmen he would not perform any other inoculations.[116] At this time, it was an easy decision for Boylston to make because smallpox was all but gone from Boston. With no active cases of the disease there was no longer any live specimen available for inoculations. Although the 1721-1722 smallpox epidemic and inoculation controversy had formerly ceased in Boston, the town was just beginning to feel the dramatic social upheaval from these events.

[115] Wagstaffe, W., *A Letter to a Dr. Friend Shewing the Danger and Uncertainty of Inoculating the Smallpox* (London: Samuel Butler, 1722). Letter of Douglass attached to appendix.

[116] Barrett, "The Inoculation Controversy," 180.

Chapter 5: "There is a Voice of GOD Crying out in the City": The Impact of Smallpox and the Inoculation Controversy upon the Black Population of Boston

Although the smallpox epidemic and inoculation controversy, which erupted in the spring of 1721, were essentially over by the following spring, Bostonians were just beginning to feel their impact as these events had dramatically altered their day-to-day lives. The black population, in particular, witnessed changes in three key areas: the work force, religion, and attempts made at regulating their private and public lives. In the pre-epidemic years, one could find black Bostonians working in homes and at the dockside participating in the booming maritime industry. However, the arrival of the smallpox epidemic halted shipping and authorities pressed black people into service tending to the sick. Once the epidemic subsided, the Selectmen called upon the service of blacks to help clean-up the town. In the years immediately following the epidemic Boston dramatically increased importation enslaved people and even used inoculation to increase their value at sale. Religiously Africans and African Americans in Boston did not witness any dramatic change with the arrival of smallpox. In the years prior to the epidemic, during the outbreak, and in the years immediately following the crisis, black Bostonians remained resistant to conversion to European Christianity. Unable to force conversion, white authorities took to the regulating of the public and private lives of black people. Prior to the crisis, numerous laws regulating the lives of black people sought to keep order in a town with a rising black population. During the epidemic,

white antagonism of the black population increased as did black resistance. As a result, in the years immediately following crisis Boston found itself on the brink of revolt.

Workforce

By the 1720s the total population of New England was on the rise with black people comprising only about two percent of the total population.[1] Most of the slaves in Massachusetts were concentrated in industrial centers such as Suffolk, Essex, and Plymouth counties with Boston containing the largest numbers of blacks throughout the entire colonial period.[2] In the early eighteenth century, nearly every house in Boston except the very poorest had a least one slave. Merchants filled the Boston papers with advertisements for the selling of slaves, mostly children.[3] Although northern seaport towns including Boston had a much higher concentration of blacks, whites remained the majority throughout the North.[4] By 1700, Boston traders had engaged the Atlantic Slave

[1] In 1690, Boston had three churches, about 1,000 houses and nearly 6,000 inhabitants. By 1710 the population was close to 10,000 and by the 1720s the population was well over 12,000. During 1720s the black population increased by about 27% in New England with the white population increasing by 55% and by 1730 the proportion of blacks to whites had decreased. John Daniels, *In Freedom's Birthplace: A Study of the Boston Negroes* (Boston: Houghton Mifflin Company, 1914), 7; William D. Piersen, *Black Yankees: The Development of an Afro-American Subculture in Eighteenth-Century New England* (Amherst: University of Massachusetts Press, 1988), 166-171 (appendix); G.B. Warden, *Boston 1689-1776* (Boston: Little, Brown and Company: 1970), 16, 24, 67, 81, 347 fn #2, and table in appendix.

[2] Lorenzo Greene, *The Negro in Colonial New England* (Port Washington: Kennikat Press, Inc, 1942), 84; Edgar J. McManus, *Black Bondage in the North* (Syracuse: Syracuse University Press, 1973), 16.

[3] Kenneth Silverman, *The Life and Times of Cotton Mather* (New York: Harper and Row Publishers, 1984), 281.

[4] Other Northern cities including New York, Philadelphia, and New Port had a larger slave population. Ira Berlin, *Many Thousands Gone: The First Two Centuries of Slavery in North America* (Cambridge: Balknap Press of Harvard University Press, 1998), 54, 55, 56, 179; Greene, *The Negro in Colonial New England,* 73, 79, 100-102, 101, 110; Joanne Pope Melish, *Disowning Slavery: Gradual Emancipation and "Race" in New England, 1780-1860* (Ithaca: Cornell University Press, 1998), 15; Piersen, *Black Yankees,* 3, 14-15;

trade by providing enslaved persons to other regions throughout the Atlantic World. Consequently, their connection to the Atlantic Slave Trade was primarily in the transporting and selling of enslaved persons. This lack of numbers in the North, however, does not mean that Africans were an insignificant part of New England society.[5] Nevertheless, scholars have largely overlooked them focusing almost exclusively on the South where blacks, in some regions, comprised a majority of the population.

On the eve of the arrival of smallpox one could find New England black peoples performing a wide variety of jobs at farms, homes, shops, and factories. Boston's booming maritime industry also required the labor of black men working as shipbuilders, sailmakers, ropemakers, caulkers, shipwrights, and anchormen.[6] Much like their counterparts in the south, Africans and African Americans in New England also played a major role in the healthcare of both the black and white community. For example, on 10 July 1703, Mather hoped "to obtain from the Lord, a good Servant for my desolate Family; who may be a tender and prudent Nurse for my Children."[7] These servants

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Daniel K. Richter, "It is God Who Has Caused Them To Be Servants": Cotton Mather and Afro-American Slavery in New England," *Boston: American Congregational Association,* vol. XXX (1979), 5.

[5] John Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800.* (Cambridge: Cambridge University Press, 1992/1998), 167. Thornton continues to argue that wherever a grouping of just a few slaves from the same nation existed, cultural transfer was possible. Thornton, *Africa and Africans*, 204.

[6] Greene, *The Negro in Colonial New England*, 100-101; James Horton and Lois Horton, *In Hope of Liberty: Culture, Community and Protest Among Northern Free Blacks, 1700-1860* (Oxford: Oxford University Press, 1997), 15; McManus, *Black Bondage*, 43.

[7] Cotton Mather, *The Diary of Cotton Mather, 1681-1708*, Massachusetts Historical Society Collections vol. 7 (Boston: Published by the Society, 1911), 490.

worked closely with the master's children caring for their health and tending to their day-to-day needs including preparing and serving meals and overseeing playtime activities. Black men and women also served the larger community (both black and white) as herbal specialists and doctors bringing African medicinal practices with them to the household and community. This skill particularly increased the value of female slaves as they were most often responsible for providing medical care.[8]

When smallpox entered Boston aboard the *H.M.S Seahorse* through the very ports that sustained Boston economically and employed a large number of black people, it radically altered everyday life for all Bostonians, including the routine of work. Everyone felt its impact whether or not they personally fell ill with the disease. By the early fall of 1721, the outbreak of smallpox had crippled Boston by severely hampering trade, bringing a halt to exports and more importantly, the arrival of goods and supplies.[9] Fearing contraction of smallpox themselves, boatmen refused to supply the town with wood, forcing the Selectmen to make special arrangements to prevent a fuel crisis. The poor in particular suffered from these interruptions and on 16 September 1721 Mather wrote,

> [a]las, my Afflictions multiply upon me. I cannot number them. I will propose an comprehensive Service for them. In moving the Selectmen to look for a

[8] Sharla Fett, *Working Cures: Healing, Health, and Power on Southern Slave Plantations* (Chapel Hill : University of North Carolina Press, 2002), 113; Piersen, *Black Yankees*, 98-99. See also chapter two of this dissertation.

[9] Arthur Allen, *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver* (New York: W.W. Norton & Company, 2007), 31; Margot Minardi, "The Boston Inoculation Controversy of 1721-1722: An Incident in the History of Race," *William and Mary Quarterly*, 61 (2004), 2; Silverman, *The Life and Times*, 345.

> seasonable Supply of Wood, for the Town; that the Poor may not suffer for want of a convenient Fuel, in the approaching Winter.[10]

Wood was vital to the townsmen as they needed it not only for heat but also for cooking and lack of proper supplies multiplied the horrors of the epidemic.

The arrival of an epidemic placed an extra strain upon the enslaved persons who served their families (and the larger community) as nurses. The highly contagious nature of the disease added to their workload as several members of the family might fall ill at once. Mather attested to the service of black nurses when he related, "[w]hich last Point is confirm'd by [enslaved persons] constant Attendance on the Sick in our Families."[11] Female black nurses brought medical skills with them from Africa where they were the primary medical providers and often the first responders when crisis struck. More, many whites wanted nothing to do with someone infected with a contagious and deadly disease. Boston in effect, was dependent upon their black female nurses. As a result, Africans' immunity to epidemic diseases including smallpox made them even more attractive to their masters.[12]

At the height of the epidemic, from March 1721 through February of 1722 there were 1,102 burials in Boston: 968 whites and 134 Indians and blacks.[13] In 1721 whites

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[10] Cotton Mather, *The Diary of Cotton Mather, 1709-1724* Massachusetts Historical Society Collections, Seventh Series, vol. 8 (Boston: Published by the Society, 1912), 646.

[11] Cotton Mather, *An Account of the Method and Success of Inoculating the Smallpox, In Boston and New England. In a Letter from a Gentleman there, to his Friends in London* (Boston: J. Peele, 1722), 2.

[12] Robert E. Desrochers, Jr, "Slave-For-Sale Advertisements and Slavery in Massachusetts, 1704-1781," *The William and Mary Quarterly* 59 (2002), 638.

[13] *The Boston Gazette*, March 12, 1721 to March 19, 1721, 2. Population statistics do not distinguish how many of the 134 burials were Indians and how many were black people.

comprised approximately 85.5% of the population and 89.5% of the burials. Black people fared slightly better in the smallpox epidemic than did whites. However, not all black people were immune to smallpox due to inoculation or previously having the disease. The black (and Indian) population suffered great losses as well (see Table 1).

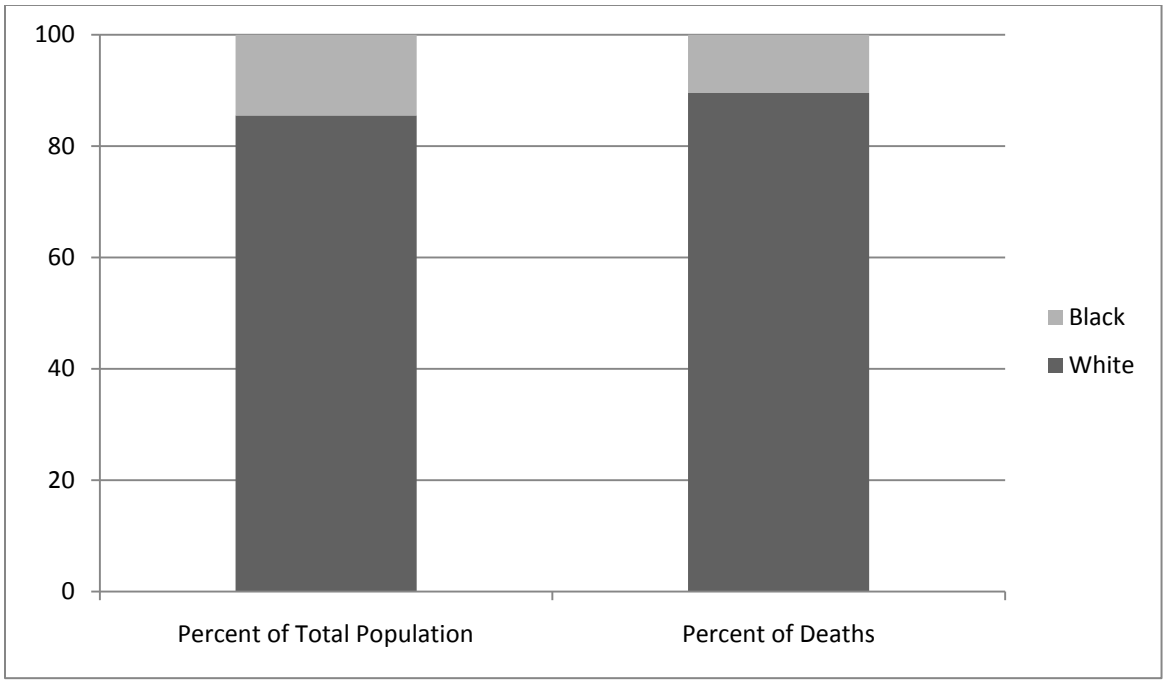

Table 1. 1721 Smallpox Deaths

Once the threat of the epidemic had passed and the inoculation controversy faded away, the Selectmen turned their attention to restoring order by once again placing the burden of work upon the black population. With a town reeling from a devastating illness, the Selectmen mobilized the free black population to clean the streets in an effort to rid the town of the contagion and remove the filth that had accumulated at the height of the epidemic. Although not beholden in direct service to any master, town authorities forced

the freedmen to work for the town. Believing free black people received the benefit of being "her majesties subjects," the General Court in 1707 had passed a series of laws to ensure they paid their proper duties of community service since authorities banned them from fulfilling community obligations through military service.[14] The act stipulated,

> the selectmen of each town or precinct be and hereby are impowred to order and require so many days' work yearly, of each free male negro or molatto, able of body, dwelling within such town or precinct, in repairing of the highways, cleansing the streets, or other service, for the common benefit of the place, as, at the discretion of the selectmen, may be judged a equivalent to the services performed by others, as aforesaid.[15]

From 1707 through 1729 the Selectmen ordered free black people to work on eight separate occasions. The first did not come until 1714 when,

> [t]he Select men do now order the Free male Negro's, Mollato's &c. of this Town, hereafter named, & each of them diligently to attend and Labour, in cleaning or Repairing the High ways, or other Services for the common benefit of this Town, at Such time & place as the Sel. Men, or Such person or persons whom they Shall thereto appoint. Shall order & direct, for the Space of So many dayes as is hereafter Sett down against each of their names. As an Equivalent to watchings Trainings &c. performed by others, vizt[16]

Thereafter the selectmen called on the work of free black people in 1716 (twice), 1718, 1719, 1721, 1722, and 1725. These dates are revealing for over a twenty-two year period

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[14] Although authorities required free black people to serve the town as subjects of the king they did not afford them full citizenship, and in particular, they could not vote. Greene, *The Negro in Colonial New England*, 300.

[15] *The Acts and Resolves, Public and Private of the Province of the Massachusetts Bay: To Which are Prefixed the Charters of the Province. With Historical and Explanatory Notes, and an Appendix,* vol. I. (Boston: Wright & Potter, Printers to the State, 1869), 606.

[16] The names on the list were, Papaw Dick, Grandy Eliot, Peter Quaco, Phillip Hutchinson, Dick Dudley, Tom Rumny Marsh, Exeter Foxcroft, Ned Hubbert, Mingo Quinsie, Minto Walker, Joseph Jalla, Ephraim Boyser, Boston Wait, Great John, Sanastin Levensworth, Dick Patience, Mingo Winthrop, Tom Cowel, Toney & Mr. Gees, Jo. Bl. Nannes husband, Anthony Negro, John Bridge. *A Report of the Record Commissioners of the City of Boston, Containing the Records of the Boston Selectmen, 1716-1736*, Vol. 13 (Boston: Rockwell and Churchill, City Printers, 1885), 8.

nearly all the recorded calls to service corresponded to major epidemics, including the measles epidemic of 1716 and the smallpox epidemic of 1721. Because enforcement of these laws in times of distress was difficult, the Selectmen relied upon townsmen to ensure the work was satisfied.[17]

The enslaved workforce also changed in the years following the 1721 epidemic, because in this period Massachusetts witnessed its busiest time of slave importation. Not only did they need to replenish the black workforce, but at the same time the number of white indentured servants declined, both contributing to a dramatic increase in the importation of Africans.[18] From 1708 to 1730, the enslaved population of Boston nearly tripled from 400 to 1,100 so that as much as ten percent of Boston was black.[19] During this period, authorities listed most of the enslaved persons imported as "newly arrived," "African" or "West Indian".[20] This increased importation sustained and added to African culture in Boston.

The epidemic of 1721 and parallel inoculation controversy had far-reaching consequences for black people not only in Boston but also throughout the Atlantic World.

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[17] This work was not optional and those who refused service faced a penalty. "And every negro or molatto as aforesaid, being duely warned by the selectmen or other person appointed by them that shall neglect or refuse to attend and perform the labour and service, at the place and time as he is directed, shall forfeit and pay, to the use of the poor of such town or precinct, five shillings per day for each day's neglect of his duty in that respect." *The Acts and Resolves,* vol. 1, 606.

