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The Rhetoric of Nineteenth Century British Anti-Vaccinators: An Interdisciplinary Movement of Medicine, Religion, Class, and Popular Culture

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The Rhetoric of Nineteenth Century British Anti-Vaccinators: An
Interdisciplinary Movement of Medicine, Religion, Class, and Popular Culture

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Honors History Thesis

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TIMELINE

1798: Edward Jenner publishes *An Inquiry Into the Cause and Effects of the Variolae Vaccinae*

1840: First Vaccination Act providing free vaccinations for the poor and outlawing variolation

1853: Compulsory infant vaccination and punishment for defaulters

1867: Compulsory age requirement extended to 14 and cumulative penalties introduced

1889: Royal Commission formed to examine the effectiveness of vaccination

1896: Royal Commission report published in favor of the practice of vaccination, but opposing compulsory vaccination

1898: Conscientious objection clause allowing parents to apply for vaccination exemptions

INTRODUCTION: HISTORICAL CONTEXT

Recently, the topic of vaccination has captured attention in the media due to a measles outbreak originating at a Disney theme park in California. From January 1

to April 10, 2015, over 150 people from 18 states and the District of Columbia were reported to have measles. Almost all of these reported cases are part of a large, multi-state outbreak linked to the single Disney Park. The previous year also experienced a record number of measles cases. In 2014, there were 668 cases reported from 27 states.¹ This is the greatest number of cases since measles was declared eliminated in the United States in 2000. The reason for the recent outbreak is simply a failure to vaccinate. The majority of individuals who contracted measles were unvaccinated due to personal concern over the safety and effectiveness of vaccination. However, these worries are not new.

Since the introduction of vaccination in 1796 by Edward Jenner, there has been a continuous debate regarding the practice of vaccination. The debate initially focused on ethical and religious opposition to vaccination, but quickly turned towards politics following the passing of compulsory vaccination laws in England in 1853. This politically charged debate regarding compulsion is what remains in the forefront of the minds of anti-vaccinators today. Does the government have the right to force vaccination upon its citizens?

This project is not an examination of ethics or the role of the government, and therefore does not seek to answer this question. Rather, it will discuss the techniques employed by anti-vaccinators in nineteenth century England, who used politically and religiously charged language to construct their movement upon already existing social debates. Ultimately, anti-vaccinators were brilliant in their

¹ Measles Cases and Outbreaks. (2015, February 23). Retrieved April 19, 2015, from <http://www.cdc.gov/measles/cases-outbreaks.html>

maneuvers to convince British citizens to support their crusade. They used preexisting political infrastructure as the platform to argue for their cause, disputing state oversight and class oppression. Anti-vaccinators did not start from the ground up, but successfully built on what the public was already familiar with and integrated their message into well-known broader issues.

Before discussing the anti-vaccination movement in detail, it is important to have a loose understanding of the laws enacted by the British government. The first major law was the Vaccination Act of 1840, which provided free and voluntary vaccinations for the poor and made variolation (inoculation only with human smallpox virus) illegal. Variolation was criminalized since the government feared, that it could contribute to the spread of smallpox due to the nature of the technique, which will be discussed later in detail.² The Vaccination Act of 1853 made vaccination compulsory for all infants in the first three months of life and made defaulting parents liable to punishment in the form of fines or imprisonment. This law targeted children whose parents did not take advantage of the free vaccination services offered by the state. In response to this law, the Anti-Vaccination League was founded in London the same year and acted as a center for opponents of vaccination.

The Vaccination Act of 1867 further extended the vaccination age requirement to 14 and added cumulative penalties for non-compliance. In response, the Anti-Compulsory Vaccination League was founded the same year. The Vaccination Acts of 1853 and 1867 will be considered together simply as

² Nadja Durbach. *Bodily Matters: The Anti-Vaccination Movement in England, 1853-1907* (Radical Perspectives. Duke University Press Books, 2004), 21.

compulsory vaccination for this discussion, as both provided a source of contention for the public about the role of the state. With England in great uproar over compulsory vaccination and its penalties, the state finally introduced a conscientious objection clause in 1898. This allowed individuals to obtain certificates of vaccination exemption by applying to a magistrate.

This project is mainly concerned with the rhetoric of the anti-vaccination movement. It is in no way arguing that smallpox vaccination was ineffective, but seeks to understand why anti-vaccinators in England felt as such. Smallpox vaccination has been one of the most successful creations in medical history, with the disease successfully declared eradicated in 1980 due to global vaccination campaigns. When examining the historical context of the anti-vaccination movement, discourse of the pro-vaccination movement will be included when necessary to clarify the state of the debate.³

This paper will start with a broad overview of Edward Jenner's introduction of vaccination and how it resulted in a debate among medical professionals regarding safety and effectiveness. A large part of the argument made by anti-vaccinationists focused on the disagreement among medical practitioners. If medicine was not in consensus regarding vaccination, then the government should not be allowed to force its citizens to vaccinate without complete confidence and agreement regarding the practice.

³ A great primary source outlining the pro-vaccination argument is *The Works of Edward Jenner and Their Value in the Modern Study of Smallpox* by George Dock. As a supporter of vaccination, Dock wrote this 1902 piece to praise Jenner. Another excellent source that provides a broad view of the anti-vaccination movement is *Bodily Matters* by Nadja Durbach.

Early medical arguments were followed by concerns regarding the use of both human and calf lymph. Jenner's new method opened up the possibility for the transmission of numerous diseases if vaccination was incorrectly performed. Anti-vaccinators focused on this possibility, arguing that no form of vaccination could provide absolute certainty that disease was not transmitted. The most feared transmitted disease was syphilis, which led anti-vaccinators into the most contentious of issues regarding the relationship between religion and science. Religious arguments, this paper will assert, were some of the most profoundly terrifying of the anti-vaccinators. With the fate of the soul of both parent and child at stake, the choice to oppose vaccination seemed clear. To illustrate the effectiveness of religious opposition the arguments of Archdeacon Colley will be used. His words are among the most vehement of the religious anti-vaccinators.