[18] Desrochers noted that from 1725-1729 the *Gazette* announced the intended sale of thirty-two parcels of slaves, a trend that lasted until 1740 when the number of slave parcels tapered off. Desrochers, Jr, "Slave-For-Sale Advertisements," 644. The decline in white indentured servants was exacerbated by King William's and Queen Anne's Wars. Richter, "It is God Who Has Caused Them To Be Servants," 6.

[19] Richter, "It is God Who Has Caused Them To Be Servants," 6. We see a similar increase in black people in Boston following the 1702 smallpox epidemic as the black population of Boston went from 200 in 1700 to 400 by 1708. Richter, "It is God Who Has Caused Them To Be Servants," 5-6.

[20] Desrochers, Jr, "Slave-For-Sale Advertisements," 644-646.

Once Europeans learned the benefits of inoculation both from Boston and their own experiments in Europe, merchants on the African coast began to inoculate all their enslaved persons before transporting them across the Atlantic thus increasing their value to a world fearful of the next strike of smallpox. In September of 1721 Mather recorded that he had heard it related,

> it is no unusual Thing for our Ships on the Coast of *Guinea,* when they ship their Slaves to find out by Enquiry which of the Slaves have not yet had the *Small-Pox*; and so carry them a-shore, in this Way to give it to them, that the poor Creatures may sell for a better Price; where they are often (inhumanly enough) to be dispos'd of.[21]

Ship captains had also discovered the benefits of inoculation and had their enslaved persons undergo the procedure so they might increase the value of their human cargo at market.[22] The advertisements for the sale of black servants provide evidence of the increased value of an enslaved person who was immune to the small pox. For example, on 1 January 1728 the *New-England Weekly Journal* advertised, "A Negro Man, about twenty five years old, that has been in the Country about fourteen years and has had the Small Pox."[23] While scholars have noted the desirability of African slaves for their *natural* immunity to diseases including Malaria and Yellow Fever, I argue that masters

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[21] Mather, *An Account of the Method and Success of Inoculating the Smallpox*, 2. McManus wrote, "Sales advertisements make it clear that smallpox immunity greatly enhanced the market value of a slave." However, I would point out that all of his citations are post 1721-1722 the first coming in January of 1728. McManus, *Black Bondage,* 37 – see fn. 3.

[22] Stewart, in his article "The Edge of Utility: Slaves and Smallpox in the Early Eighteenth Century" argued that ship captains learned of inoculation from Europe. I would argue that the inoculation controversy in Boston and the experimentation with inoculation in Europe both impacted the adaptation of inoculation in the Slave Trade. L. Stewart, "The Edge of Utility: Slaves and Smallpox in the Early Eighteenth Century," *Medical History* 29 (1985).

[23] *The New-England Weekly Journal,* January 1, 1728, 2.

also came to desire Africans for their *developed* immunity to smallpox through inoculation.[24]

William Douglass also noted the spread of inoculation amongst those involved in the slave trade noting that,

> the Guinea Traders, when the Small Pox gets among their Slaves aboard to inoculate the whole Cargo, and patch them up for a Market; as is already the Practice with them in the other Pox or Yaws, by some slight, palliative Cure to fit them up for a Market; tho' to the great Damage of the next Purchasers.[25]

Douglass, however, was not convinced that inoculation was a viable option fearing that ship captains had adopted the practice to disguise the effects of smallpox in order to gain a better price for the enslaved persons. Rather than protect these persons from smallpox, Douglass feared inoculation only allowed the disease to spread. Concerned only for their own economic well-being, slavers utilized inoculation overlooking the deadly consequences that might ensue.[26]

At the time, it was unclear who was right: Mather who believed inoculation could save lives, or Douglass who argued that inoculation was claiming the lives of many more

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[24] For example, see Kenneth F.Kiple, ed, *The African Exchange: Toward a Biological History of Black People* (Durham: Duke University Press, 1987). "Thus it is no small wonder that the conviction that the black was peculiarly suited for hard work in hot places was quickly born in the white mind." Kiple ed, *The African Exchange*, 8. See also Kenneth M. Stampp, *The Peculiar Institution: Slavery in the Ante-Bellum South* (New York: Knopf, 1956); Peter H. Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion* (New York: Norton, 1974/1996). Others including Gary Nash and Winthrop Jordan argued blacks were not more immune to Yellow Fever as some merchants and slavers originally thought. See Winthrop Jordan, *White over Black: American Attitudes Toward the Negro, 1550-1812* (Chapel Hill: University of North Carolina Press, 1968) and Gary B. Nash, *Forging Freedom: The Formation of Philadelphia's Black Community, 1720-1840* (Cambridge: Harvard University Press, 1988).

[25] William Douglass, *Inoculation of the Small Pox as Practiced in Boston, Consider'd in a Letter to A---S---M.D. & F.R.S* (Boston, 1722), 20.

[26] Stewart, "The Edge of Utility," 68.

who might have survived. However, as inoculation spread throughout the Atlantic Slave Trade the numbers began to show that inoculation indeed saved lives. As Stewart related, "by mid-century, the French mathematician La Condamine had calculated the savings inoculation of slaves could bring to a plantation owner."[27] Inoculation had made African enslaved persons even more valuable as economic capital and as a workforce in the New World.

African American Religion in Boston

While the links between economics and slavery have been a major part of the historiography on African Americans over the past twenty years, scholars also have debated the role religion played in shaping the lives of Africans in America. For example, Mechal Sobel in her 1987 work on Virginia and William D. Piersen in his 1988 work on the American North both suggested African Americans formed a new religious tradition based on a blending of similarities between European and African cultural practices and religious beliefs.[28] In 1992, Jon Butler asserted that African religious systems disappeared as *systems* in the Americas, although certain aspects of their religious practices remained.[29] John Thornton changed the way scholars examined the

[27] Ibid., 67 and fn.74: M. de la Condamine, *A Succinct Abridgment of a Voyage made within the Inland Parts of South America; from the Coasts of the South-Sea to the Coasts of Brazil and Guiana, Down the River of the Amazons*, 2nd ed., (Paris, 1746; Eng. trans., London, 1747), 92-93.

[28] Piersen, *Black Yankees*; Mechal Sobel, *The World They Made Together: Black and White Values in Eighteenth Century Virginia* (Princeton: Princeton University Press, 1987).

[29] Jon Butler, *Awash in a Sea of Faith: Christianizing the American People* (Cambridge: Harvard University Press, 1990), 130. See also, Philip D. Morgan, *Slave Counterpoint: Black Culture in the Eighteenth Century Chesapeake and Low Country* (Chapel Hill: The University of North Carolina Press, 1998), 442.

African American community by arguing that a study of African (particularly enslaved) conversions in the New World must necessarily start in Africa, where missionaries first exposed them to Christianity and some even chose to convert.[30] While these scholars have increased our understanding of religion in the Atlantic World and what happens when various religious ideas and cultures converge, I will explore the conscious resistance of African Americans to convert to European Christianity (as different from the Christianity present in Africa for centuries) in the shadow of the smallpox epidemic of 1721. In the past, scholars, including William Piersen, argued that times of crisis pushed enslaved persons toward European Christianity. I believe that the opposite occurred in Boston following the 1721 smallpox epidemic.

Long before the arrival of smallpox in 1721 John Eliot led a missionary effort to convert black New Englanders. Arriving in 1631, Eliot ministered in the colonies until his death in 1690. Established in 1701, the Society for the Propagation of the Gospel in Foreign Parts (SPG), backed by the Church of England, continued this work. Until 1785, the SPG sent eighty-four missionaries, catechists and teachers to America to convert Africans and Native Americans.[31] England backed the society and its mission, particularly supporting the conversion of Native Americans. Believing religious education prepared one for conversion and baptism, the SPG was one of the first groups

[30] Thornton, *Africa and Africans*, 254.

[31] Jon Butler, *Awash in a Sea of Faith*, 139; Nash, *Forging Freedom*, 17; C.F. Pascoe, *Two Hundred Years of the S.P.G.: An Historical Account of the Society for the Propagation of the Gospel in Foreign Parts, 1701-1900* (London: Published at the Society's Office, 1901), 44; Faith Vibert, "The Society for the Propagation of the Gospel in Foreign Parts: Its Work for the Negroes in North America before 1783," *The Journal of Negro History* 18 (1933), 184. The only two colonies to be untouched by the SPG were Maryland and Virginia. Patricia Bonomi, *Under the Cope of Heaven* (Oxford: Oxford University Press, 1986/2003), 46; Greene, *The Negro in Colonial New England*, 269.

to actively promote the religious education of Native Americans and African Americans - both free and enslaved - and was a key contributor to the rising education among black people through the eighteenth century.[32]

Puritans in New England were hostile to the SPG, fearing it would encourage an English Episcopate in America. While a few ministers in Massachusetts worked with the agency, reporting a steady stream of baptisms among enslaved persons as a result of their efforts, most of the leading ministers, including Cotton Mather detested their presence.[33] Mather complained that the missionaries sent over were "[i]gnorant Wretches, and such Debauched and Finished Villians."[34] While he supported the idea of the conversion and religious education of black people including Onesimus and Hanno, Mather opposed the SPG as an Anglican competitor to the Puritan faith. Opposition from masters who feared that educating their slaves would make them difficult to manage, and might even require their subsequent emancipation, further limited SPG's efforts.[35] Yet the greatest

[32] In 1642, authorities drew up a colonial law which required "[a]lso that all Masters of families, do once a week (at the least) Catechize their children and servants in the Grounds and Principles of Religion . . . ." However, by the early eighteenth century, most masters no longer followed this law. William H. Whitmore, sup. *The Colonial Laws of Massachusetts. Reprinted from the Edition of 1672, with the Supplements through 1686* (Boston: Rockwell and Churchill, 1887), 26.

[33] Mather, *The Diary of Cotton Mather, 1709-1724*, 212. The SPG did succeed in establishing a school in New York in the early eighteenth century. Berlin, *Many Thousands Gone*, 60; David Brion Davis, *The Problem of Slavery in Western Culture* (Ithaca: Cornell University Press, 1966), 217 Greene, *The Negro in Colonial New England*, 269, 271; Marcus Jernegan, "Slavery and Conversion in the American Colonies," *American Historical Review* 21 (April, 1916), 510; Piersen, *Black Yankees*, 51-52. For further discussion of the SPG in the South see S. Charles Bolton, *Southern Anglicanism : the Church of England in Colonial South Carolina* (Westport: Greenwood Press, 1982) and Sylvia Frey, *Water from the Rock: Black Resistance in a Revolutionary Age* (Princeton: Princeton University Press, 1991), Chapter 1.

[34] Mather, *The Diary of Cotton Mather, 1709-1724*, 691-2. Letter to Thomas Hollis.

[35] Nash, *Forging Freedom*, 17; Pascoe, *Two Hundred Years of the S.P.G*, 46.

resistance to black conversions in New England came from the black people themselves, the majority of whom remained indifferent towards European Christianity.[36]

Working independently from the SPG, and with little support from fellow colonists, Cotton Mather saw some limited success in his efforts to educate and convert black people.[37] For example, in 1716 Mather recorded, "I would yett again see whether I cannot produce and support a *Charity-Schole,* for Negro's in Evenings, to learn to read, and be instructed in the Catechism."[38] Five months later, Mather even agreed to take on part of the financial burden of the school devoting both his time and money to the effort.[39]

What Mather did for the public in opening a Charity School, he likewise reinforced among the enslaved persons in his home. One of Cotton Mather's first enslaved persons referenced in relation to reading and/or writing was Onesimus.[40] In December 1713 Mather ordered, "[h]e shall be sure to read every Day. From thence I will have him go on to Writing. He shall be frequently Catechized. I would also invent

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[36] McManus, *Black Bondage*, 105.

[37] Piersen, *Black Yankees*, 52.

[38] Mather, *The Diary of Cotton Mather, 1709-1724*, 379; Elizabeth Bancroft Schlesinger, "Cotton Mather and His Children," *William and Mary Quarterly* 10 (1953): 182.

[39] "I resolve to unite in bearing the Expenses of a Schole, to be opened every Evening, two or three Hours, for the Instruction of poor Negro's and Indians, in Reading the Scriptures, and learning their Catechisms." Mather, *The Diary of Cotton Mather, 1709-1724*, 442. Chandler Robbins, *History of the Second Church, or Old North, in Boston, to which is Added, A History of the New Brick Church with Engravings* (Boston: John Wilson & Son, 1852), 76.

[40] E. Jennifer Monaghan, "Family Literacy in early 18th-century Boston: Cotton Mather and His Children," *Reading Research Quarterly* 26 (1991): 358.

some advantageous Way, wherein he may spend his Liesure-hours."[41] Mather encouraged education among his other servants, as on 15 July 1718 he stated simply, "My Servant Obadiah: - his Religious Education."[42]

Religious education paved the way for baptism and Mather cherished each opportunity to bring black converts into the waters of baptism. For example, on 13 September 1698, he reported, "[t]his Day, I baptised four Negro's; and the Lord helped mee, to make this Action, a special Occasion of my glorifying Him: especially, with what I then spoke unto the rest of the nation."[43] On another occasion, in 1710 Mather recorded, "Being baptize two Negro's; I would make it an occasion to glorify the great Saviour of all men, in several Instances; especially in such Admonitions to that black Part of the Flock, as may be needful for them."[44] However, opportunities for Mather to baptize black converts were ultimately rare.

Mather often reflected in his diary upon his failures to convert the black people of Boston. In 1706 he confessed, "I also judge myself before the Lord, for my serving Him so poorly; and for the Defects in my Endeavours, to make my Servants become the Lord's."[45] Yet Mather's greatest personal failures were yet to be told as in the following years, one by one, servants entered his household and, despite access to a religious

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[41] Mather, *The Diary of Cotton Mather, 1709-1724,* 271-2.

[42] Ibid., 547.

[43] Mather, *The Diary of Cotton Mather, 1681-1708,* 278.

[44] Mather, *The Diary of Cotton Mather, 1709-1724,* 43.

[45] Mather, *The Diary of Cotton Mather, 1681-1708,* 554; See also, Ibid., 228-9, 446, 562, 698.

education, refused to convert. For example, at the end of the year 1706 some church members gave Mather Onesimus whom he, "resolved with the Help of the Lord, that I would use the best Endavours to make him a Servant of Christ . . . ."[46]

Upon his release from service in 1716 Onesimus still had not converted. Mather, however, never gave up. Less than a year after Onesimus's release, Mather reported that,

> I fear I have not been so frequent and fervent and particular, as I should have been, in my Prayers for the converting Influences of Heaven, on the Soul of my Servant Onesimus. Who can tell, what may be done for him, and what a new Creatiour he may become, if more prayers were employ'd for him![47]

Mather still called Onesimus his servant, still worried about his soul, and Onesimus still refused to convert. When Onesimus fell ill in June of 1717, Mather observed, "Onesimus's Recovery from a dangerous Fitt of Sickness, must be improved for his Awakening to Piety."[48] Nevertheless, Onesimus continued to resist, even when death stared him in the face.[49]

Although the failure to convert Onesimus weighed heavily on Mather's mind, his short-comings in black conversions did not end there. In 1717 Obadiah, who replaced Onesimus after Mather let him go for being so recalcitrant, entered Mather's home and

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[46] Ibid., 579.

[47] Mather, *The Diary of Cotton Mather, 1709-1724*, 446.

[48] Ibid., 456.