Following arguments about blood purity and religion (which continued throughout the nineteenth century movement), the focus shifted to issues of class. Middle class agitators started the political movement based on broader principles of individualism and liberty. Once the working class joined the movement, they focused more on class discrepancies and how the middle class was never prosecuted for failing to comply with vaccination laws. This division in ideas split the anti-vaccination movement politically, but the two classes finally merged regarding issues about parental rights.

The final two pushes in the movement were the issues of sanitation and popular culture. The argument of sanitation versus vaccination was always present in the back of the minds of anti-vaccinators. However, it was not until the latter half

of the nineteenth century that real efforts were made to promote sanitation as opposed to vaccination. The town of Leicester served as a hot spot for this argument since it employed a method of compulsory quarantine to combat smallpox. While this debate was occurring, anti-vaccinators also linked their arguments to broader cultural phenomena of the time. Vaccinating medical practitioners were linked to vampires, especially following the publication of Bram Stoker's *Dracula* in 1897. Likewise, anti-vaccinators also placed medical professionals into the category of vivisector. This type of scientist experimented on living animals without regard for their comfort. By linking the practice of vaccination to the experimentation on live animals, anti-vaccinators effectively linked vaccinators with the concept of the mad scientist.

Understanding the anti-vaccination movement in its historical context is extremely important in light of the debates arising today. Anti-vaccination was not only a medical issue, but also a mechanism for political change. It called into question class division and the role of the modern state. It blurred the lines between medicine, religion, and popular culture and created an interdisciplinary movement that drew from virtually all aspects of British life.

EDWARD JENNER'S "DISCOVERY"

Ask anyone vaguely familiar with the history of medicine, "who was responsible for discovering vaccination?" The majority will probably incorrectly answer "Edward Jenner." He is the man who receives the credit. However, he was by no means the first to experiment with this medical practice. Inoculation, the method of inserting live smallpox virus into an individual to confer immunity, was

performed long before the experiments of Jenner. Jenner built upon the practice of inoculation and modified it to use a different source of disease. As a result, Jenner achieved the credit for discovery because he was the first to have this new practice publically endorsed by the British government, using cowpox to confer smallpox immunity, and as result achieved a great deal of fame. While the discussion of who actually discovered vaccination remains somewhat unclear, there can be no doubt that Jenner was by far the most influential of the vaccination scientists.

Edward Jenner was born in Berkeley, Gloucestershire, England, on May 17, 1749. After graduating from university he was apprenticed under a local surgeon before he travelled to London in 1770 to become a resident pupil under the surgeon and anatomist John Hunter. In 1773, Jenner returned to Berkeley where he remained for the rest of his life. As a trained naturalist, Jenner was very familiar with the rural parts of England. He was aware of the common belief among country farmers that those who had suffered from cowpox were immune to smallpox. Jenner took this idea and began experimenting with inoculation via cowpox.

In 1796 Jenner experimentally inoculated eight-year-old orphan James Phipps using lymph he had extracted from a pustule on the hand of Sarah Nelmes. This milkmaid had contracted cowpox by milking an infected heifer named Blossom. Following inoculation, Phipps experienced a mild case of cowpox. To test the effectiveness of cowpox inoculation against smallpox disease, Jenner subsequently variolated Phipps with live smallpox virus. The experiment was successful and Phipps exhibited no illness. This trial, a deliberate human-to-human transfer of

cowpox material, distinguished Jenner since it was the first times an individual had not contracted cowpox directly from an infected cow.⁴

In his observations, Edward Jenner first noticed that farmers applied dressings to heels of horses affected with the grease (later termed horsepox) and then continued to milk the cows. The grease was a precursor disease to cowpox. According to Jenner, the grease itself could not provide an individual with immunity against smallpox, but rather it had to first be passed through the cow and take on the form of cowpox.⁵ After milking a cow, infectious cowpox material still adhered to the farmer's fingers and the disease would be transferred from cow to cow and then from cow to human.⁶ With this in mind, Jenner completed multiple experimental trials and compiled his results in *An Inquiry Into the Cause and Effects of the Variolae Vaccinae* published in 1798. Jenner reported, "after the many fruitless attempts to give the smallpox to those who had had the cowpox, it did not appear necessary."⁷ His scientific method was thorough, testing the cowpox lymph

⁴ Andrea Rusnock, "Catching Cowpox: The Early Spread of Smallpox Vaccination, 1778-1810." *Bulletin of the History of Medicine* 83, no. 1 (2009): 19.

⁵ Thomas Hime, "Animal Vaccination." *The British Medical Journal*, 1896, 1279.

⁶ Jenner's theories regarding horsepox were later to be disproven in the late nineteenth century. More veterinarians examined the relationship between horsepox and cowpox. They discovered that the grease in horse is analogous to cowpox and interchangeable with it. The grease inoculated on bovines produces cowpox and cowpox inoculated on equines produces the grease. Each disease protects the animal that has suffered from it against the other. Both are actually communicable to man by inoculation to protect from a second attack and against variola.

⁷ Edward Jenner. *An Inquiry Into the Causes and Effects of The Variolae Vaccinae, a Disease Discovered in Some of the Western Counties of England, Particularly Gloucestershire, and Known by the Name of The Cow Pox* (1798; The Classics of Medicine Library, 1978), 42.

effectiveness by passing it through five human subjects to make sure it lost none of its original properties. As he discovered, it did not.

Widespread vaccination began in the early 1800s after Edward Jenner presented to the Royal Society of London an article outlining his success in preventing smallpox in thirteen people by inoculating them with infectious material from the pustules of those infected with cowpox.⁸ As a result of his accomplishment, Parliament awarded Jenner £10,000 in 1802 and an additional £20,000 in 1807 as recognition of his contribution to public health. These awards were based on what Parliament viewed to be immense success on Jenner's part. The initial award was given as acknowledgment of Jenner's work and an incentive to continue researching. In 1807, the Royal College of Physicians presented a report to Parliament detailing the declining rate of smallpox following the introduction of vaccination. As a result, Parliament awarded Jenner the additional £20,000 so he could keep continuing his research and further spread vaccination. Jennerian vaccination, termed the arm-to-arm method, was used exclusively in England until 1880. However, it only partially survived in the following years.⁹

The term inoculation is derived from the Latin *inoculare*, which means to graft. It refers to the subcutaneous insertion of smallpox virus into individuals not already immune. Using a lancet covered with fresh pus taken from a pustule of a smallpox sufferer, the pus was inserted subcutaneously into the arms or legs of the

⁸ RM Wolfe and LK Sharpe, "Anti-Vaccinationists Past and Present," *BMJ* 325, no. 7361 (2002): 430.

⁹ Hervé Bazin. *The Eradication of Smallpox: Edward Jenner and the First and Only Eradication of a Human Infectious Disease* (London: Academic Press, 2000), 114.

nonimmune individual.¹⁰ Jenner's new method of conferring smallpox immunity was simply a new form of inoculation. Smallpox inoculation was the practice of introducing a small amount of smallpox disease matter into the body to prime the immune system to create antibodies against that virus. It was a preventative measure, not a cure. Vaccination, in the Jennerian sense, refers to inoculation against smallpox using a less dangerous virus, cowpox.

Edward Jenner's preliminary experimentation in generating immunity to smallpox via the insertion of cowpox material was initially termed cowpox inoculation. However, to avoid confusion, smallpox inoculation became known as variolation (since *Variola* is the scientific name for smallpox) and cowpox inoculation became known as vaccination (since *Variolae vaccinae* is the scientific name for cowpox). Variolation was outlawed in 1840 in England as the government attempted to push forward vaccination, since it was considered to be the safer practice. In 1885, Louis Pasteur created the rabies "vaccine," which he titled as such to honor Jenner. This changed the meaning of Jenner's original use of the term, which now meant the conferring of immunity against all diseases through inserting disease material.¹¹ This is the definition of vaccination that we know today.

Prior to the use of Jennerian vaccination, the most widespread method to combat smallpox was variolation. In 1721 a smallpox epidemic hit England and a wealthy English lady suggested the Ottoman method of variolation to combat it. Lady Mary Wortley Montagu, a wealthy English socialite, was a woman who had

¹⁰ Stefan Riedel, "Edward Jenner and the History of Smallpox and Vaccination," *Proc (Baylor Univ Med Centr)* 18, no. 1 (2005): 22.

¹¹ Bazin, Hervé. *The Eradication of Smallpox*, 38.

observed the practice of variolation in Constantinople during her travels. She viewed it to be a great success, even having her own son variolated before she returned to London. When this new epidemic began, she convinced Lord Montagu, the Princess of Wales, and royal doctor Hans Sloane to support variolation. Tests to examine the effectiveness of variolation were carried out on six London prisoners who had received the death penalty. After being variolated and exposed to smallpox, none of these prisoners caught the disease. The prisoners were luckily granted their freedom and variolation became a fad among the upper class.¹²

This type of inoculation against smallpox used a live virus, *variola major*, which was a dangerous practice. Since the disease was live, it served as a potential source of infection for others and a recently variolated individual had to be kept away from others. Otherwise, there was a risk of possibly starting a new smallpox outbreak. While there were some positive results, as seen with the immunity conferred to the variolated prisoners, there still was a death rate of two to three percent following variolation as a result of contracting smallpox regardless.¹³ Jennerian vaccination, on the other hand, rarely resulted in the contraction of smallpox.

The terms inoculation and vaccination will be used interchangeably throughout this paper, since they were used interchangeably by the general public in nineteenth century England, but is important to note that the distinction refers to

¹² Steve Parker, *Kill or Cure: An Illustrated History of Medicine* (New York: DK Publishing, 2013), 155.

¹³ *Ibid.*, 13.

the source of the inoculating material. Jenner preferred the term vaccination, since it referred specifically to his method of conferring immunity.

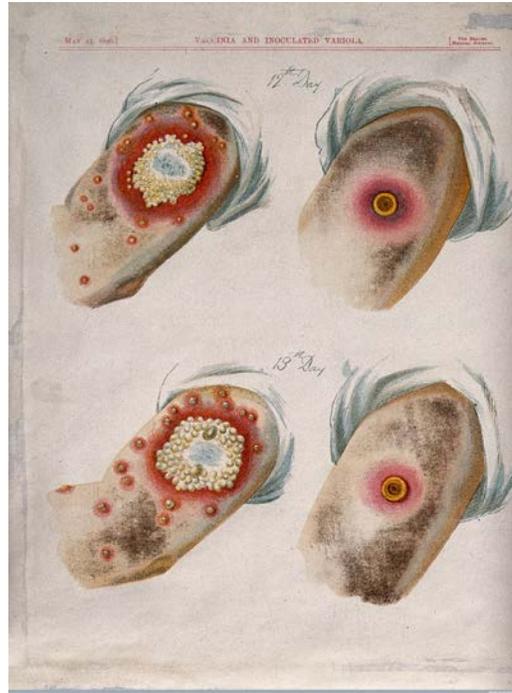
Since Edward Jenner was not the first to experiment with inoculation, he was already fighting against some preconceived notions. As it will be discussed later in this essay, Jenner's method of inoculation was opposed because it had the possibility of transferring disease, even though Jenner worked to make sure this did not happen. However, Jenner notes in his original publication that an earlier doctor practicing inoculation was transferring diseases besides smallpox to his patients. Jenner recognized that it was due to an "incautious method of securing the variolous matter."¹⁴ Interestingly, Jenner came under attack for this exact same reason; anti-vaccinators claimed his method was unsanitary and unsafe. Jenner argued that his new method of inoculation was much safer, as demonstrated by the appearance of pustules on a recently vaccinated individual's arm. Cowpox vaccination, according to Jenner, did not cause the fatal side effects seen in smallpox variolation. The latter resulted in "extensive inflammations and suppurations on the hands," while cowpox resulted in no such pustules.¹⁵

The difference in the two methods can be viewed below. The images on the left show a variolation site twelve and thirteen days following the insertion of the live smallpox virus. The images on the right show a vaccination site twelve and thirteen days following the insertion of the attenuated cowpox virus. Clearly, the

¹⁴ Jenner, *An Inquiry*, 58.