[49] This is the last we hear of Onesimus in Mather's diary but it is only the beginning of the repercussions of the relationship between Mather and Onesimus. Mather ends his record of this servant feeling like a failure while at the same time we are left with the impression the Onesimus has triumphed over European imperialistic ways. Onesimus, as far as we know never converts. Mather had failed at his goal of changing the heart of Onesimus. Nevertheless, with the arrival in 1721 of another deadly epidemic the impact Onesimus had on the life of Mather would prove most important as it was the key to drastic changes in Boston, New England and eventually the entire Atlantic World.

he recorded, "[a] strange Providence of GOD, has brought into my Family a new Servant; A Negro Boy of promising Circumstances. Oh! Lett me use all possible Projections and Endeavours, to make him a Servant of the Lord. That this may be kept in Mind, I call him, Obadiah"[50] While Mather did not belabor the point as he did with Onesimus, Obadiah became yet another thorn in the side of Mather as he too resisted conversion.[51]

After years of painful failure, Mather's persistence paid off on 21 February 1721, as he recorded, "My negro servant [Ezer] seeks baptism - I must use my best Endeavours to prepare him for it."[52] One did not enter into baptism lightly; rather this decision reflected careful preparations including religious education and evidence of life change. On 6 June 1721 while the smallpox epidemic raged through the town, Mather wrote, "My *African* Servant, stands a Candidate for Baptism, and is afraid how the Small-pox, if it spread, may handle him. I must on this Occasion use very much Application to bring him into a thorough Christianity."[53] Finally, a year after Ezer's first interest in baptism, on 22 February 1722, Mather, weary from a long winter battle over smallpox and inoculation wrote to the Reverend Thomas Prince, a theologian and scholar from the Old South Church,

> Sir, - Our Servant, Ezer, after a due Examination of his Knowledge and Belief, and a due Testimony of his Good Conversation, was Received into the Covenant of GOD, and Baptised Lately with us. For which Cause, his offspring (whereof I

[50] Mather, *The Diary of Cotton Mather, 1709-1724,* 477. The name Obadiah means "servant of the Lord."

[51] See Ibid., 477, 547, 562.

[52] Ibid., 603.

[53] Ibid., 624.

> hear, part is newly born in your Family) is humbly recommended unto the Christian Baptism with you, by, Sir, Your Brother and Servt.[54]

Mather had won a victory when he finally saw the conversion and baptism of one of his own.

Using Ezer as his primary example, William D. Piersen argued "the shadow of death" brought on by the smallpox epidemic led to black conversions.[55] However, Piersen did not address the fact that Ezer expressed an interest in baptism before smallpox arrived in Boston. Ezer proved the exception rather than the rule. Many Africans living in Boston did not feel the impending doom of a smallpox epidemic. In particular, those such as Onesimus who professed an Islamic background were even more reluctant to convert during times of crisis. Inoculation, as practiced in Africa for centuries, may even have reaffirmed their own religious beliefs for as one African related to Coleman, "God told it to poor Negroes to save their Lives; for they had not Knowledge and Skill as we [Europeans] have."[56] God had granted them protection against this mighty scourge while the whites were susceptible and dying.[57]

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[54] Ibid., 683.

[55] Piersen, *Black Yankees*, 53.

[56] Benjamin Coleman, *The Method of Inoculating the Smallpox in New England,* in D. Cumyng and George Grierson, *A Collection of Pamphlets: Containing the Way and Manner of Inoculating the Small-Pox Both in Britain and New-England* (Dublin: George Grierson, 1722), 32.

[57] Some black people even believed that God specifically protected them while bringing epidemics upon white people as punishment for the sins of the institution of slavery. Fett recorded stories which, "collected in the twentieth century about nineteenth-century events, demonstrate an interpretation of illness as God's visitation on whites for the sins of slavery." For example, in one story, Isom Roberts related that his parent's had watched their wealthy master, who threatened to kill his slaves rather than set them free, die of smallpox mysteriously. "But Roberts related, 'Providence, or some kind of mercy spirit, was sure walking round that plantation that night. Sometime in the night it was whispered round amongst the slaves that Old Master done took the smallpoxes and was mighty sick.' Two days later they buried him." Fett, *Working Cures*, 40.

From 1700-1730 there were only seventeen recorded black baptisms, including Ezer, at the Second Church of Boston where Cotton Mather was the minister from 1684-1728.[58] There occurred no noticeable spike in baptisms during or immediately following the 1702 smallpox epidemic, the 1713 measles epidemic, or the 1721-1722 smallpox epidemic and corresponding inoculation controversy. On 23 August 1702, just before the smallpox epidemic took root in Boston, there were two recorded baptisms - both of "aged negroes." In 1713 there were no recorded baptisms. Moreover, in 1721-1722 the only recorded baptisms were of Cotton Mather's servant Ezer and his children. However, in 1727-1728 there was a dramatic increase in black baptisms. Over a thirteen-month period, the registrar of the church contained the names of thirteen black people who received baptism. These baptisms immediately followed the October 1727 earthquake that struck Boston.[59] While black people relied upon their own medicine and saw no need for conversion to protect them against illness, natural disasters did draw them into the European Christian Church.[60]

The relationship of black people to European Christianity in the post-epidemic years continues to highlight their indifference to conversion. Many black people chose not to convert and the few who did found little if anything attractive in their master's religion, which, after all, supported slavery. Those black people who Mather baptized at

[58] *Second Church Records, Boston,* Massachusetts Historical Society, Ms. N – 2037 (Tall), Box 1; Volumes 1 - 9 (of 110). For a history of the Second Church see John Nicholls Booth, *The Story of the Second Church in Boston* and Chandler Robbins, *A History of the Second Church, or Old North, in Boston.*

[59] See the *Second Church Records, Boston,* MHS.

[60] Cotton Mather passed away on 13 February 1728, and as a result, his successor, Reverend Joshua Gee performed these baptisms.

the Second Church from 1700-1730 did so with their masters' permission, and likely under their persuasion, for all whose masters' names the records provided were baptized in the same church as those masters. The beneficiary in these cases was likely the master who no longer lived in fear of God's judgment for having a heathen under his roof. If a black person choose to enter a church of his own free will more likely he did not want to sit in the same church as his master, choosing rather to attend a different church, perhaps where there were more black people.[61] However, scholars, including Jon Butler, have exaggerated the active role of the master in promoting Christianity among enslaved persons. Butler argued, "[p]ulled into different households, separated by long distances, usually owned by relatively well-to-do settlers who were themselves church members and not infrequently clergymen, the press for Christian conversion was intense."[62] While some enslaved persons joined the church, most did not and the few who did were likely only satisfying their master's orders or seeking ulterior benefits including the hope of manumission.[63]

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[61] See the *Second Church Records, Boston,* MHS. Mechal Sobel in *The World They Made Together* argued that in the Virginia, during the eighteenth century black and white churches had a joint experience. By the nineteenth century, however, black and white churches went their separate ways. When worshipping together, Sobel argued, blacks and whites had to be at peace with one another. Sobel continued, "[a]s whites and blacks shared church life, more whites came to see the institution of slavery as evil." See Sobel, *The World They Made Together*, 180-186, 191, 197, 199, 207-209.

[62] Butler, *Awash in a Sea of Faith*, 154.

[63] For example, in the days of the American Revolution, black people utilized the church as a resource to set the basis for their pleas of manumission. Felix Holbrook, a member of the Hollis Street Church was one of the black leaders who petitioned the legislature for freedom. The church could offer more than just religion and throughout the era of slavery, the church proved to be an important asset in the fight for freedom.

Those enslaved persons who converted and were received into baptism faced inequalities within the church. Many found it difficult to sit in the same church with their masters and hear sermons preached and then see their masters live hypocritical lives. Many churches did not allow black converts to receive full Communion, and even those who the church received into full communion were still barred from most church activities including voting. They also occupied segregated seating in the back of the auditorium, a physical reminder of their lower class status even within the church. Although entitled to a Christian funeral, black people received separate burial plots.[64]

In a few rare instances, churches granted black people more equality and received them into full communion.[65] For example, in the First Church, "Luse Bush negro Receved into full communion with the church and baptised and her child Peter, Sept. 26, 1702."[66] However, Luse Bush was more the exception than the rule. From 1700-1730, only about 27% of the blacks baptized in the church were also received into full communion.[67] Consequently, while whites accepted black conversion and baptism, they did not see them as equals within the Church.

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[64] Greene, *The Negro in Colonial New England*, 280-284, 330; Piersen, *Black Yankees*, 51; Oscar Reiss, *Blacks in Colonial America* (Jefferson: McFarland & Company, 1997), 227. In Virginia, when churches became too full (particularly during the Great Awakening), members required black people to give their seats to whites. Sobel, *The World They Made Together*, 186.

[65] Ralph Boas and Louise Boas, *Cotton Mather, Keeper of the Puritan Conscience* (New York and London, 1928), 39; Bonomi, *Under the Cope of Heaven*, 121-122; Greene, *The Negro in Colonial New England*, 280, 282, 284. "Full Communion" can mean a number of different things but here it likely means "full membership" as following baptism and demonstration of knowledge of the catechism.

[66] Robert J. Dunkle, and Ann S. Lainhart, transcribers, *The Records of the Churches of Boston,* CD-ROM, (Boston: New England Historical and Genealogical Society, 2002).

[67] See the *Second Church Records, Boston,* MHS.

African Americans' Private Lives

While whites could not force black people to convert to their religion, they did attempt to exert control in their secular lives. Long before the arrival of smallpox and the corresponding inoculation controversy in Boston, authorities instituted laws to control the behavior of the black population. Beginning in 1680 colonies across New England developed a body of legislation, commonly known as the "slave codes," designed to control black people's behavior. In particular, these slave codes addressed: marriage, flight, drunkenness, theft, and destruction of property. Ultimately, the authorities issued these laws to prevent riots and insurrections specifically seeking to place limits upon the slaves' freedom of movement and socializing, and made any defamation or assault against a white person a crime.[68]

New England's slave codes often applied to Indian slaves and indentured servants as well.[69] For example in 1693 Massachusetts instituted a law to limit theft by prohibiting the buying and receiving of gifts from a "Negro, Indian or mulatto servant," if there was a chance the goods might be stolen. "Indian, Negro, and mulatto servants" all received the same punishment for breaking this law: a whipping not to exceed twenty lashes.[70]

[68] The colonial legislatures passed these laws. Greene, *The Negro in Colonial New England*, 128. Harsh as these laws were, those in colonial Virginia and South Carolina were far worse. Greene, *The Negro in Colonial New England*, 143.

[69] Ibid., 128.

[70] Ibid., 130.

Just as whites tried to limit black people's participation within the church, so too did they attempt to restrict black people's involvement in community life.[71] For example in 1693, Massachusetts passed an Act stating,

> [a]nd that no person who is or shall be licensed to be an inholder, taverner, common victualler, or retailer, shall suffer any apprentice, servant, or negro to sit drinking in his or her house, or to have any manner of drink there, otherwise than by special order or allowance of their respective masters, on pain of forfeiting the sum of ten shillings for every such offence.[72]

The tavern was a key social institution in colonial Boston where people regardless of class and race gathered to conduct business, take a meal, or just socialize together.[73] Authorities did not want black people to associate with whites, but they also sought to prevent opportunities for black people to meet together in groups. However, a difference existed between law and practice as black people gathered in New England taverns, churches, and other places throughout town, congregating with other black people and at times with whites (particularly poor whites) as well.[74]

Further legislation addressed white Bostonians' growing fears about enslaved blacks living among them. In 1703 the General Court legislated,

> [w]hereas great disorders, insolencies and burglaries are oftimes raised and committed in the night time by Indian, negro and molatto servants and slaves, to

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[71] Carl Bridenbaugh, *Cities in the Wilderness: The First Century of Urban Life in America 1625-1742* (New York: Alfred A Knopf, 1964), 379.

[72] *The Acts and Resolves,* vol. 1, 154. They renewed this same law five years later, See *Acts and Resolves, 1692-1714*, 327. In Philadelphia, Edgar McManus related, some whites turned their homes into drinking places for slaves, because of the major profit this business drew. McManus, *Black Bondage*, 80.

[73] Bridenbaugh, *Cities in the Wilderness*, 107.

[74] See Edmund S. Morgan, *The Puritan Family: Religion & Domestic Relations in Seventeenth-Century New England* (New York: Harper Torchbooks, 1944, 1966), 127. Tavernholders often allowed black patronage despite laws against it because of the profits they incurred. McManus, *Black Bondage*, 80.

> the disquiet and hurt of her majesty's good subjects; for prevention whereof, That no Indian, negro or molatto servant, or slave, may presume to be absent from the families whereto they respectively belong, or be found abroad in the night time, after nine a clock, unless it be upon some errand for their respective masters or owners.[75]

Those who did not give a "satisfactory account of their business, make any disturbance, or otherwise misbehave themselves" were detained and punished.[76] No servant or slave was exempt for "[a]ll Negroes who misbehaved or created disturbances were to be subject to the same penalty."[77] It appears, however, that these same laws did not apply to free blacks in the community. The authorities were not afraid of black people themselves but rather were concerned about the behavior of the servant population of all races (black, Indian, and white). Authorities designed this legislation to prevent a rebellion by the servile population of the community.

The General Court also implemented legislation to protect whites from the violent behavior of black people, this time including all "Negros" and "Mulattos" both enslaved and free but not Indians. In 1707 the General Court legislated, "[a]nd if any negro or molatto shall presume to smite or strike any person of the English or other Christian nation, such negro or molatto shall be severely whip'd, at the discretion of the justices before whom the offender shall be convicted."[78] Bostonians hoped that by regulating their enslaved population's behavior and eliminating any violent behavior by the black

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[75] *The Acts and Resolves,* vol. 1, 535.

[76] Ibid., 536.

[77] Greene, *The Negro in Colonial New England*, 132.

[78] *The Acts and Resolves,* vol. 1, 578.

population they could offer a sense of safety to their families.[79] Having just emerged from the smallpox epidemic of 1702, Puritan Bostonians were also particularly concerned about behavior that might lead to another strike of an angry God against them.

The authorities of Puritan New England also passed laws to regulate the personal lives of enslaved peoples. For example, authorities offered black people the privilege of marriage in an effort to prevent sexual immorality, which brought shame and penalty (and potentially even God's judgment) upon the master's household.[80] Cotton Mather had to deal with this issue in his own household, as in 1686 Sewell recorded, "Mr. Mather's Maid, a Member of [blank] Church is brought to Bed of a Child. Nothing suspected before that I hear of. 'Tis said He has turn'd her out of's House."[81] The child in question was a bastard and Mather would not stand for a woman who committed fornication to reside under his roof.

The provision, however, did not take into account the differences between English and African ideas of marriage. As Piersen explained,

> [s]ince there were many African societies wherein young people were encouraged to engage in sexual play before marriage, and where prenuptial pregnancy was the

[79] Boston was not alone in these laws created to handle fears of revolt. In 1702, New York passed a law against the gathering of black people. In New York, slaves could not be buried after dark and day burials were limited in attendance to ten black people. Philadelphia required that any enslaved persons found in the streets after dark be sent home. See Graham Russell Hodges, *Root and Branch: African Americans in New York and East Jersey, 1613-1863* (Chapel Hill: University of North Carolina Press, 1999), 63-68, 88-99; McManus, *Black Bondage*, 81-82.

[80] In Puritan New England, marriage was a civil contract for which they required mutual consent of both parties and wedding bans must be read. Greene, *The Negro in Colonial New England*, 192-193.

[81] Samuel Sewall, *The Diary of Samuel Sewall, 1774-1729,* ed. M Halsey Thomas (New York: Farrar, Straus and Giroux, 1973), 110.

> norm, some of the so-called promiscuity of black slaves was less the result of moral decay than a reflection of different standards for premarital conduct.[82]

The New England legal system made no allotment for cultural differences in marriage and the idea of promiscuity before marriage was unacceptable in Puritan New England.

Of greater concern to the community were acts of fornication between whites and blacks. Many Puritans held strongly to a belief in racial purity and these unions had the potential to produce mulatto children who posed a legal problem over their status.[83] In 1705 the General Court passed legislation requiring all blacks and mulattoes who committed fornication with "an English woman, or a woman of any other Christian nation" to be whipped (along with the offending woman) and the black man to be sold out of the province. Englishmen who committed fornication with a black woman were whipped and forced to pay a fine and the woman sold out of the province. [84] While in each case the authorities punished both white and black offenders, black people realized the far harsher penalty by removal from the colony. There was, however, limited distinction by gender as the authorities punished both men and women as offenders. Ultimately, these were Acts "for the better preventing of a spurious and mix't issue."[85] Nevertheless, as historians James Oliver Horton and Lois E. Horton related, "[r]idicule,

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[82] Piersen, *Black Yankees*, 89. See also Greene, *The Negro in Colonial New England*, 202.

[83] Greene, *The Negro in Colonial New England*, 208.