¹⁵ Edward Jenner, *Vaccination Against Smallpox* (1798; Great Minds Series. Prometheus Books, 1996), 37.

side effects of vaccination were much less profound than that of variolation. It is no wonder that variolation would come to be outlawed in England.



George Kirtland, *A Comparison between Smallpox and Cowpox Pustules on the 12th and 13th Day of the Disease*, Chromolithograph, 1896. British Medical Association.

Jenner's success earned him not only accolades but also much vilification. Anti-vaccinators attacked Jenner's publications, noting that he only reported on the cases of people who successfully combated smallpox following cowpox inoculation. He failed to mention any failures in his experiment.¹⁶ Granted, Jenner may have experienced complete success in his experimentation. However, this is usually not the case in scientific inquiry. There was likely at least one instance of failure, and anti-vaccinators harped on the fact that if this did occur, Jenner was bound by scientific ethics to report it.

¹⁶ Walter Hadwen, *The Case against Vaccination* (Gloucester: Gloucester Anti-Vaccination League, 1896), 9.

Further attacks on Jenner focused on the payment he received from Parliament. Anti-vaccinators claimed that Jenner was solely promoting vaccination for the purpose of monetary gain. If this was the case, anti-vaccinators felt that anything Jenner published could not be trusted. In addition, anti-vaccinators felt that Jenner used scientific jargon to confuse the public into accepting his techniques. He gave a brand new name to the cowpox disease, *Variolae vaccinae*. This new name gave a “scientific air to the whole thing, although there was just as much science in it as in the heads of the old women of Gloucestershire.”¹⁷ Jenner’s use of scientific jargon did prove to be unwise in presenting his findings to the uneducated public. While the medical profession understood such language, the uneducated were wary of foreign language and a new practice that they did not understand.

THEORETICAL DEBATE AND THE MEDICAL PROFESSION

Jenner’s most formidable opponent was a famous inoculator from Vienna, Dr. John Ingenhousz. He happened to be in England when Jenner’s *An Inquiry Into the Causes and Effects of The Variolae Vaccinae* was published. He quickly addressed Jenner, asserting that vaccination was inoculation using a “spurious” form of smallpox and there was no such disease known that could confer immunity.¹⁸ This disagreement, involving a profound proponent of inoculation, divided the medical community on the actual character of the cowpox disease. As a result, the lower and working class believed the medical profession was in a state of intense dispute regarding the effectiveness of vaccination, and was therefore left in utter confusion.

¹⁷ Hadwen. *The Case against Vaccination*, 13.

¹⁸ Charles Creighton, *Jenner and Vaccination: A Strange Chapter of Medical History* (London: Sonnenschein, 1889), 87.

Furthermore, the working class felt that the medical profession either focused too much on traditions of the past or “welcomed new absurdities” quickly.¹⁹ There was no middle ground. This focus on extremes, some contend, was the reason for the slow and misguided advance of medicine. In a society already wary of the role of inoculation, due to the side effects of variolation, a public disagreement among medical professionals simply served to spur resistance to the practice.

According to anti-vaccinationists the disagreement among the medical profession was great. William Hume-Rothery, an Anglican minister who founded the National Anti-Compulsory Vaccination League in 1867, outlined the many disagreements physicians had regarding vaccination, claiming that many contested Jenner’s original findings. Jenner believed that horse grease (horsepox) was the origin of the protecting matter, yet most medical men of the time, according to Hume-Rothery, believed that Jenner was in error in this assumption. Jenner further claimed that one vaccination puncture was sufficient; yet another anti-vaccinator believed that more punctures were proven to be more effective. Another claimed that the purity of vaccine lymph was detectable by sight. However, an additional physician argued that impurity could not be detected by sight.²⁰ Note that all of these disagreements were regarding more trivial matters of vaccination, focusing on the specific methods and the ways of detecting impurity. There was no stark disagreement regarding the effectiveness or efficiency of vaccination.

¹⁹ J.T Biggs, *Leicester: Sanitation versus Vaccination* (London: The National Anti-Vaccination League, 1912), 627.

²⁰ William Hume-Rothery, *Vaccination and the Vaccination Laws: A Physical Curse, and a Class-Tyranny*. 2nd ed. (Manchester: W. Tolley, 1873), 3.

Anti-vaccinators were always very critical of Jenner's unwavering faith in the immunity provided from vaccination. Nothing demonstrates their vigor in opposing Jenner better than anti-vaccination arguments presented to the Royal Commission on Vaccination. In 1896 Parliament charged the Royal Commission with investigating vaccination, which they found to be both a safe and an effective way to eliminate smallpox. The published report outlined all of the arguments presented to the Commission, including that of anti-vaccinators. Anti-vaccinationists declared to the Commission that Jenner was mistaken in his initial assumption that "a single successful inoculation of vaccine matter [in the form of cowpox] secured absolute immunity for the future from an attack of smallpox ... as there would seem to be no ground for expecting that *vaccinia* would afford more potent protection than smallpox itself."²¹ While the Royal Commission was in favor of the practice of vaccination, publishing all of the arguments presented provided anti-vaccinators with material. Agitators drew on everything presented and twisted the findings of the Commission to support its own claims.

However, many physicians agreed with the results published by the Royal Commission, recognizing that cowpox effectively afforded immunity to smallpox. Dr. Drysdale, senior physician to the Metropolitan Free Hospital of London, believed that "cowpox, taken from the bovine species directly, and without passing through any human being, is the real preventative of smallpox."²² Pro-vaccinators claimed that there was "practical unanimity among the medical men in every country as to

²¹ *A Report on Vaccination and Its Results Based on the Evidence Taken by the Royal Commission 1889-97*, Vol. I. 1898, (London: New Sydenham Society) 99.