[84] *The Acts and Resolves*, vol. 1, 578; Ibid., 208. Even before the passing of these acts the church punished fornication. For example, in the First Church records we learn, "[o]ur sister mistres Ann Parker and mistres Ann Maning was admonished in the publick Congregation for Concealing the sin of fornication in their negro servant on the 15th day of the 9th month 1663." Dunkle and Lainhart, transcribers, *The Records of the Churches of Boston.*

[85] *The Acts and Resolves*, vol. 1, 578.

fines, divorce, and corporal punishment failed to stop the interbreeding of Negroes and whites. . . . [p]roof of this failure was seen in the increasing number of mulattoes."[86] This concern seemed to be of particular issue in the first decade of the eighteenth century when eight of the twenty-nine (or 27.59%) black marriages were not between two black people. However from 1710-1730 only one marriage (1.81%) was listed as between a "negro" and an "Indian" and none between a black and a white (see Table 2).[87]

Years	Number of Black Marriages	Number and % of Black Marriages Not between 2 Blacks
1700-1709	29	8 / 27.59%
1710-1719	24	0 / 0%
1720-1729	31	1 / 3.23%

Table 2. Black Marriages in Boston

In conjunction with the desire to prevent fornication, and to halt the rising mulatto population, the legislature passed a law in 1705 requiring "no master shall unreasonably deny marriage to his Negro with one of the same nation, any law, usage or custom to the contrary notwithstanding."[88] As a result, we see a high percentage of black marriages listed in the registrars and church records of Boston. From 1700-1720, officials recorded black marriages at a similar rate to white marriages. For example in 1700 black people

[86] Horton and Horton, *In Hope of Liberty*, 49; Greene, *The Negro in Colonial New England*, 207. By 1693, because of the growing mulatto population, Massachusetts had come to distinguish between mulattoes and blacks in their laws governing slaves.

[87] *A Report of the Record Commissioners of the City of Boston, Containing the Boston Marriages from 1700 to 1751*, (Boston: Municipal Printing Office, 1898).

[88] *The Acts and Resolves*, vol. 1, 578.

comprised approximately 1% of the total population of Massachusetts (a number which was slightly higher for Boston itself) and accounted for 2.91% of the marriages recorded in Boston in that year. By 1710 the Massachusetts' black population was closer to 2% but the number of black marriages recorded soared to 5.15% accounting for the growing black population in Boston.[89] As a result, black marriages took place at a proportional rate to white marriages suggesting laws enforcing black people's rights to marry made some impact.[90]

Years of epidemics including the measles outbreak of 1713 and the smallpox epidemics of 1702 and 1721, however, had a dramatic impact upon black people's social lives. From 1700-1730 the percentage of marriages involving black people in Boston was approximately 2%. However, in 1702, 1713, and 1721 the percentage of marriages involving black people dropped to 0.88%, 0.57%, and 0.00% respectively. While marriages for both blacks and whites were reduced, blacks were affected more so than whites. The reasons for this decline during epidemics remain unclear. However, it seems when Boston was in crisis, black marriages suffered disproportionally compared to whites.

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[89] Piersen, *Black Yankees*, 166-167; *A Report of the Record Commissioners of the City of Boston, Containing the Boston Marriages from 1700 to 1751*.

[90] Although the Slave Laws of 1705 prohibited interracial unions but allowed for black people to marry each other, it was difficult to maintain stable marriages because many masters still did not recognize the marriages of their enslaved persons. Arthur W. Calhoon, *A Social History of the American Family* (New York: Barnes and Noble, 1945), 65. For some masters, the burden of keeping slave families intact often outweighed the moral desire to prevent fornication. As a result, many masters choose to forbid slave marriages and accept the consequences of fornication. John Sweet, *Bodies Politic: Negotiating Race in the American North, 1730-1830* (Baltimore: Johns Hopkins University Press, 2003), 156.

Following the 1721-1722 smallpox epidemic, the rate of black marriages failed to recover to its pre-epidemic rates averaging only about 1.58% of the total number of marriages in Boston, as opposed to 2% + prior to 1721. While the black population in Boston at this time rapidly increased, reaching close to 10% by 1730, black marriages did not keep apace.[91] The only major change was in the number of free black people represented in the marriage records. From 1722-1730 nine of the twenty-six black marriages involved at least one free person accounting for 34.62% of the marriages whereas only 3.17% of all black marriages prior to 1722 involved at least one free black people.[92] As a result, while free black marriages increased, the marriages of enslaved black people decreased reflecting the desire of masters to prevent their enslaved persons from marrying. Perhaps this change is another reflection of the tensions and increased lack of trust between whites and blacks penetrating the community in the inoculation and post-controversy years. As the black population increased, so too did the fear of rebellion and controlling the social lives of black people was one way to attempt to ensure white safety.

Although the inoculation controversy had subsided in May 1722, the tensions between blacks and white anti-inoculators remained high. Many of the latter blamed

[91] Brawley argued that black people conducted many marriages without the presence of a minister so it is possible that there were more "unofficial" marriages. Benjamin Brawley, *A Social History of the American Negro. Being a History of the Negro Problem in the United States. Including A History and Study of the Republic of Liberia,* with introduction by C. Eric Lincoln (New York: Collier Books, 1921/1970), 37. However, McManus argued, "That New England's leading clergymen and magistrates often officiated at these marriages attests to the importance of the institution in the Puritan scheme of things." McManus, *Black Bondage,* 67. The listing of clergy next to black marriages in the records leads me to believe this was the case.

[92] Authorities tried to prevent the marriage of free black people to enslaved peoples for fear of the dangers this presented to the security of the society. Brawley, *A Social History of the American Negro*, 33.

black people for bringing inoculation, which they viewed as evil, to the New World. As Kenneth Silverman noted,

> [o]ne already mentioned charge leveled against the inoculation was that it rested on 'negroish evidence.' The black people of Boston seem to have suffered from the backlash against the inoculators, and after the epidemic Mather seems to have feared a slave revolt.[93]

The threat of rebellion was an ever-present reality heightened by the tensions between whites and blacks following the inoculation controversy.[94] These fears escalated as on 8 April 1723 the *New England Courant* reported,

> [o]n Tuesday Morning last, between 4 and 5 a Clock, a Fire broke out on the Outside of the House of Mr. Powel Merchant, near the Quakers Meeting-House, A Negro Man suspected of setting it on fire, being taken up and examin'd, confess'd the Fact, and that he had attempted it once before; upon which he was committed to Prison in order to his Tryal in May next. He likewise put some Fire among the Hay in Mr. Powel's Barn, which began to kindle before it was discover'd.[95]

Ten days later, on 18 April 1723, the Reverend Joseph Sewall joined those accusing the black man of setting this fire stating, "by the late fires[that] have broke out in Boston, supposed to be purposely set by [the] Negroes."[96] Remembering the Great Fire of 1711,

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[93] Kenneth Silverman, ed., *Selected Letters of Cotton Mather* (Baton Rouge: Louisiana State University Press, 1971), 340.

[94] "The idea of a servile insurrection must have appealed strongly to Mather's imagination. Never very numerous in Massachusetts, the negro slaves yet constituted an appreciable part of the population, and with the veneer of civilization upon them, occasionally broke through all bounds. Some of the very striking crimes in colonial and provincial days arose from the enslaved Indians or Africans." Washington Chauncey Ford in Mather, *The Diary of Cotton Mather, 1709-1724*, 686 fn 2.

[95] "Boston, 8 April," *The New England Courant*, April 1, 1723 to April 8, 1723, 2.

[96] Quoted in George Washington Williams, *History of the Negro Race in America from 1619 to 1880: Negroes as Slaves, as Soldiers and as Citizens, together with a Preliminary Consideration of the Unity of the Human Family, and Historical Sketch of Africa, and an Account of the Negro Governments of Sierra Leone and Liberia* (New York: G.P. Putnam's Sons, 1883), 226.

Bostonians trembled at the prospect of a devastating fire set in the heart of the town.[97] That "a negro man" purposefully committed arson made it even more terrifying and reconfirmed fears that had resurfaced following the inoculation controversy: the black population was plotting a revolt.

A week later, the Honourable William Dummer, Lieutenant governor, writing to the Lieutenant Governour and Commander in Chief of Massachusetts Bay, issued a proclamation addressing the issue of the "many Fires [that] have broke out within the Town of Boston, and divers Buildings have been thereby consumed."[98] The fire at Mr. Powel's home was even more disturbing as it was another in a recent series of fires whose destructive force affected the whole town. Dummer also believed that the number of black people involved in the fires were at least as numerous as the fires themselves. This fire was not an act of a wicked individual but rather a group of people with a particular agenda in mind. Rebellious black peoples, Dummer believed, "entered into a wicked and horrid Combination to burn and destroy the said Town."[99] That they

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[97] "On Tuesday the second of *October*, about eight a Clock in the Evening, a Fire broke out in an old Tenement within a back *Yard* in *Cornhill*, near to the First Meeting-House, occasioned by the carelessness of a poor Scottish Woman, by using Fire to a parcel of Ocum, Chips and other combustible Rubbish, which soon raised a great Flame, and being a time of great drought, and the Buildings very dry, the Flames took hold of the Neighbouring Houses, which were high and contiguous in that part, notwithstanding all application and diligence to extinguish and prevent the spreading thereof by throwing of Water, and blowing up of Houses. The Fire made it progress throughout *Cornhill* on both sides of the Street, and on both sides of the upper parts of King and Queens Street; the Town-House and the Meeting-House, with many fair Buildings were consumed, and several persons kill'd and burn'd." *The Boston News-Letter*, October 1, 1711 to October 8, 1711, 2.

[98] William Dummer, *By the Honourable William Dummer Esq; ... A proclamation. Whereas within some short time past many fires have broke out within the town of Boston, and divers buildings have been thereby consumed; which fires have been designedly and industriously kindled by some villanous & desperate Negroes, or other dissolute people ... Given at the Council chamber in Boston the fifteenth day of April, 1723* (Boston: B. Green, 1723), 1.

[99] Ibid., 1.

attributed the fire at Mr. Powel's home to a single individual was terrifying enough, but the realization that a greater conspiracy involving a great number of black peoples horrified the town. These rebels collectively sought vengeance and the timing of the plot suggests that the scorn they endured following the inoculation controversy sparked the rebellion.

Dummer appealed to "all Justices of the peace, Sheriffs and Constables, and all other Officers whatsoever, and Calling upon all other his Majesty's good Subjects to use their utmost Endeavours to detect and make Discovery of the Authors & Actors of these villainous practices & Designs."[100] Although still reeling from the epidemic disrupting the town over the past year, Dummer encouraged the authorities to focus their energies upon ending these threats of rebellion before they escalated further. Highlighting the urgency of the situation, Dummer closed by stating that "whoever shall discover the said Dissenters so as that they be rendered to Justice, and by Law convicted of the said Crimes, such persons shall have as a Reward for their good Service therein the Sum of Fifty Pounds, to be paid to them out of the publick Treasury."[101]

Following his trial in May, the authorities apparently sentenced the "negro man" accused of setting fire to Mr. Powel's home to death. In a 16 June 1723 letter to his friend and colleague Thomas Prince, Cotton Mather confided, "[i]n the Circumstances of the Poor Creature, who is this week day to dy by the Sword of Justice, there is a voice of

[100] Ibid., 1.

[101] Ibid., 1.

GOD crying out in the City."[102] While the town focused upon the justice served to this man who brought terror to the town, Mather believed there was an even greater event this day, for God was sending the town his own message. Mather raised an alarm directed at the whites of the town: "[n]ot only the Condition of such Slaves is worthy to be considered, but also the Threatenings which there have been Laying the Town in Ashes, are speaking Things."[103] The black population was trying to send a message, and Mather believed it was time for whites to stop blaming the black people for their misfortunes and to heed their complaints.

Mather enclosed an additional statement that spoke to the distress of the town:

> This Place has Lately been brought into uncommon Distress, by some, of a foolish Nation. . . . First, the burning of the town had been threatened, and there have been many fires kindled, in some of which those of this foolish nation, we may suppose, have not been concerned. . . . And considering by what hands the town has been so endangered, there can be nothing more seasonable and reasonable than for us to consider, whether our conduct with relation to our African slaves be not one thing for which our God may have a controversy with us."[104]

Mather examined the rising threats from a new angle, considering that perhaps the treatment of whites toward blacks sparked the wrath not only of the black population but also of God himself. Rather than point a finger at the black people for the disruptions in town with the inoculation controversy, Mather highlighted the behavior of whites toward these black people sparking the great calamities that had befallen them both from the

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[102] Mather, *The Diary of Cotton Mather, 1709-1724*, 2:686. Even though Mather made this remark in his private diary, he proclaimed similar sentiment in public arenas as well.

[103] Ibid., 687.

[104] Ibid., 687-688.

epidemic of smallpox and the fires about town. Mather continued to champion the cause of the black people growing each day ever more confident in their contributions and releasing them from blame for the recent trials in Boston. Mather thought it reasonable to consider that the calamities that plagued Boston were a message from a Holy God that they must reconsider treatment of their African enslaved persons.

In June 1723, the General Court took action in response to the rising fears of a revolt by offering a bill, *An Act for the better Regulating Indians, Negroes, and Molattoes, and preventing many mischievous Practices which the Indians, Negroes & Molattoes have of late in a most Audacious manner to the great Disturbance and grievous Damage of His Majesty's Good Subjects, more especially in the Town of* Boston *addicted themselves unto.*[105] This bill made the rounds though the Court several times but never passed. However, it serves as another example of the fear gripping the hearts of the whites in Boston over an uprising of their black population; a revolt sparked by their malicious behavior toward a people who had brought the technique of inoculation to them. Boston continued to protect its peoples from the revolts of black people not by treating them better as Mather had suggested but rather by continuing to restrict the "Indians, Negroes, and Mulattoes," all of whom they believed posed a threat to the security of whites in the town.

These fears did not quickly subside. On 10 August 1723, the Massachusetts Legislature appropriated funds to "fit and keep in repair His Majesties Castle William, it

[105] *Journal of the House of Representatives, 1723-1724*, vol. 5 (Boston: The Massachusetts Historical Society, 1924), 36. See also pages, 18, 43, 48, 121, 138, 143, 258-9, 264, 274, 286, 292.

being the principal Fortress . . . ."[106] The legislature continued, "[n]o Indian, Negro or Molatto to be Enlisted or retained there . . . ." for fear they might gain the means to attack the castle.[107] Conscious efforts to refit the Castle which served to protect the town and to ensure the absences of blacks, Indians, and mulattos there, speaks to the continued fears of white Bostonians over slave revolt.

During the smallpox epidemic and corresponding inoculation controversy whites were forced to reconsider Africans in a new light. Previous chapters have demonstrated how issues of race, culture, and concepts of self, body, and "the other" all surfaced during this crisis. Nevertheless, as Europeans turned to Africans for their valuable medical knowledge, Africans conversely, if not ironically resisted attempts by the Europeans to culturally assimilate them. The crisis and controversy shook the lives of all Bostonians; everyday life as black people had once known it was over. Perhaps one of the greatest impacts resulting from these events upon the lives of black people throughout the Atlantic was the implementation of inoculation to increase the value of enslaved persons. While black people could not avoid the economic changes that accompanied the epidemic and controversy, they did resist conversion to European Christianity. However, despite attempts at control white authorities were never able to manipulate the lives of these black people living in their midst. Even through times of crisis, Africans and African Americans persisted in their resistance to converting to European Christianity. Just like

[106] Ibid., 105-106.

[107] Ibid., 105-106.

Mather, the black population remained unconvinced of the connection between Christianity and disease. Perhaps they believed their own God who mercifully brought inoculation to them would protect and save them. Alternatively, perhaps black people were indifferent to a religion championing slavery. Unable to force the black population to convert white authorities took to controlling the public lives of blacks. However, white antagonism of the black population during the inoculation controversy increased black resistance, leading Boston to the brink of revolt. Ironically, the white authorities feared that very people who shared with them the life-saving technique of inoculation were now plotting a revolt. Despite the social upheaval which turned Boston upside down, black people emerged from the epidemic and controversy holding all the more tightly to their cultural practices.

Chapter 6: "The Happiest Discovery of the Age": Inoculation in the Atlantic World – Conclusions

When smallpox and thus inoculations ended in Boston on 22 March 1722 the implementation of the African practice of inoculation as a prophylaxis turned the town upside down. While Boston struggled to recover from an epidemic and controversy that shook it to its very roots, Mather and Boylston set out to champion the cause of inoculation in the larger Atlantic World. To do so they had to convince their critics, including the most vociferous of them all, William Douglass, that the procedure was a safe and effective means of combating the horrible disease of smallpox.