²² [William Thomas Wiseman] Abdiel, *Vaccination and Smallpox* (London: G. Hill, 1882), 5.

the value of vaccination.”²³ This was mostly true. Physicians did recognize the medical benefits of vaccination. The disagreement that existed among medical professionals focused on the source of vaccination material, not the effectiveness of vaccination itself. However, anti-vaccination rhetoric played upon this disagreement, making it seem as though the medical profession disagreed regarding the whole practice. Any disagreement among the medical practitioners was actually a defensive response by practicing inoculators to Jenner’s new method. The practice of vaccination could potentially put inoculating physicians out of work. Therefore, they opposed Jenner as a way to preserve their livelihood.

A growing distaste for the medical profession, already viewed as an elite entity in a time of class struggle, was fueled by anti-vaccinationist pamphlets that claimed medical men lacked knowledge. According to prominent anti-vaccinationist J.T. Biggs, “errors in diagnosis are plentiful everywhere and are estimated at not less than five to ten percent.”²⁴ This focus on a general lack of knowledge regarding everyday medical practice left little hope in the minds of the public concerning the proficiency of medical men to perform proper vaccination.

This impression of the medical profession was heightened by the perceived aloofness of the occupation. Even pro-vaccinationists argued that doctors “do not interest themselves in public life” nor do they care to discuss a subject with a patient who may “not have the necessary knowledge to form opinion.”²⁵ This unwillingness to discuss was interpreted by anti-vaccinationists as the profession denying the

²³ E. Brown, *The Case for Vaccination* (London: Balliere, Tindall, and Cox, 1902), 38.

²⁴ Biggs, *Leicester: Sanitation versus Vaccination*, 198.

²⁵ Brown, *The Case for Vaccination*, 3.

“masses access to any knowledge of the procedure, preferring mystery and concealment over any attempts to popularise medical science.”²⁶ In addition, doctors generally did not respond to any anti-vaccinationist propaganda. This was seen as a sign of weakness and ineptness.²⁷ The medical profession’s unwillingness to discuss to fueled a deep sense of class division. The working class fostered the belief that doctors were too pompous to interact with the working class, because physicians perceived the lower class to be too unintelligent to comprehend the scientific material.

This sense of paternalism fueled anti-vaccinationist rhetoric, since physicians were viewed as belonging to a system of medical despotism that reflected a larger governmental tyranny.²⁸ The uneducated, working class public was encouraged to listen to the medical men because only the doctor had the knowledge to adequately deal with the issues of vaccination. However, just as “our forefathers had to war against priestly despotism,” anti-vaccinators claimed, “it is our lot to battle against medical assumption and medical despotism.”²⁹ Agitators argued that history was repeating itself: medicine was becoming as oppressive as historical religious prosecutions, acting as “orthodox medical priesthood armed with the same powers” as the Inquisition.³⁰ It was the job of “the people” to learn from the past and to confront medicine, not allowing the medical establishment to gain unseemly

²⁶ Durbach, *Bodily Matters*, 32.

²⁷ Brown, *The Case for Vaccination*, 4.

²⁸ Durbach, *Bodily Matters*, 13.

²⁹ Hume-Rothery, *Vaccination and the Vaccination Laws*, 3.

³⁰ *Disease by Law: An Indictment of Compulsory Vaccination* (London: E.W. Allen, 1884), 2-3.

amounts of power due to the introduction of a new medical practice endorsed by the state.

VACCINATION LYMPH AND BLOOD PURITY

Beginning in response to Jenner's earliest publication, opponents argued the method of vaccination was not suited to the treatment of smallpox due to the nature of the disease. Smallpox was seen as a cleansing process, whereby "the blood is poisoned and the eruptive method of eliminating the poison is purifying."³¹ Since impurity caused smallpox, and the pustules developing from the disease were a result of the impurity being expelled, then vaccination was halting this process of ridding the body of impurity. Anti-vaccinators argued that preventing "purification" was not the best course of treatment.

An early problem faced by Jenner was ensuring that the true cowpox virus was used in vaccination. The nature of the virus was the focus of numerous studies, which often proved to be a source of contention for anti-vaccinators.³² Jenner himself admitted in the beginning of his experiments "I am fearful that before we thoroughly understand what is cowpox matter and what is not, some confusion may arise, for which I shall unjustly be made answerable."³³ He was right in being wary of the attacks to come from anti-vaccinators.

In partaking in the scientific process, Jenner was constantly revising and retesting his hypotheses, which resulted in numerous publications. A main problem anti-vaccinators like Charles Creighton had with Jenner's claims regarding the

³¹ Hume-Rothery, *Vaccination and the Vaccination Laws*, 2.

³² Bazin, *The Eradication of Smallpox*, 121.

³³ Hime, "Animal Vaccination," 1280.

nature of cowpox was that they were contradictory. Initially, in his 1798 publication *An Inquiry Into the Cause and Effects of the Variolae Vaccinae*, Jenner claimed that the “true” form of cowpox was only that which was derived from the horse; it is not a spontaneous disease of the cow. Later, Creighton claimed that Jenner subsequently determined that cowpox was indeed spontaneous.³⁴ This contradicted his earlier claims that all spontaneous cowpox was spurious and the only true form of cowpox was from the horse. Even if this was the case, as a scientist Jenner was not cemented to his initial conclusions. By retesting his hypotheses he had the ability to change his theory. This is how science works. However, anti-vaccinators did not believe this was acceptable. The dissent regarding the nature of cowpox came largely from the few elite that opposed vaccination, those educated enough to refute Jenner’s claims even if it was just by tracing the thought process in his publications.

In contrast, pro-vaccinationist doctors believed that there was one true form of cowpox and, therefore, made great effort to secure its propagation and distribution.³⁵ The method in which they controlled and managed the calf lymph used in vaccination serves as a key point of interest. During the early spread of vaccination, lymph was transported through private correspondence networks and some official medical channels. Doctors like George Pearson were experimenting with methods to transport lymph. In 1799, Dr. Pearson sent 200 threads soaked in cowpox lymph taken from the London Smallpox and Inoculation Hospital to other

³⁴ Creighton, *Jenner and Vaccination*, 164.

³⁵ Rusnock, “Catching Cowpox,” 20.

institutions throughout Europe with some success.³⁶ Jenner also investigated methods of transport, experimenting with splitting the thread and different levels of moisture for storage. However, the failure rate for the thread method of transport was high and new efforts were focused on transporting lymph in a fluid state.

A large problem with Jenner's method was the scarcity of cowpox. Cowpox was very rare in contrast to the widespread prevalence of smallpox. Smallpox variolation relied solely on taking pus from someone with an active case of smallpox, which was easy to perform anywhere smallpox was present in a population (which was quite frequent). However, vaccination was contingent on the availability of cowpox. Since the occurrence of cowpox was sporadic and geographically specific, vaccinators were usually dependent on a foreign source of cowpox lymph.³⁷

Early in the history of vaccination, there were no methods for harvesting ample amounts of lymph directly from cows. The best method was to vaccinate one individual with calf lymph and then use arm-to-arm transfer. Methods for securing large amounts of lymph directly from the cows were not developed until the 1850s and 1860s.³⁸ Until that time, institutions proved to be very crucial in spreading viable lymph to vaccinators. Institutions served to store and lessen the reliance on foreign lymph.³⁹ In 1799 George Pearson established the London Vaccine-Pock

³⁶ *Ibid.*, 24.

³⁷ *Ibid.*, 21-22. Eventually, children would be used as vectors to carry the disease over long distances. A great source concerning this topic is "Carrying the Pox" by Lydia Murdoch. She expertly outlines how the British Empire used children to send vaccination material to India.

³⁸ *Ibid.*, 29.

³⁹ *Ibid.*, 31.

Institution, focused on the preservation and distribution of cowpox lymph.⁴⁰ Lymph was provided to any vaccinator who requested it. More institutions were created to follow suit, like the Edinburgh Public Dispensary and other various vaccination clinics. However, these institutions were established in large urban centers, requiring rural citizens to either travel great lengths to receive vaccination or seek out local vaccinators, who may not have adequate supplies of cowpox lymph.

Luckily, the arm-to-arm method of vaccination was successful in providing adequate lymph, once the initial strain of cowpox lymph was obtained. The National Vaccine Establishment, founded in 1808, maintained the arm-to-arm method supply of lymph.⁴¹ However, for rural vaccinators, finding an initial lymph source and continuing the supply remained a barrier to vaccination. This problem would finally be solved in the 1890s with the addition of glycerine to the lymph. This allowed for a single cow to yield up to 6,000 vaccinations, compared with the 200 to 300 doses per cow prior to this addition.⁴²

While the shortage problem was being addressed by the arm-to-arm method, anti-vaccinators created a new problem. They argued that lymph was often mismanaged and not properly tested, encouraging the belief that vaccination caused detrimental side effects, like the transmission of diseases or even death. The natural constitution of vital fluid, or lymph, was vastly altered by the introduction of a living virus into the body by inoculation, according to anti-vaccinators. This could

⁴⁰ *Ibid.*, 30.

⁴¹ J.A. Dudgeon, "Development of the Smallpox Vaccine in England in the Eighteenth and Nineteenth Centuries," *The British Medical Journal*, (1963): 1369.

⁴² Arthur Allen, *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver* (New York: W.W. Norton & Company, Inc., 2007), 64.

permanently injure the nervous system and account for rapid insanity in vaccinated individuals.⁴³

Fear of side effects prompted massive resistance against vaccination. Arguments against the use of lymph fell into two categories, opposition to animal lymph and opposition to human lymph. The process of vaccination involved both types of lymph. After inoculation with cowpox, the pus from the infected individual was harvested eight days later as inoculating material for the next individual. Cowpox was a disease that could be spread from cow to human, and then from human to human. As a result, anti-vaccinators had the opportunity to oppose the use of not only cow lymph, but also the lymph acquired from other humans. Anti-vaccinationists initially focused on the dangers of calf lymph and the horrors of the possibility of contracting a disease of the brute, including any form of *bovinae* zoonotic disease. Anti-vaccinators classified calf lymph as a “loathsome virus derived from the blood of a brute which could harbor animal diseases as yet unknown to humans.”⁴⁴ Some anti-vaccinators would take the animal argument even further, arguing that the methods of lymph procurement infringed on animal rights, which linked to another social movement, vegetarianism.

The new commentary on vaccination fit in with the emerging vegetarian movement, which had its roots in the early 1840s and became a prominent movement in the late 1860s. Anti-vaccinators drew upon existing literature regarding vegetarianism to further their cause. Vegetarians maintained that animal products polluted the natural purity of the body and therefore resisted animal

⁴³ Biggs, *Sanitation versus Vaccination*, 611-12.

⁴⁴ Durbach, *Bodily Matters*, 125.

matter in any form, whether as food or animal lymph from vaccination. Vegetarians, and some anti-vaccinators, argued that there was a limit to what people should stoop to eat and if some animal products were not fit to eat, then surely they were not fit to be put in the body in any form.⁴⁵ The vegetarian argument fit into an even broader debate concerning animal rights. Literature was circulating regarding the ethics of animal cruelty. Animal rights were starting to come to the forefront of people's minds as "the conscience of the most civilized people tells them to treat animals kindly."⁴⁶

Methods of obtaining animal lymph were viewed as a violation of animal rights. Calf lymph was gathered from animals bred for butchery. To collect lymph, a cow were placed on a vaccinating table with two of its legs tied in the air and shaved with a dry razor. Another cow, which would act as the supplier of cowpox virus (and termed the vaccinifier), was also tied down on the floor. Matter was taken from the vaccinifier and transferred via a puncture wound in sixty or seventy places.⁴⁷ The newly inoculated cow was then placed in a narrow stall, straightjacketed, and muzzled to keep from licking its wounds. Ten days later the lymph was ready to be harvested by scraping it out with a rough spoon.⁴⁸ After this ordeal the cow was sold to a butcher.