On 27 April 1722, shortly after the Boston inoculation controversy ended, William Douglass penned the following words about the procedure to Alexander Stuart, a London doctor and Fellow of the Royal Society,

> [i]t has not been so favourable as our *Levant* Authors have wrote . . . *Several* have dy'd; some who survived, had the *confluent* sort; many were very full; some Women suffered *Abortion* one lost her *Sight;* some were in danger of losing their *Limbs*, by an afflux of Humours to the sores of their *Incisions*.[1]

Mather and Boylston had not yet convinced Douglass that inoculation was more beneficial than contracting smallpox in the natural way and he could not justify the lives

[1] W. Wagstaffe, *A Letter to a Dr. Friend Shewing the Danger and Uncertainty of Inoculating the Smallpox* (London: Samuel Butler, 1722), Appendix, 13.

that inoculation might save with the pain and suffering he believed the procedure inflicted upon its patients.

Those inoculated not only suffered the terrible effects of smallpox, Douglass argued, but they also had to deal with additional symptoms "peculiar to *Inoculation;* they all, while Ill, complain much of their Head, and dejection of Spirits. . . ."[2] Others bemoaned that inoculation altered their complexion stealing away their health and beauty.[3] Having observed the procedure in Boston, Douglass concluded that inoculation carried with it many risks: contracting a deadly form of smallpox, losing one's mental and physical health, and spreading the disease to others. As a result, by the end of the controversy the anti-inoculation crusade dominated the town as "[m]any who had a favourable Opinion of it, have alter'd their Minds; and the *Inoculated are pointed* at as Persons having something singular."[4] In the short-term, the campaign for inoculation was struggling, but time and persistent effort on the part of pro-inoculators championed a cause imagined by Cotton Mather all those years ago when Onesimus first introduced him to the procedure.

At the same time that Boston was in the midst of a controversy over inoculation, England began to experiment with a similar method to curb the effects of smallpox. Despite the support of prominent physicians, inoculation struggled to take root in England until 1724 when Zabdiel Boylston visited the Royal Society and spoke first-hand

[2] Ibid., Appendix, 14.

[3] Ibid., Appendix, 14.

[4] Ibid., Appendix, 15.

of the benefits of inoculation as practiced in Boston. In the following years, inoculation continued to gain acceptance so that by 1730 William Douglass himself deemed the practice both safe and effective and a wonderful means to save many lives. While some were skeptical of his change of heart, Douglass went on to become a vocal advocate of inoculation. Although the progress was slow, by the mid-eighteenth century both America and Europe had adopted some form of the technique.

Inoculation Struggles to Take Root in England

Lady Mary Wortley, the initiator of the inoculation campaign in England, was born Lady Mary Pierrepont in 1689. Her parents, Evelyn Pierrepont and Lady Mary Fielding were an aristocratic family of Nottinghamshire.[5] Despite the status into which she was born, Lady Mary quickly learned that smallpox, a horrendous and dreaded disease, was no respecter of persons. In 1713, Lady Mary watched her brother die a painful death, his body ridden with the pox. Two years later, she became a victim of smallpox. Although Lady Mary eventually recovered, the disease left her with horrid scars that robbed her of her former beauty.[6] For the rest of her life Lady Mary lived with the daily visible reminders of the disease that took her brother's life and forever changed her own condition.

[5] Lady Mary Wortley Montagu, *Selected Letters of Lady Mary Wortley Montagu* (London: George G. Harrap & Co.), 3.

[6] J.N. Hays, *Epidemics and Pandemics: Their Impacts on Human History* (Santa Barbara: ABC CLIO, 2005), 155; Ole Elizabeth Winslow, *A Destroying Angel: The Conquest of Smallpox in Colonial Boston* (New York: Houghton-Mifflin, 1974), 59.

Just before her bout with smallpox, Lady Mary fell in love with Mr. Edward Wortley Montagu over a shared passion for literature and in 1712 the two eloped. As an active political agent, Mr. Wortley was often away from home. In 1718, he was appointed Ambassador Extraordinary to the Court of Constantinople, assigned to resolve the dispute between the Turks and Imperialists.[7] Lady Mary and her six-year-old son joined Edward in Constantinople and shortly thereafter, they welcomed a daughter into their family. During their daughter's birth and throughout their stay in Turkey two surgeons attended the Wortley family: Dr. Charles Maitland and Dr. Emanuel Timonius of the Embassy.[8]

While in Constantinople, Lady Mary heard talk of an "engrafting" (inoculation) procedure offering protection against smallpox. Although she had not yet read Timonius's inoculation report in the *Transactions* (1714) she soon learned from him and others of this medical technique. Remembering the horrors the disease had already struck on her family, Lady Mary asked Dr. Maitland and Dr. Timonius to inoculate her son.[9] Recounting the procedure Maitland wrote,

> [t]he Ambassador's ingenious Lady, who had been at some Pains to satisfy her Curiosity in this Matter, and had made some useful Observations on the Practice, was so thoroughly convinced of the safety of it that *she* resolved to submit her only son to it . . . She first of all order'd me to find out a fit Subject to take the

[7] Montagu, *Selected Letters of Lady Mary Wortley Montagu*, 6-10.

[8] Ian Glynn and Jenifer Glynn, *The Life and Death of Smallpox* (Cambridge: Cambridge University Press, 2004), 43; Shurkin, 123; Raymond P. Stearns, "Remarks Upon the Introduction of Inoculation for Smallpox in England," *Bulletin of the History of Medicine,* XXIV (1950), 113; Winslow, *A Destroying Angel*, 60.

[9] Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 113-114; Winslow, *A Destroying Angel*, 60.

> Matter from: and then sent for an old *Greek* woman who practic'd this Way a great many Years. . . .[10]

To her delight, Lady Mary's son fell only slightly ill and then quickly recovered, protected for life against smallpox.[11]

Pleased with the success of inoculation on her son, Lady Mary supported the implementation of this practice in England. In 1721, once she had settled again in London, Lady Mary had her daughter inoculated by Dr. Maitland and under the watchful eye of three learned physicians of the Royal College.[12] Recalling this procedure Maitland wrote,

> In the mean time having found proper Matter, I ingrafted it in both Arms, after the usual Manner . . . She continued easie and well, without any sensible Alteration, bateing the usual little Spots and Flushings, till the tenth night . . . Small Pox began next Morning to appear . . . and a few Days after she perfectly recover'd of them.[13]

In the following weeks, Lady Mary's testimony, coupled with newspaper reports, began to spark curiosity about the procedure across the country.

Interest in inoculation first spread among royal circles in Britain. Seeing the success of inoculation upon Lady Mary's daughter, Princess Caroline of Wales desired to

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[10] Charles Maitland, *Mr. Maitland's Account of Inoculating the Small Pox* (London: J. Downing, 1722), 7.

[11] Hays, *Epidemics and Pandemics*, 155; Arnold C. Klebs, "The Historic Evolution of Variolation," *Bulletin of the Johns Hopkins Hospital* 24 (1913), 72; Winslow, *A Destroying Angel*, 60-61.

[12] Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 114; Winslow, *A Destroying Angel*, 62. Lady Mary could not have her daughter inoculated earlier because he nurse had not yet had smallpox. Initially, Maitland was reluctant to perform this operation because the weather was cold and wet. Maitland, *Mr. Maitland's Account*, 9.

[13] Maitland, *Mr. Maitland's Account*, 9-10.

have her children inoculated as well.[14] However, before she allowed the doctors to use this procedure on her daughters she desired to see more proof of its safety and success. Princess Caroline found six prisoners, all condemned to die, to volunteer to try this procedure in exchange for their freedom. The Boston *Gazette* reported this experiment, conducted by Mr. Maitland, and noted,

> [t]he Small Pox have plainly appeared upon some of the Persons in Newgate, who underwent the Experiment of Inoculation on Tuesday was Sev'night; and 'tis concluded from appearing Symptoms, that the rest will have them, except one Man, who was known to have them before, on whom the Engraftment of them hath made no Alteration.[15]

Five of the prisoners had a very small reaction and after their recovery, Princess Caroline granted their release. When the doctors determined that the sixth prisoner had smallpox as a child (thus he had no reaction to inoculation) he too was granted his freedom.[16] Following this experiment, Appleby wrote,

> from all which we gather, that after this Experiment is fully made and approv'd of, those who expect to be hang'd may make use of it, if they please; As for that material Question, (viz.) WHO ELSE will do it? That we cannot, at present, give an Answer to, but must wait for further intelligence.[17]

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[14] Princess Caroline of Wales was Carolene of Anspach who later became the Queen of England during the reign of George II. M. Oldstone, *Viruses, Plagues, and History* (Oxford: Oxford University Press, 1998), 36.

[15] *The Boston Gazette*, October 23 1721 to October 30, 1721, 2. The *New England Courant* also recorded this event in London, stating, "we find the Experiment of inoculating the Small Pox is like to give the same Occasion of a Paper-War there, as is lately given among our selves." *The New-England Courant*, October 30 1721 to November 6, 1721, 3.

[16] Klebs, "The Historic Evolution of Variolation," 72; Hans Sloane and Thomas Birch, "An Account of Inoculation by Sir Hans Sloane," *Philosophical Transactions of the Royal Society*, 49, (1755), 517; Winslow, *A Destroying Angel*, 63.

[17] *The New-England Courant*, October 30 1721 to November 6, 1721, 3.

The success here, however, was one more assurance to Princess Caroline that her children might benefit from this procedure.

Before putting the lives of her children in danger, however, Princess Caroline sought more evidence. As a result, physicians inoculated the orphan children of St. James's Parish and they too all fared well under the procedure.[18] With these convincing reports, Princess Caroline determined that inoculation was a worthy method to use upon her own children. Responding to her request for advice Hans Sloane, a Scottish Physician and President of the Royal Society wrote,

> I told her royal highness, that by what appeared in the several essays, it seemed to be a method to secure people from the great dangers attending that distemper in the natural way. . . . but that not being certain of the consequences, which might happen, I would not persuade nor advise the making trails upon patients of such importance to the public. The princess then asked me, if I would dissuade her from it: to which I made answer, that I would not, in a matter so likely to be of such advantage. Her reply was, that she was then resolved it should be done. . . ."[19]

Eventually Princess Caroline had her two daughters inoculated and to her relief, they survived the process quite well.

From its inception in Great Britain, the cause of inoculation had Royal backing. This support, however, did not mean the method was immediately well received within England as many continued to resist the procedure.[20] Opposition grew more intense when just days after Sloane supervised the inoculations of the two royal daughters, word spread that the Earl of Sunderland and his son William Spence both died of inoculation.

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[18] Winslow, *A Destroying Angel*, 63.

[19] Sloane and Birch, "An Account of Inoculation," 518.

[20] Hays, *Epidemics and Pandemics*, 156.

In the following weeks and months, additional deaths of prominent individuals who received inoculation halted the spread of the procedure within England.[21] Lady Mary Wortley and Princess Caroline laid the foundation for inoculations in England; however, it took more internal and external advocates of the medical technique for it ultimately to take root both there and eventually throughout the rest of the Atlantic World.

Within London, the epicenter of professionalization of medicine, and its surrounding regions, several prominent doctors including James Jurin an English physician and fellow of the Royal Society, John Arbuthnot, a London physician and later a member of the Royal Society, and Richard Mead, another English physician and fellow of the Royal society all joined Mr. Maitland and Sir Hans Sloane and worked diligently to incorporate inoculation.[22] In 1722, Maitland, who had been so instrumental in the early trials of the procedure in England, published his account of inoculation and smallpox. Dedicating his work to the Prince and Princess of Wales Maitland sought to "give the Publick a plain and honest Account of the Truth of Fact; both to prevent, if possible, any one's being impos'd upon; as to the Trials already made; or scar'd from the Practice of *it* for the future."[23]

Recognizing the objections many had brought against inoculation Maitland began with a historical account aimed at demonstrating the safety and success of the procedure.

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[21] L. Stewart, "The Edge of Utility: Slaves and Smallpox in the Early Eighteenth Century," *Medical History* 29 (1985), 58.

[22] Hays, *Epidemics and Pandemics*, 156; Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 114; Winslow, *A Destroying Angel*, 63.

[23] Maitland, *Mr. Maitland's Account*, 1.

Maitland first explored whether or not this method had made any changes in smallpox outbreaks in Turkey where "old Greek women" had practiced it for years. He found that smallpox was less harsh in the region and the symptoms of those who had received inoculation were more favorable suggesting that inoculation offered full protection against the disease.[24] Upon this discovery, Maitland wrote, "[t]his I rejoiced to hear, and from thence concluded the Practice to be universally safe and useful."[25]

Having answered the primary concerns of his critics, Maitland outlined evidence of the safe and successful implementation of inoculation in England. Using an example many in his audience would be familiar with, he discussed in detail his experience of inoculation on the daughter of Lady Mary. Maitland also provided a detailed account of the inoculations performed at Newgate to prove that the procedure both led to the contraction of smallpox and then forever protected one against it. In conclusion, Maitland gave detailed examples of patients he inoculated and even included witness statements that testify to the safety and effectiveness of his procedure.[26]

Throughout the account, Maitland appealed to the wisdom and sentiment of his audience, asking "[w]hat would not tender Parents give to secure to them the Lives and Features of their beloved Offspring. . . ."[27] Playing on the emotions of parents, Maitland outlined all the horrors of the disease in an attempt to convince people that inoculation

[24] Ibid., 4-6.

[25] Ibid., 6.

[26] Ibid, 8-11, 19-25.

[27] Ibid., 13.

was better. He believed that the benefits the procedure offered in preventing the ill effects of smallpox on children outweighed the risks and any fears one had of inoculation.[28]

John Arbuthnot, another London physician, responded to this piece by Charles Maitland and offered more points in support of inoculation. While Maitland championed the Asians as a valid source on inoculation, Arbuthnot had to defend this source as many Englanders argued that inoculation, coming from Indians, was not to be trusted, much as the colonists were weary of inoculation as presented to them by the Africans. However, just as Boylston argued that he had learned other medical practices from the Africans and Native Americas which had proved beneficial, so too Arbuthnot remarked, "I hope he has not forgot, that the Practice of Curing Intermitting Fevers by the BARK, was introduc'd of a Sudden, by a barbarous *Indian*, if not into the Royal Family, into the Family of a Viceroy; and thence transmitted to us."[29] Arbuthnot, like Boylston, was open to learning medical practices from those of another race, yet in both Boston and England they could not so easily persuade the population as a whole. Citing Cotton Mather, Arbuthnot continued, "I am sorry it was so late before we fell into this Way; but it has *constantly prosper'd*: I know not that it has once miscarried, since we came into it."[30] This argument was yet another attempt to use race to justify the cause against inoculation.

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[28] Ibid., 13-14.

[29] Arbuthnot, *Mr. Maitland's Account of Inoculating the Small Pox Vindicated, from Dr. Wagstaffe's Misrepresentations of that Practice; with Some Remarks on Mr. Massey's Sermon* (London: J. Peele, 1722), 4.

[30] Ibid., 61.

Until they had vanquished such fears, inoculation would not be able to spread effectively throughout the Atlantic World.

Thomas Nettleton, an English physician practicing in Halifax, England joined the campaign for inoculation and pleaded with Dr. William Whitaker of London to write of the success of inoculation in the city demonstrating how important the opinion of these well-respected men of London were in the adoption of inoculation. As long as London continued to reject inoculation, Nettleton argued, other regions throughout England were hesitant to adopt the procedure as they looked to London for their lead.[31] But what lives would be saved, Nettleton wrote, and,

> [i]t would be of the greatest moment, that the World should know more fully what you think of it in Town, and how you have found it to succeed. 'Tis commonly objected here, that it is not approved of in London; but if those Gentlemen who have justly gain'd the greatest Honour and Reputation in our Profession, should, by finding it successful, see Cause to declare publickly in its Favour, that would be the greatest Means to forward it in the Country, and soon reconcile People to a method, which I believe has not where been put into practice with any other Aim, than to do some Service to Mankind. . . .[32]

A few well-respected physicians had joined royal backing and aristocratic support for inoculation. Yet there was still a missing piece, that engine to drive the inoculation

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[31] Thomas Nettleton, *An Account of the Success of Inoculating the Smallpox – Letter to Dr. William Whitaker* (London: S. Palmer, 1722), 12. "There is only one thing more which I am oblig'd to mention, and which I wou'd rather have pass'd over in silence, and that is, the vigorous Opposition it has met with from many honest well-meaning Persons, who cannot by fancy it is an unlawful and unwarrantable Practice: They have gain'd a great Majority on their Side here, as well as in other Places where it has been practiced; I only with, that as they act upon a Principle of Conscience, they wou'd have been less busy in raising and spreading false groundless Reports, whereby this matter has been much mis-represented, and many entertaining a wrong Notion of it, have been deterr'd from making use of this Method themselves of their Children, who have since unhappily been taken off by the Small-pox. But when this Affair it set in a true Light, and found to be always safe and effectual, I believe all the Objections raised against it will fall of course." Nettleton was one of the first English physicians to practice inoculation outside of London. James Jurin, *The Correspondence of James Jurin (1684-1750),* edited by Andrea Rusnock (Atlanta: Editions Rodopi B.V., 1996), 25.

[32] Nettleton, *An Account of the Success of Inoculating the Smallpox*, 12.

crusade in England and take it where the Englishmen could not go alone. Until the entry of another force, the campaign in England remained limited as candidates for inoculation were few and uneasiness over this innovative procedure, despite the pleas by physicians of its safety and success, had not been satisfied.

In Boston Cotton Mather was able to secure the support of the ministers but struggled to gain acceptance for inoculation among the physicians in town. In England, the story was just the opposite as physicians were more willing to join the cause while the ministers forcefully spoke out against it. The harshest condemnation of inoculation in England came from Reverend Edmund Massey in his message "A Sermon against the Dangerous and Sinful Practice of Inoculation" delivered on July 2, 1722 at St. Andres's, Holborn. Using Job as his protagonist, Massey argued that inoculation interfered with the will of God.[33] Massey hoped that "[t]he sudden Fall of this great Man [Job] may serve to shew us, how unable all human Means are of themselves to support us, when it shall please God to withdraw the Blessing of his Protection . . . ."[34] Massey reminded his congregation that God sent diseases either for the trial of faith or punishment of sin and to interfere with this judgment was an insult to religion. Just because man can do a thing does not mean he ought to do it. After all, the Bible clearly forbids one from doing evil

[33] Glynn and Glynn, *The Life and Death of Smallpox*, 64; John T. Barrett, "The Inoculation Controversy in Puritan New England," *Bulletin of the History of Medicine*, vol. XII (1942), 182; Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 115; Winslow, *A Destroying Angel*, 63.

[34] Edmund Massey, *A Sermon against the Dangerous and Sinful Practice of Inoculation. Preach'd at St. Andrew's Holborn, on Sunday, July the 8th, 1722* (London, 1722 / Reprinted in Boston 1730), 5.

even if good came of it. Therefore, even if inoculation saved lives, it still was not justified in scriptures.[35]

Massey sent a strict warning to any who continued to support inoculation when he stated, "[a]nd I hope the Time is coming, that these *Venefici,* these *Spreaders of Infection,* will be distinguished from those of the *Faculty,* who *deserve Honour,* and not permitted to mingle with them, as the Devil among the Sons of God. . . ."[36] Massey concluded with a word of caution that proceeding with inoculations would provoke God and bring even greater judgment upon this sinful people.[37]

While Edmund Massey focused solely upon religious objections, others in England were concerned with the threat inoculation posed to public health. Isaac Massey, an apothecary to Christ's Hospital, in his "A Short and Plain Account of Inoculation" argued that inoculation gave smallpox to person who might have lived many healthy years without the disease. Also responding to the reports of Dr. Maitland, Massey questioned how inoculators could claim to cure one of a disease he did not even have.[38] Speaking against the accounts arguing for the safety of inoculation, Massey found it unconscionable to promote a procedure that had already caused several deaths.

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[35] Ibid., 10, 13, 16, 17-18.

[36] Ibid., 20-21.

[37] Ibid., 30.

[38] Isaac Massey, *A Short and Plain Account of Inoculation. With Some Remarks on the Main Arguments Made Use of to Recommend that Practice, by M. Maitland and Others* (London: W. Meadows: 1722), 12. "Inoculation is an Art of giving the Small Pox to Persons in Health, who might otherwise have lived many Years, and perhaps to a very old Age without it, whereby some unhappily come to an untimely Death, and others escaping that, have yet laboured under a dangerous sort of the Flux kind, and with as much difficulty have at least been preserved, as if that Distemper had happened in the Course of Providence." Massey, *A Short and Plain Account of Inoculation,* 1-2.

He was ultimately convinced that there were so few deaths from smallpox itself that this practice of inoculation was simply unnecessary.[39] While Maitland downplayed the few negative examples of inoculation, Massey highlighted these concerns.

William Douglass was also disturbed that inoculation had not yet been adequately tested, observed, and proven safe according to the standards of European professional medicine. Addressing such concerns, Sir Hans Sloane requested that anyone performing inoculations keep careful records that trained physicians could study and analyze. While many including Thomas Nettleton found the early numbers to demonstrate success beyond their expectations, others were waiting for more observation and experience before they granted their support to the practice.[40] Of primary concern was that expert physicians deem the procedure safe for those inoculated as well as for those around them.[41]

Early numbers on inoculation in England were overwhelmingly positive. In "Memoirs of the Royal Society" published in the *Transactions*, they reported that in 1722 England, 19 out of every 100 persons who had the natural smallpox died whereas of the 61 persons inoculated not one had died.[42] The story began to change however when James Jurin counted 182 persons inoculated with two deaths resulting from the

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[39] Ibid., 11-12, 21.

[40] Nettleton, *An Account of the Success of Inoculating the Smallpox*, 2, 3; Richard Blackmore, *A Treatise Upon the Small-Pox, In Two Parts*, Second Edition (London: Bible and Crown, 1723), 84.

[41] Glynn and Glynn, *The Life and Death of Smallpox*, 68.

[42] Baddam, *Memoirs of the Royal Society; Being a New Abridgement of the Philosophical Transactions*, vol. 7. (London: G. Smith, 1738), 225-6.

procedure. When they added in numbers from Cotton Mather in Boston, the odds for death from inoculation were even worse as 6 of the 300 inoculated died.[43]

In 1723 three reports of inoculation in New England were read before the Royal Society which played a major role in the implementation of inoculation in England. The first report came from Captain John Osborne of Roxbury and was read before the society on 31 January 1723. Osborne and his wife had both received inoculation in New England and, "Osborne reported that of 280 persons inoculated between May 21, 1721, and April, 1722, only 5 died; whereas of about 6050 persons who had the smallpox in the 'natural way,' between 700 and 800 died."[44]

One of the forerunners in presenting statistical data on inoculation was Dr. James Jurin, a well-trained physician and fellow of the Royal Society. Although he never performed inoculations himself, Jurin was vocal in his support of the practice, and even had three of his daughters inoculated. Jurin, used his position as Secretary of the Royal Society to communicate with various people from the general public including Cotton Mather, Zabdiel Boylston, and Isaac Greenwald (a professor of natural history at Harvard College who received inoculation from Mather and Boylston) on inoculation and was able to amass a great deal of data on the procedure. As a result, this data, along with Jurin's pamphlets on inoculation, helped persuade some physicians to utilize the

[43] Baddam, *Memoirs of the Royal Society*, 226-227. Patricia Cline Cohen in her 1982 work *A Calculating People: The Spread of Numeracy in Early America*, argued that quantitative numbers were not really accepted as proof of the safety of inoculation until 1752. However, the obsession of these people with the numbers suggests otherwise. Patricia Cline Cohen, *A Calculating People: The Spread of Numeracy in Early America* (Chicago: University of Chicago Press, 1982).

[44] Quoted in Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 117, fn 52.

method.[45] Jurin's support for inoculation went a long way toward increasing inoculation within England.[46] However, the support of England physicians alone would not be enough for inoculation to take root there.

Boylston Arrives in England

In December 1724, England received a major boost to their inoculation crusade when Zabdiel Boylston sailed for London and remained there for a year and a half.[47] Upon his arrival Boylston presented Jurin a letter of introduction from Cotton Mather which stated,

> When the rest of the Doctors, did rather the part of Butchers, or Fools for the Destroyer, to our perishing people, and with Envious and horrid Insinuation

[45] Jurin, *The Correspondence of James Jurin*, 20, 22-23, 27, 47; Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 117.

[46] Stearns. "Remarks Upon the Introduction of Inoculation for Smallpox in England," 120-121. Jurin, who wrote his own obituary in 1745 (he died in 1750) wrote,

> No Medicine, perhaps, that was ever introduced into Physick, met with stronger and longer continued Opposition, than the *Peruvian* Bark.
>
> No Practice was ever more vehemently contested, than that of Inoculation.
>
> And yet both the one and the other have since triumphed over all their Opposes.
>
> And this Lixivium, if it be found of service to Mankind, must and will do so likewise.
>
> For my part, I firmly believe it will, so firmly, that I would desire to be remembered after Death, for nothing more, than the share I have had in introducing the Practice of Inoculation and this Lixivium.

Quoted in Jurin, *The Correspondence of James Jurin*, 48.

[47] Sir Hans Sloane invited Boylston to England as a guest of the Royal College of Physicians. Barrett, "The Inoculation Controversy in Puritan New England," 183; Reginald H. Fitz, "Zabdiel Boylston, Inoculator, and the Epidemic of Smallpox in Boston in 1721," *Bulletin of the Johns Hopkins Hospital*, XXII, no. 247 (September, 1911), 324; Michael Kraus, *The Atlantic Civilization: Eighteenth-Century Origins* (Ithaca: Cornell University Press, 1949), 208; Winslow, *A Destroying Angel*, 66.

> insinuated the World against him, this worthy Man had the Courage and the Conscience to enter upon the Practice". . . . Mather even suggested that the Prince and Princess "may not be unwilling to take some Cognisance of a Person so distinguished by and Operation of so much consequence.[48]

While in London, Boylston developed a very close friendship with both Sloane and Jurin and together they sought to further the campaign for inoculation, not only in Boston and in London but ultimately throughout the Atlantic World.[49]

Near the end of his stay in London, Sloane asked Boylston to write his story of inoculation in hopes it would provide solid evidence to further the cause for inoculation in England. Recounting this encounter Boylston remarked, "and having also received a Message from a superior Person, that an Account of my Success of inoculating the Small-Pox in New-England might be grateful, and being a great use, and beneficial to the Publick . . . ."[50] The press published Boylston's account of inoculation in 1726 and again in 1730 when smallpox returned to Boston. On May 26, 1726 as a reward for his efforts, the Royal Society elected Boylston as a member, a rare honor for anyone from New England.[51] The entry for his admittance reads, "Zabdiel Boylston (March 9, 1680 – March 1, 1766) Boston physician famed for his intelligent use of inoculation for smallpox in 1721-22 went to England in 1725 to study 'the new method for cutting the Stone'."[52]

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[48] Quoted in, Jurin, *The Correspondence of James Jurin*, 20.

[49] Winslow, *A Destroying Angel,* 66-68.

[50] Zabdiel Boylston, *An Historical Account of the Small-pox* (Boston: Gerrish and Hancock, 1730), i.

[51] Winslow, *A Destroying Angel*, 67.

[52] Ibid., 68 Boylston only had two short pieces published by the Society, neither of which were on inoculation. Ibid., 69.

Boylston's *Historical Account of the Smallpox Inoculated in New England* played a major role in supporting the inoculation campaign both in England and in the Americas, helping implement inoculation as "the happiest Discovery of the Age."[53] This account was, in the words of Boylston, a record of his experiences with inoculation as practiced in Boston of a method that "ought now no longer to be stiled new, but a well experience'd and establish'd Practice."[54] Boylston hoped that through his report some might choose inoculation and in so doing save their own lives.[55]

In this lengthy report Boylston recorded the 247 cases of inoculation he performed on the weak, diseased, aged, young, poor, and whole families, all of whom he reported did very well and suffered a much lighter form of smallpox than those who contracted it in the natural way.[56] Boylston was careful to include the wide variety of participants in inoculation, leaving no room "for any one to cavil, and say, that my Experiments have not been fair, and full or Proofs. . . ."[57] Although Boylston's patients fared well, he needed to explain the deaths of six persons. These deaths, Boylston argued, occurred because the patient was either infected before the procedure was done, a victim of abstinence and accidents unrelated to inoculation, worn out with age, or just in general in poor health.[58]

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[53] Boylston dedicated his account to Caroline, Princess of Wales. Boylston, *An Historical Account*, v.

[54] Ibid., iv.

[55] Ibid., i.

[56] Ibid., iii.

[57] Ibid., 2.

[58] Ibid., iii, 32.

Boylston also used this opportunity to speak out against Douglass and his attack on Mather for introducing the practice of inoculation and falsely representing the truth.[59] Boylston defended the method of inoculation as originating in the Americas with Cotton Mather (and therefore Onesimus). Boylston also condemned Douglass for actively preventing the truth of the safety and success of inoculation as practiced in New England to reach Great Britain.[60] The attacks of Douglass and others against inoculation, Boylston argued, kept "hundreds, if not thousands, from coming into the Practice of Inoculation, which might have saved many valuable Lives that were lost by the Small-Pox in the natural way, as may better appear when the Success in each way is compared."[61]

After presenting a careful description of how he performed the inoculations and how each patient was treated and eventually recovered Boylston commented,

> [n]ow if there be any one that can give a faithful Account or History of any other Method of Practice that has carried such a Number, of all Ages, Sexes, Constitutions, and Colours, and in the worst Seasons of the Year, thro' the Small Pox; or, indeed thro' any other acute Distemper with better Success, then I will alter my Opinion of this; and until then, I shall value and esteem this Method of inoculating the Small-Pox, as the most beneficial and successful that ever was discover'd to, and practiced by Mankind in this World.[62]

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[59] "And as this Practice was new in *Europe*, so it must needs make a strange Figure in *New-England*, and more especially so when one or two of our learned *Esculapian* Tribe had made the Discovery how this Practice wou'd produce the Plague *viz.* because *Tinonius* told them that it sometimes happen'd that Swellings were produc'd by it in some Emunctory of the Boyd; and likewise they caviled and said, that Dr. *Mather* had not given a fair Representation from *Timonius* and *Pyllarinus's* Accounts." Ibid., 3.

[60] Ibid., 4,5.

[61] Ibid., 5.

[62] Ibid., 32-33.

Boylston hoped these reports of the good effects of inoculation would convince the world of its safety and success and as a result spread the procedure to those who previously rejected the practice, ultimately saving more lives.[63]

Douglass is Finally Convinced

A few years later, in 1730, William Douglass, Boston's most ardent opponent of inoculation, published "A Dissertation Concerning Inoculation of the Small-Pox." Dedicated to John Jekyll, esquire, Douglass sought to lay aside his "passion and prejudice" and for the good of his neighbors relate "the history, success, and benefits of inoculation" allowing the facts to speak for themselves.[64] Douglass had been particularly concerned with Mather implementing a practice not yet approved by trained physicians and which posed a grave threat to public health. However, in comparing the discovery of inoculation to the use of Bark to cure Agues and Opium to relieve pain, Douglass was willing to accept that if one could discover these treatments by accident and later confirm them by experience, the same was true of inoculation.[65]

One of Douglass's underlying concerns with inoculation was that Mather and Boylston had learned of it from an African slave whom Douglass believed, had nothing to offer the world of professional medicine and simply could not be trusted. In his 1730

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[63] Ibid., 40.

[64] William Douglass, *A Dissertation Concerning Inoculation of the Small-pox* (Boston, Henchman and Hancock, 1730), dedication.

[65] Ibid., dedication. "We find by some Years Experience, that the Small Pox abstractedly considered, received by Inoculation is not so Fatal and the Symptoms frequently more mild, than in the accidental Contagion . . . ." Ibid., dedication.

Dissertation, Douglass raised a very different objection to inoculation as it related to the issue of race. In examining the original intent of the procedure, Douglass discovered that parents had their children inoculated against the smallpox so they would not catch the disease, which might take their life, or leave them scarred, reducing their price at market. As a result, Douglass affirmed,

> those who retain their Beauties, are *Merchantable*, and bear a good Price : so that the first Intention of *Inoculation* was not the *Saving of Life*, but as a more ready way of procuring the Small-Pox, than by accidental Infection, that they might know what *Beauties* were proof and would answer the charge of being carried to *Market*.[66]

Douglass was troubled that inoculation only sought to increase the profit of slaves at Market and showed concerned that many were misusing the life-saving potential of the procedure for their own economic gain. While Mather and Boylston were the ones willing to listen to an African source on inoculation, Douglass was the one with the foresight to see its negative impact upon the Africans in the slave trade.