⁴⁵ Durbach, *Bodily Matters*, 123.

⁴⁶ Edward Williams, Byron Nicholson, and John Lawrence, *The Rights of an Animal: A New Essay in Ethics*, (London: C. Kegan Paul & Company, 1879), 8.

⁴⁷ Edward Ballard, *On Vaccination: Its Value and Alleged Dangers*, (London: Longmans, Green, & Co., Paternoster Row, 1868), 246.

⁴⁸ Allen, *Vaccine*, 63.



C.J Staniland, *Vaccination from the Calf. Taking Lymph from the Calf.* Wood engraving, 1883. Images from the History of Medicine.

Animal rights activists were opposed to this method of lymph acquisition due to the treatment of the animals, angry at the conditions the cows were exposed to during their incubation period while straightjacketed. They also were worried about the trauma and stress being placed on the animal. Animal rights anti-vaccinators argued that medical men, in collecting animal lymph, must consider not only the happiness of men but also the “happiness of all His [God’s] other creatures.”⁴⁹ Until the process of lymph acquisition was less cruel, some animal rights activists were adamantly opposed to using the product.

The vegetarian argument for opposing vaccination was one of the more obscure and did not resonate with many anti-vaccinators. Most parents were more concerned about the safety of inserting animal lymph into a human body. The possibility of catching an unknown disease frightened parents, in addition to the fact that this disease could possibly not be human in nature. Furthermore, parents had

⁴⁹ Williams, Nicholson, and Lawrence, *The Rights of an Animal*, 18.

no knowledge regarding the beast from which the vaccine material was derived. With all of this uncertainty surrounding the use of calf lymph, parents feared that vaccinated children might develop cow-like tendencies, such as wandering in the fields grazing or developing horns.⁵⁰ This dread was aptly depicted in a cartoon published in 1802 by satirist James Gillray. This cartoon, titled “The Cow Pock – or – the Wonderful Effects of the New Inoculation” effectively highlighted imagined side effects of using animal lymph. The cartoon depicted vaccinated individuals developing many animalistic anatomical features, ranging from a cow head sprouting from a man’s nose to a cow erupting from a man’s rear end.



James Gillray, *The Cow Pox-or-the Wonderful Effects of the New Inoculation!*. Print, 1802. Images from the History of Medicine.

This image, while comical, represented a very real fear of many parents. The possibility of animal characteristics developing in their child was a real anxiety in the minds of poor anti-vaccinationist parents.

⁵⁰ Durbach, *Bodily Matters*, 125.

Anxieties concerning the transmission of animal diseases were not addressed for a long time following the introduction of vaccination. Not until the 1890s was quality control gradually introduced. Prior to this, the process of calf-to-arm vaccination made autopsy of the animal vaccine supplier pointless, as the results of the lymph constitution would arrive too late. Therefore, something had to be added to the lymph material itself to better ensure its safety. Robert Koch in Germany discovered that storing lymph in glycerine killed a multitude of pathogens and also allowed the lymph to last longer, making transport easier.⁵¹ In addition to the insertion of glycerine, the medical profession claimed that they were solely using what they termed “pure lymph.” However, anti-vaccinationists battled medicine at every turn, claiming that the term “pure” was confusing since vaccine material “is a disease” in nature and “it is impossible to tell whether it contains other diseases.”⁵²

Additionally, since lymph referred to material found in lymphatic vessels, and there were lymphatic vessels present in the pocks or pustules produced by smallpox resulting from vaccination, there could clearly be no such thing as “pure” lymph.⁵³ This “pure” label was inherently misleading, since the fact that lymph was drawn from non-lymphatic vessels automatically made it impure. The belief developed that the labeling of calf lymph as “pure” was a ruse by the physicians to trap parents into vaccinating.

Some argued that no lymph could be obtained without the presence of blood corpuscles. Blood, as the public knew, was the reservoir of diseases. Therefore, all

⁵¹ Allen, *Vaccine*, 64.

⁵² Joseph Collinson, *What It Costs to Be Vaccinated: The Pains and Penalties of an Unjust Law* (London: Humanitarian League, 1896), 28.

⁵³ Hume-Rothery, *Vaccination and the Vaccination Laws*, 1.

lymph was naturally contaminated due to presence of even a miniscule amount of blood. Glycerine, anti-vaccinators argued, was not an additive to prevent contamination, but rather a nutrient for disease germs.⁵⁴

The addition of mineral or vegetable material into the blood as a purifying agent was also viewed as hazardous, as some believed certain quantities of the additive might be destructive to health.⁵⁵ While there was no scientific evidence supporting these anti-vaccinationist claims, the medical profession made no real strides to refute these claims. Some doctors attempted to counter the anti-vaccinators, but used medical jargon that the uneducated could not understand. This small response by the medical profession made no real headway in stopping anti-vaccinators, and the continued tendency of physicians to ignore anti-vaccinators was perceived as medical aloofness. As a result, the working class focused on what was readily available to them and easy to understand, which was the rhetoric presented by the anti-vaccinators.

In *Bodily Matters*, Nadja Durbach brings up an interesting topic regarding the fear of using calf lymph. She contends that anti-vaccinators worried that vaccination could “stimulate animal propensities” and “brutify,” therefore “lowering” human nature.⁵⁶ One of Durbach’s most novel ideas is that anti-vaccinationists believed blood mixing could lead to devolution. This idea emerged following the publication of Charles Darwin’s *On the Origin of Species* in 1859. The “diluting or replacing human blood with that of the beast could reverse the process

⁵⁴ Biggs, *Sanitation versus Vaccination*, 608.

⁵⁵ *Ibid.*, 622.

⁵⁶ Durbach, *Bodily Matters*, 126.

of evolution ... returning man to an ape-like state.”⁵⁷ The publication of Darwin’s theory of evolution provided anti-vaccinators with a new outlet for opposing the use of animal lymph. At the time of the publication of Darwin’s theory, arguments opposing calf lymph were around 60 years old. The theory of evolution provided a new twist; a daunting argument that vaccination could result in the devolution of human kind.