As Douglass turned his attention to England he sought to justify his initial unease with inoculation when he noted that most university trained physicians there also opposed inoculation when Lady Mary first introduced it. In time, however, physicians including Dr. Mead and Sir Hans Sloane came to support the procedure. This support, from the university trained medical profession, Douglass argued, was more effective in the acceptance of inoculation in England than were the support and trials of the Royal family. People in England were unwilling to follow the Royal Family in inoculation until the

[66] Ibid., 1-2.

physicians had deemed the procedure safe and effective.[67] Douglass used this example as another means to further his ultimate goal, which was to elevate the ideal of a medical hierarchy in England, even placing it above the Royal Family in terms of influence in medical issues. However, Douglass exaggerated the impact that these physicians actually had on implementing inoculation in England.

The biggest barrier to English physicians in accepting inoculation, Douglass argued, was negotiating the insertion of foreign liquids directly into the current of blood. In time, repeated trials and careful observation by trained physicians demonstrated the safety of the process.[68] Douglass himself came to accept this method as superior to contracting smallpox in the natural way although he recognized it was not without flaw. As Douglass related,

> Altho' by Inoculation there is a *better chance* than by accidental contagion, nevertheless it is not exempted from being *precarious,* as we have at length exemplified; but as there are no *absolute certainty* in humane affairs, mankind govern themselves by the greatest *probabilities*.[69]

In conclusion, Douglass wrote, "[s]ince the practice is not Criminal, they who from a publick Spirit undergo the experiment, may be reckoned to essay the *benefit of Mankind* for generations to come."[70] This argument demonstrated how far Douglass had come in the last nine years and reflected a growing sentiment throughout the Atlantic World, that

[67] Ibid., 3.

[68] Ibid., 4.

[69] Ibid., 9, 26.

[70] Ibid., 28.

the argument of Cotton Mather all those years ago that inoculation might save many lives actually held some merit.

Shortly after the publication of Douglass's *Dissertation*, the press of Boston published an anonymous letter addressed to Zabdiel Boylston that directly addressed the writings of Douglass. The author of this letter was skeptical that Douglass, who attacked Boylston and Mather so vehemently on inoculation, could actually reconsider his position in the controversy. Speaking to the reputation of Boylston, this author noted the errors in Douglass's grammar and recounted his many blunders.[71] Although Douglass set out to relate the history of smallpox and inoculation "without passion and prejudice," the author related, "[b]ut, notwithstanding this good Promise, in his Book he shews his old *Passion & Prejudice* against You, & your excellent Friend the late Doctor Mather."[72]

Discrediting the merit of Douglass himself, the author defended Boylston whom Dr. Jurin of the Royal Society and many other well-respected persons had also approved.[73] He also supported the recognition Boylston received while in London despite the attempts Douglass made to downplay his time there. This author defended the reputation of Mather, with whom Douglass remained at odds. Then he accused Douglass of plagiarizing Dr. Mead, Sir Hans Sloane and other celebrated physicians when he wrote on inoculation in his dissertation. The problem, this author demonstrated, was that

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[71] *A Letter to Doctor Zabdiel Boylston; Occasion'd by a late Dissertation Concerning Inoculation* (Boston: D. Henchman, 1730), 1-2. When the controversy first broke out in Boston, Douglass attacked Boylston as uneducated. See Chapter 4 of this dissertation.

[72] Ibid., 2.

[73] Ibid., 3.

Douglass took these men out of context and instead continued to exaggerate the negative effects of inoculation.[74] Finally, this letter speaks to the change in position Douglass expressed in his *Dissertation* on inoculation.

> But, as bold as it [Douglass assertion that inoculation does offer protection against smallpox] is, he says, *we may confidently pronounce it;* so that now he seems to be one of us. I believe, that he, and some other Doctors in Town, have held the contrary; and I hope they will shew themselves not at least as ingenuous as he, by making a *publick Retraction.*[75]

By this time, many of the physicians in Boston had come to side with Boylston on inoculation; however, this author feared that the *Dissertation* of Douglass would reintroduce the suspicion that inoculation was criminal. Douglass had proven that he had respect for life in coming to accept inoculation, yet those who he opposed for so long were not so quick to welcome him into their cause.[76]

In 1749, Douglass published *A Summary, Historical and Political, of the first Planting Progressive Improvements, and present State of the British Settlements in North America.* In this essay, Douglass provided his perspective on the inoculation controversy discussing in great depth the history of smallpox and inoculation in Boston and concluding with an explanation of how he came to accept the practice of inoculation. Douglass concluded in this pamphlet that inoculation was valuable and all humanity should accept it that society might fully realize its benefits.

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[74] Ibid., 3-5, 7-12.

[75] Ibid., 12.

[76] Ibid., 14.

Douglass began with a discussion of smallpox in 1721 Boston. During this time, Douglass, a novice in dealing with smallpox in epidemic form initially sought to follow Dr. Sydenham's cold regimen in treating the disease. It was only after a period of careful observation that Douglass was able to outline some of the advantages of inoculation over this cold regimen. Some these benefits included: the choice of a suitable season, following a proper regimen, a laudable varioulous Pus, and immunity. Inoculation also had its drawbacks including: some died from the procedure (a consequence Douglass still viewed as criminal), it could lead to abortion in women, it allowed for the communicating of distempers, and it spread the infection. Nevertheless, he argued that the benefits outweighed the risks. However, Douglass stopped short of agreeing with the recommendations given by Boylston and Mather that it provided absolute security against death and other calamities.[77]

After he had established proper testing and methodology, Douglass was ready to declare that, "[t]he Novel Practice of procuring the *Small Pox* by Inoculation, is a very considerable and most beneficial Improvement in that Article of Medical Practice."[78] While Douglass eventually gave Cotton Mather the credit for establishing inoculation in

[77] William Douglass, *A Summary, Historical and Political, of the First Planting Progressive Improvements, and Present State of the British Settlements in North America.* 2 vols. (Boston, 1748 (vol. 1) / 1751 (vol. 2), 394, 406, 412-414.

[78] Ibid., 406. "These Considerations made me 1721, not enter into the Practice, until further Tryals did evince the Success of it ; but now after upwards of thirty Years Practice of it in Great-Britain, and the Dominions thereto belonging, we found that the *Small-Pox* received by cuticular Incisions has a better Chance for Life and an easy Distributure ; that is, the *Small-Pox* so received is less mortal and generally more favourable, than when received in the accidental or natural way . . . ." Ibid., 406.

Boston, indirectly acknowledging Onesimus as the source of inoculation in America, he never admitted he was wrong in initially refusing to support the procedure.[79]

In conclusion, Douglass related the successful implementation of inoculation throughout the colonies, using America as an example for England to follow. England's failure to quickly adopt inoculation concerned Douglass:

> I am at a loss for the Reasons, why Inoculation hitherto is not much used in our Mother Country, *Great Britain*; considering that it has with good Success been practiced in our Colonies or Plantations, particularly in *Boston, New-York, Philadelphia,* and *Charles-Town* of *South-Carolina.*[80]

Cotton Mather had laid the foundation in Boston, and once qualifying physicians had safely tested and approved the procedure, Douglass joined the campaign and sought to carry on Mather's wish that physicians implement inoculation to save countless lives throughout the Atlantic World.

Inoculation Gradually Gains Acceptance

After the smallpox epidemic and concurrent inoculation controversy in 1721 Boston life eventually settled down. However, the ever-present threat of another epidemic remained and authorities continued to take precautions to prevent another catastrophe. By 1730, inoculation had also become an accepted means to combat smallpox in Boston and authorities needed clear measures to control this practice for the

[79] Ibid., 411.

[80] Ibid., 412.

good of the public.[81] In 1732, Massachusetts passed "An Act to Prevent Persons Concealing the Small-pox." This act made provisions for how people were to alert the authorities and the town of the arrival of smallpox in their home and measures the act required them to take to prevent the spread of the disease. However, "this act shall not be understood to extend to persons in any town where more than twenty families are known to be visited with the small-pox at one and the same time."[82] This twenty-family rule became the standard whereby authorities allowed inoculation to resume. Unless they

[81] John B. Blake, *Public Health in the Town of Boston, 1630-1822* (Cambridge: Harvard University Press, 1959), 77.

[82] *The Acts and Resolves, Public and Private of the Province of the Massachusetts Bay: To Which are Prefixed the Charters of the Province. With Historical and Explanatory Notes, and an Appendix,* vol. II (Boston: Wright & Potter, Printers to the State, 1874), 621-622.

AN ACT TO PREVENT PERSONS CONCEALING THE SMALL-POX. Whereas it has been represented that the small-pox has been designedly concealed in divers families within this province, which practice greatly tends to the spreading of that mortal distemper ; for remedy whereof, Be it enacted by His Excellency the Governour, Council and Representatives in General Court assembled, and by the authority of the same, [Sect. 1.] That from and after the publication of this act, When any person is visited With the small-pox, in any- town of this province, immediately upon knowledge thereof, the head of that family in which such person is sick, shall acquaint the selectmen of the town therewith, and also hang out, on a pole at least six feet in length, a red cloth not under one yard long and half a yard wide, from the most public [k] part of the infected house, the said sign thus to continue till the house, in the judg[e]ment of the selectmen, is thoroughly aired and cleansed; upon penalty of forfeiting and paying the sum of fifty pounds for each offence, one half for the informer and the other half for the use of the poor of the town Anywhere such offence shall be committed, to be sued for and recovered by the treasurer of the town, or the informer, by action, bill, plaint or information, in any of his majesty's courts of record; and if the party be unable or refuses to pay such fine, then to be punished by whipping not exceeding thirty stripes. And be it further enacted by the authority aforesaid, [Sect. 2.] That When the small-pox is in any town of this province, and any person in said town, not having had the same, shall then be taken sick, and any pustulous eruptions appear, the head of that family wherein such person is, shall immediately acquaint one or more of the selectmen of the town therewith, that so the s[ai]d selectmen may give directions therein ; upon penalty of forfeiting the sum of fifty pounds, to be recovered and applied for the uses aforesaid, the Whole charge to be born by the person thus visited, if able to defr[a][e]y the same, but if in the judg[e]ment of the selectmen of the town such person is indigent and unable, then the said charge to be born by the town whereto he or she belongs : provided, always, that this act shall not be understood to extend to persons in any town where more than twenty families are known to be visited with the small-pox at one and the same time.

[Sect. 3.] This act to continue for the space of ten years from the publication thereof, and no longer. [Passed February 2 ; published February 3, 1731-32.

could confirm that twenty families had the smallpox, putting it in the category of an epidemic, inoculation remained illegal. The reasoning for this rule was two-fold: first, there was no need for inoculation when smallpox was not an immediate threat; and second, continuing inoculations (which spread smallpox) in the absence of the disease might cause an epidemic to occur.[83]

Once gaining a foothold in Boston, inoculation began to spread throughout New England fulfilling the dream of Cotton Mather to take this life-saving technique to the wider world. As the *Transactions* related, and as this medical technique grew more frequent, so too did support for inoculation and eventually entire families adopted the process.[84] However, with the expansion of inoculation throughout New England, so too did controversy over the procedure spread, and this controversy made other peoples and towns reluctant to adopt the method. Although America never fully adopted the medical technique, it was there that inoculation first took root and later spread throughout the European Worlds and back into Africa via the Slave Trade.[85]

From New England inoculation advanced to Philadelphia where Benjamin Franklin, after mourning the loss of a child to smallpox, became one of the first supporters of the procedure.[86] In 1731, J. Growden Esq., a public officer in high standing and good character, became the first recipient of inoculation in Philadelphia in order to

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[83] Blake, *Public Health in the Town of Boston*, 77, 82.

[84] Baddam, *Memoirs of the Royal Society*, 235.

[85] Glynn and Glynn, *The Life and Death of Smallpox*, 63; Kraus, *The Atlantic Civilization*, 209.

[86] John Duffy, *Epidemics in Colonial America* (Baton Rouge: Louisiana State University Press, 1971), 34.

set an example. In March 1731, the Philadelphia *Gazette* reported, "The practice of inoculation for the smallpox begins to grow among us. J. Growden, Esq. the first patient of note that led the way, is now upon the recovery!"[87] During the 1731 smallpox epidemic in Philadelphia, physicians implemented inoculation on about fifty patients. However, when the epidemic subsided so too did talk of the procedure.[88]

Inoculation did not meet with as much widespread resistance in Philadelphia as it did in Boston though there were many opponents to the idea of implementing a medical technique that posed a threat to public health. There were also religious objections to inoculation in Philadelphia. For example, in 1722 the Rev. Mr. Masley preached against the idea of inoculation "which he calls and unjustifiable art, and infliction of an evil, and a distrust of God's overruling care to procure us a possible future good!"[89]

When smallpox returned to Philadelphia in 1736 the idea of inoculation had spread throughout the city and from the fall of 1736 to the spring of 1737 there were 129 persons, both white and black, inoculated and of the 129 only one child died. By this time, Doctors Kearsley, Zachary, Hooper, Cadwallader, Shippes, Bond and Sommers all embraced inoculation.[90]

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[87] Quoted in John F. Watson, *Annals of Philadelphia, Being a Collection of Memoirs, Anecdotes, & Incidents of the City and its Inhabitants from the Days of the Pilgrim Founders* (Philadelphia: E.L. Carey & A. Hart, 1830), 601.

[88] *Transactions of the Medical Society of the State of Pennsylvania*, Sixteenth Annual Session, Fourth Series, Part I. (Philadelphia: Collins Printer, 1865), 170.

[89] Quoted in Sara Stidstone Gronim, *Everyday Nature: Knowledge of the Natural World in Colonial New York* (New Brunswick: Rutgers University Press, 2007), 601.

[90] Gronim, *Everyday Nature*, 602.

In 1731 smallpox also struck New York, when, historian Sarah Gronim related, they "adopted inoculation for smallpox as rapidly as did any group anywhere in the Atlantic world."[91] New Yorkers likely had some limited knowledge of the inoculation controversy, which took place in 1721 Boston, but with the absence of smallpox in New York from 1721 to 1731, it was not a topic of much debate there.[92] However, when smallpox struck New York in epidemic form in 1731 inoculation took center stage. By March 1732, "Alexander wrote Colden that people continued inoculating themselves on Long Island and that it had had 'Success beyond Expectation.'"[93]

Much like Boston and Philadelphia, not everyone was receptive to inoculation in New York and a religious and public health debate over the efficacy of the procedure ensued. Inoculation went against all people knew and understood of medicine, which still centered on ideas of ridding the body of toxins. However, by 1752, when smallpox once again returned to New York, the town had come to accept inoculation. One of the major contributing factors to this shift was the statistics of inoculation success coming in from other regions including Boston.[94]

Fears over inoculation spreading smallpox and causing death caused the colonial governments of New York, Connecticut, Maryland and Virginia to issue proclamations

[91] Ibid., 87.

[92] Ibid., 88.

[93] Quoted in Ibid., 89

[94] Gronim, *Everyday Nature*, 89, 90, 92.

prohibiting the procedure.[95] It was many years until the general public came to adopt inoculation and once again it was Boston who led the way. In 1752, smallpox returned to Boston and that year 5,545 Bostonians contracted smallpox in the natural way and of them 539 (9.72%) died. That same year physicians inoculated 2,214 patients and only 30 (1.36%) died. These numbers showed strong support for inoculation and turned the tide in favor of inoculation in the Americas.[96]

Inoculation eventually made its way throughout the Atlantic World. In his 1727 essay on Smallpox Philip Rose foretold that although inoculation had puzzled the best of physicians in Great Britain and the colonies, inoculation in time would become accepted among the majority of mankind.[97] By the middle of the eighteenth century, the failures of inoculation paled in comparison to its successes and people grew receptive of this innovation in medical technology.[98]

Although England eventually accepted inoculation based on the successes of its practice both there and in the colonies, the rest of Europe was not so quick to adopt the procedure. According to Voltaire, outside of England people spoke of the procedure with horror, although he noted how many lives they could save if France adopted inoculation.

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[95] Gronim, *Everyday Nature*, 94.

[96] Allan Everett Marble, *Surgeons, Smallpox, and the Poor: A History of Medicine and Social Conditions in Nova Scotia, 1749-1799* (Montreal/Buffalo: McGill-Queen's University Press, 1993), 8.

[97] Philip Rose, *An Essay on the Small-Pox; Whether Natural, or Inoculated. Shewing, that by a New and Particular Method, the Dangerous Symptoms, and Fatal Consequences, in Either Sort, may be Prevented, or Removed, and many Lives saved. Where in likewise all the Objections brought against INOCUALTION, are proved to be Groundless,* The Second Edition, Improved (London: H. Curll, 1727), 4, 70.

[98] Klebs, "The Historic Evolution of Variolation," 74.

However, France was one of the last European nations to accept the medical technique.[99] Italy, too, was reluctant to practice inoculation, which according to Dereham they "would have had a greater progress had the French nation come into it, whereas they follow very readily all there fashions."[100] Eventually inoculation spread into Wales, where Perrot Williams strongly advocated for its acceptance.[101] From there, Germany and Hungary and eventually Russia, the Netherlands, Austria, and Scandinavia, all turned to this medical innovation.[102]

Despite inoculations, smallpox continued to ravage Europe. As historians Ian and Jenifer Glynn wrote, "[i]f the eighteenth century was the heyday of inoculation, it was also the heyday of smallpox, with a catalogue of disasters across Europe – in Germany, Poland, Sweden, Denmark, Greenland, Switzerland, Italy, Spain."[103] While inoculations saved many lives, it was not until the close of the eighteenth century and the introduction of vaccination by Edward Jenner that smallpox began to fade away.

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[99] Glynn and Glynn, *The Life and Death of Smallpox*, 68; Ibid., 77; Voltaire, *Letters on England*, translated with introduction by Leonard Tancock (London/New York: Penguin Books), 2005, 53, 56. "What! Aren't the French fond of life? . . . we shall adopt this English method if the priests and doctors permit, or else in three months' time the French will use inoculation because they fancy it, if the English get tired of it through fickleness." Voltaire, *Letters on England*, 56 In 1725 Pierre Noguez translated Jurin's Account of Inoculation into French. However he was not as influential there as he was in England. Jurin, *The Correspondence of James Jurin*, 26.

[100] Quoted in, Jurin, *The Correspondence of James Jurin*, 26.

[101] James Jurin, *A Letter to the Learned Caleb Cotesworth, M.D. Containing a Comparison Between the Mortality of the Natural Small-Pox, and that Given by Inoculation* (Boston, 1723), 27.

[102] Eugenia W. Herbert, "Smallpox Inoculation in Africa," *The Journal of African History*, 16, no. 4 (1975), 542. Kraus, *The Atlantic Civilization*, 212.

[103] Glynn and Glynn, *The Life and Death of Smallpox*, 83.

In the early eighteenth century, both disease and medicine traveled the Atlantic. In the seaport town of Boston, Puritan beliefs intersected with theoretical medical training in Europe, and with African medical practices. When smallpox broke out in 1721 and Cotton Mather and Zabdiel Boylston introduced the African practice of smallpox inoculation as a prophylaxis they met with resistance. William Douglass, the only university trained medical physician in town, argued that without university degrees, Mather and Boylston had no right to meddle in medical affairs. Mather also received scorn for offering a procedure learned from an African, who could not possibly solve a problem that stumped Europeans. Despite vibrant attacks, Mather held firm in his belief that inoculation, as shown to him by his servant Onesimus, and later confirmed in the *Transactions of the Royal Society,* was a relatively safe and effective technique. Despite the many changes that the epidemic and controversy brought to Boston, blacks proved especially resilient holding fast to their African cultural, medical, and religious background. In time, inoculation would spread from Boston into the larger Atlantic World saving countless lives from the horrors of smallpox.

The social upheaval that resulted from Boston's 1721 smallpox epidemic and inoculation controversy left no life untouched. In the years which followed, concepts of the body, self, and "the other" were challenged, shaped, and reshaped, both in Boston and throughout the Atlantic World as the African concept of inoculation continued to spread. Some, including Cotton Mather and Zabdiel Boylston realized the valuable contribution of Africans including Onesimus and called for a more active relationship between Europeans and Africans. Others, including William Douglass saw this as an accidental

acquiring of knowledge from Africans and continued to support the ideal of a medical hierarchy based in the European University. Ship Captains and merchants also saw Africans in a new light as they used inoculation to increase their profits from the sale of enslaved persons. As Atlantic World medicine evolved so too did European conceptions of Africans, a change set in motion the day Onesimus showed to Mather "in his arm the scar."

Epilogue - Edward Jenner

Edward Jenner was born in 1749 in Gloucestershire, the sixth child of the vicar of Berkeley.[1] By this time, a majority of the population across the Atlantic World accepted inoculation as the standard practice in combating smallpox. Like many other children of his time, Jenner's parents desired to have him inoculated and in 1757 enrolled him in a program which prepared him for the procedure. For six weeks, Jenner underwent various preliminary treatments including fasting and regular bleedings. After completing this program, Jenner received his inoculation and then fell very ill. Following months of recuperation, Jenner finally recovered but this incident emotionally scarred him for life.[2] It was an experience he carried with him into adulthood and had a major impact on his life and career as a surgeon.

At a young age, Jenner's father apprenticed him to Mr. Ludlow, a surgeon of Sodbury. Jenner remained under the tutelage of Ludlow for seven years. During this time he learned the ways of a country physician rather than being exposed to the rising medical hierarchy in university. At the end of his apprenticeship, Jenner enrolled in Dr. William Hunter's School of Anatomy. There Jenner experienced great success and

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[1] Ian Glynn and Jenifer Glynn, *The Life and Death of Smallpox* (Cambridge: Cambridge University Press, 2004), 97.

[2] Jonathan Tucker, *Scourge: The Once and Future Threat of Smallpox* (New York: Atlantic Monthly Press, 2001), 23; Ole Elizabeth Winslow, *A Destroying Angel: The Conquest of Smallpox in Colonial Boston* (New York: Houghton-Mifflin, 1974), 94.

though on his way to being a great surgeon he chose to return to the Gloucestershire countryside and set up a modest rural practice there.[3] Although distanced from the rising medical hierarchy in the city, in the countryside where he was free to experiment and practice as he wished, Jenner developed the first vaccine by successfully inducing immunity to an infection.[4]

Jenner had long heard of the relationship between milkmaids who in their daily contact with the cows often contracted cowpox. Milkmaids who had had cowpox were rumored to never contract the smallpox after this exposure.[5] Jenner believed that through cowpox he could induce a mild illness that offered protection against smallpox. Jenner, having firsthand experience with inoculation, was convinced that this procedure was a safer and more effective means of combating smallpox.[6] One day a milkmaid visited Jenner at his practice with sores in her hands. When Jenner thought it might be smallpox the milkmaid strongly disagreed stating that she "had the cow-pox and everybody knows you can't have the smallpox after that."[7] Much like Mather had done in 1706 when first learning of inoculation, Jenner filed away this incident for a later time.[8] In the 1770s Jenner finally had his chance to test his hypothesis. At this time, smallpox was ravaging

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[3] Glynn and Glynn, *The Life and Death of Smallpox*, 97, 99; Winslow, *A Destroying Angel*, 95-98.

[4] Kurt Link, *The Vaccine Controversy: The History, Use, and Safety of Vaccinations* (Westport: Praeger, 2005), 12.

[5] Glynn and Glynn, *The Life and Death of Smallpox*, 100; Tucker, *Scourge*, 23.

[6] Link, *The Vaccine Controversy*, 43.

[7] Quoted in Winslow, *A Destroying Angel*, 96.

[8] The experiments of both Mather and Jenner required smallpox / cowpox to actually be present as a source for the procedure – both men had to patiently wait for the appropriate time to try their experiments.

the countryside and Jenner sought to see if what the milkmaid had told him all those years ago was true. Jenner asked around to see what else he could learn of the theory – but no one else really gave much weight to this folk tale.[9]

Jenner proceeded nonetheless with his hypothesis that cowpox offered protection against smallpox. Jenner's first step was to inoculate thirteen adults who never had the smallpox but had the cowpox before to see if the cowpox in fact did prevent an outbreak of smallpox.[10] None of the thirteen patients had any reaction – and Jenner was thrilled. This result meant that having the cowpox prevented a reaction to smallpox![11]

The success of this trial led Jenner to continue experimenting and determine if he could deliberately infect one with the cowpox in order to produce immunity against the smallpox. In May 1796 he choose as his test subject, an eight year old boy James Phipps, who never had either disease.[12] Jenner noted that after inserting cowpox from a sore on a girl infected with the disease into the arm of the boy the wound quickly scabbed over and then healed. One month later Jenner inoculated the boy with smallpox to see if cowpox in fact provided immunity to smallpox and like the previous thirteen subjects, in Phipps no reaction occurred.[13]

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[9] Ibid., 98-99.

[10] Inoculation provides immunity against smallpox by inducing a mild outbreak of smallpox in the patient. Variolation provides immunity against smallpox derived from a very slight reaction to cowpox – a far more bearable disease.

[11] Tucker, *Scourge*, 24.

[12] Because Jenner had been inoculated a a child he could not try the procedure on himself first.

[13] Joel N. Shurkin, *The Invisible Fire: The Story of Mankind's Victory Over the Ancient Scourge of Smallpox* (New York: G.P. Putnam's Sons, 1979), 137; Tucker, *Scourge*, 24; Winslow, *A Destroying Angel*, 100.

Ultimately, Jenner could not explain why cowpox provided immunity against smallpox but he was convinced that it did. Jenner knew that this procedure could bring dramatic changes to the practice of medicine and alter people's lives forever by offering a safe procedure to combat the horrid disease of smallpox.[14]

Just as many opposed Cotton Mather and his introduction of inoculation, so too did Edward Jenner face much criticism with his introduction of vaccination. Jenner submitted his findings to the Royal Society (of which he was a member) and to his surprise the members rejected his article. Sir Joseph Bankes, the president of the society was concerned that this revolutionary procedure lacked sufficient proof - the same problems Mather encountered with inoculation; after all this time the medical world still had not changed.[15] Despite these disappointments, Jenner continued to collect evidence and pursue his theory of vaccination, eventually publishing his findings at his own expense under the title "Inquiry into the Causes and Effects of the *Variolae Vacinae.*"[16]

Many others were concerned with the safety and success of vaccination, and much as they did with inoculation, they opposed this new medical innovation.[17] While many opposed inoculation because it came from the heathen Africans, others opposed vaccination on the grounds that the vaccination of a healthy person from a diseased

[14] Glynn and Glynn, *The Life and Death of Smallpox*, 113.

[15] Shurkin, *The Invisible Fire*, 139; Tucker, *Scourge*, 25. Winslow, *A Destroying Angel*, 101.

[16] Tucker, *Scourge*, 25-26; Winslow, *A Destroying Angel*, 101.

[17] Glynn and Glynn, *The Life and Death of Smallpox*, 107; J.N. Hays, *Epidemics and Pandemics: Their Impacts on Human History* (Santa Barbara: ABC CLIO, 2005), 158.

animal was "repulsive, unsafe and ungodly."[18] Society as a whole was slow to accept Jenner's ideas on vaccination and as a result, it took quite some time for his findings to be adopted and implemented.[19] In the meantime, inoculation was gaining support although it had some serious flaws in that a few still died from the procedure and others simply could not afford it.[20]

In time, vaccination gained acceptance, and with the drawbacks of inoculation replaced the procedure as the standard practice in combating smallpox. Jenner passed on a quill with cowpox in it to Dr. Cline who used it on a patient in the London hospital. While this act caused great debate within the medical world, it was the start of the spread of vaccination throughout England.[21] In 1800, Jenner introduced vaccination to the New World when he gave a sample of the smallpox vaccine to Benjamin Waterhouse in Massachusetts. Waterhouse put this medicine to use and at first things went well. However, as time went on patients were developing a more severe reaction. This practice actually led to the outbreak of smallpox in the town that was free of the disease before Waterhouse began to vaccinate his patients, and the town was outraged.[22] Despite this

[18] Tucker, *Scourge*, 26-27.

[19] Shurkin, *The Invisible Fire*, 143.

[20] Winslow, *A Destroying Angel*, 94.

[21] Ibid., 102.

[22] The virus Jenner gave Waterhouse was "an attenuated smallpox virus that reverted to full virulence" thus causing the smallpox epidemic. Link, *The Vaccine Controversy*, 23.

tragic beginning, America was more welcoming to Jenner's vaccine than England was, most likely because they had come to be so receptive to inoculation.[23]

Jenner's experiments, although not perfect, advanced ideas of immunization. As Jonathan Tucker related,

> After smallpox vaccine had been in widespread use for many years, a remarkable discovery was made: the vaccine strain being employed around the world was not the cowpox virus that Jenner had used, but an entirely different orthopoxvirus that did not exist in nature and became known as 'vaccinia'.[24]

Jenner had actually discovered a way to prevent an outbreak of smallpox by creating a new virus which would not induce any symptoms in its recipient, thus implementing the first vaccine. Once mastered, a proper vaccination offered protection against smallpox without one actually contracting the virus. Another benefit was that vaccination did not spread the disease to others and the side effects were quite mild compared to inoculation.[25]

Inoculation had gone a long way toward combating smallpox; however, it was not until Jenner that the prevention of smallpox spread worldwide. As Tucker argued, "The discovery of vaccination marked a turning point in medical history and a fundamental change in humanity's relationship to disease. For the first time, it was possible to take a harmless measure to prevent a deadly infection before it occurred."[26]

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[23] Shurkin, *The Invisible Fire*, 179.

[24] Tucker, *Scourge*, 37.

[25] Ibid., 26.

[26] Ibid., 26.

In 1980 the World Health Organization (WHO) declared the world free of smallpox. Many believed this eradication to be the greatest achievement of medical science.[27] Inoculation had been replaced with vaccination but without the foundation laid by Cotton Mather all those years ago after his African slave showed to him the scar in his arm, vaccination might never have come to be.

[27] Link, *The Vaccine Controversy*, 45.

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Appendix A: Timeline of Key Events

1702 – A smallpox epidemic in Boston almost claims Dr. Zabdiel Boylston's life

1706 (March) – Cotton Mather composes *The Negro Christianized*

1706 (December) – Onesimus given to Mather by some gentlemen from his church

1706 – Mather questions Onesimus on Smallpox and he responds both Yes and No showing him "in his Arm the Scar"

1711 (December) – Mather attempts to convert Onesimus and grows weary of his "thievish behavior"

1713 (January) – Mather preaches *A Flying Role* on thievish behavior

1713 (July) – Mather tries to reason with Onesimus on good behavior

1713 (October) – Measles strikes Boston and infects Mather's household but not Onesimus

1713 (December) – Mather publishes "Right Management of the Sick under the Distemper of the Measles"

1713 (December) – Onesimus instructed to spend his leisure time reading, writing and studying the catechism to keep him out of trouble

1713 – Mather becomes a member of the Royal Society

1714 (February) – Onesimus buries his son – Mather sees this as an opportunity to encourage conversion

1714-1716 – Mather reads the accounts of inoculation in the *Transactions of the Royal Society*

1716 (March) – Onesimus buries another son and Mather once again tries to convert him

1716 (July) – Mather recounts Onesimus' description of inoculation in a letter to Dr. John Woodward of the Royal Society

1716 (July) – Mather gives Onesimus his freedom

1717 (April) – Mather is still concerned that Onesimus has not converted and believes it is because he has not prayed enough for him

1717 (May) – Onesimus falls dangerously ill – Mather tries to convince him to convert

1720 – Mather begins to compose *The Angel of Bethesda*

1721 (February) – Ezer seeks baptism

1721 (April) – The *Seahorse* enters Boston from the West Indies

1721 (May) – Joseph Hanno is sentenced to death for the murder of his wife

1721 (May) – First cases of smallpox reported

1721 (June) – General Court is adjourned on account of smallpox

1721 (June 23) – Mather writes to the physicians asking them to consider inoculation

1721 (June 26) – Boylston inoculates his first three patients

1721 (July 3) – William Douglass, under the penname W. Philanthropes, attacks Boylston in the newspaper

1721 (July 21) – Boston Selectmen vote unanimously against inoculation

1721 (November) – Controversy gets violent when a grenade is thrown in Mather's Window

1721 (December) – Benjamin Coleman publishes his conversation with an "Army of Africans"

1722 (February) – Ezer is baptized

1722 (February) – Selectmen report there are no more cases of smallpox in Boston

1724 (December) – Boylston sails for London

1725 (November) – Onesimus assigned to work for five days cleaning the streets in town

1726 – Boylston elected into the Royal Society

1728 – Cotton Mather dies

1730 – Smallpox strikes Boston again