The devolution argument also applied to the use of human lymph. Some anti-vaccinators even argued that the mingling of human blood through vaccination would ultimately lead to the downfall of the Anglo-Saxon race and the entirety of Imperial Britain. Arguments against the use of human lymph were particularly pronounced among the lower class. The upper class could afford calf lymph directly from the source and they did not have to receive lymph using the arm-to-arm method. Therefore, concerns about human lymph were sparse among the rich. However, for the working class who could not afford private medical doctors vaccination occurred at public stations using the arm-to-arm method. These stations were created in 1840 as part of England’s attempt to provide free vaccination to those who could not afford it. However, these underfunded and poorly run stations served as a source of contention for many parents. At these stations, lymph was used from previously vaccinated children. So, following vaccination, the child had to report back to provide lymph from their arm to be used in successive vaccinations. This caused a whole realm of problems with

⁵⁷ *Ibid.*, 126.

transmission of diseases. Parents were concerned, and rightly so, that lymph was no properly inspected for signs of hereditary diseases.

Concerns about hereditary and other blood borne diseases gained momentum in the 1860s when anti-vaccinators insisted that vaccination was directly responsible for an increase in syphilis morbidity. This fear was further heightened in the 1880s when Charles Creighton, a vehement anti-vaccinator and leading expert on epidemics, argued that cowpox itself was a venereal disease and a syphilitic virus in its primitive nature.⁵⁸ Agitators argued that vaccination allowed for the mixing of blood and created the possibility of getting all the diseases and taints of the community, with “every hereditary sewer” made open through the process.⁵⁹ Public vaccinators openly admitted the supplier and recipient were not fully inspected for signs of disease. Therefore, the arm-to-arm method provoked enormous fears of contamination among working class parents receiving care at public vaccination stations. This fear was heightened by anti-vaccination propaganda that focused on the filthiness of lymph. It employed emotionally heightened language to scare parents to support the anti-vaccination cause by claiming vaccine lymph was “inflammation, position, disease, and death” causing “present pain, and future penalties! Scrofula! Syphilis!”⁶⁰

Syphilis was the vilest disease associated with vaccination, not because of its symptoms, but because of the social stigma it carried. If a child was found to have

⁵⁸ *Ibid.*, 131.

⁵⁹ (Ven. Archdeacon) Colley, *Vaccination a Moral Evil, a Physical Curse and a Psychological Wrong* (Leicester: National Anti-Compulsory Vaccination League, 1882), 5.

⁶⁰ Abdiel, *Vaccination and Smallpox*, 11.

contracted syphilis following vaccination, the disease could be traced back to the initial contaminate source (the child), and ultimately, the infected parent. If a child had this sexually transmitted disease, the only source of infection was from the mother during birth. Therefore, the parent's sexual history was open to public scrutiny. This harmed the entire family, as the parents were now labeled as sexual miscreants. The anti-vaccinationists argued that the risk of contracting syphilis from vaccination was considerable, which resulted in many not vaccinating their children for fear of public scrutiny if their syphilis was discovered.

The debate over the transmission of syphilis ultimately linked physical and moral taints, as forced vaccination could reveal an individual's sexual history. While syphilis may not even manifest physically, as many cases are asymptomatic, people worried about the moral implications. The disease might cause the development of "hereditary and compulsorily-incorporated evils, to lead them [the vaccinated] forth by the ways of impurity, and nameless filthy sins, addicting the victims to habits of intemperance, and vices too hideous to name."⁶¹

Vaccination, opponents argued, was known to communicate "one of the most loathsome diseases which flesh was heir to" and many "parents had suffered severely in allowing their children to be vaccinated."⁶² Vaccination, therefore, could result in a family experiencing public humiliation due to physical manifestations of syphilis, or be fearful of the moral implications it might have on their precious and innocent child. Death from syphilis induced by vaccination was an additional fear.

⁶¹ Colley, *Vaccination a Moral Evil*, 5.

⁶² Mary Hume-Rothery, *150 Reasons for Disobeying the Vaccination Law, by Persons Prosecuted Under It* (Cheltenham: George F. Poole, 1878), 13.

Anti-vaccinator and pharmacist William Young argued that the syphilis death rate for children under the age of five had doubled since the introduction of compulsory vaccination in 1853.⁶³

The use of both human and animal lymph in one single vaccination procedure allowed for anti-vaccinators to greatly expand on their objections to the practice. When inoculation was performed in the eighteenth century, only concerns about human lymph were present. However, the introduction of animal lymph created a whole new set of objections.

VACCINATION AND THE CORRUPTION OF THE SOUL

Imagine: you are a mother of two beautiful and healthy children. You are very religious and attend church every Sunday. You really do not understand how vaccination works and hear more horror stories about babies dying than about the positive effects of vaccination. Your trusted religious leader preaches that not only is vaccination ineffective and dangerous, it is morally impermissible. What do you do?

This was the type of situation God-fearing parents across England in the nineteenth century were experiencing in their churches. It can certainly be argued that this was possibly the most effective method of promoting anti-vaccination rhetoric, an appeal to individual faith.

Religious objections to vaccination were not new. When inoculation was first introduced in England in 1721, religious leader Edmund Massey argued against it. He reasoned that diseases were sent to mankind by the Creator “either for the trial

⁶³ Durbach, *Bodily Matters*, 131.

of our faith, or for the punishment of our sins.”⁶⁴ This idea, rooted in the Christian faith, of God having the ultimate power, begs a certain question. If only God has the natural power to inflict disease, do humans have the right challenge His will by unnaturally inserting disease into a healthy individual?

Many argued that only God should have the power of inflicting diseases and that vaccination, in its essence, was the unnecessary infliction of disease.

Inoculation was viewed as a tempting way to throw off dependence upon the Almighty and “renounce that allegiance which is justly due to Him as Creator and governor of the world.”⁶⁵ This early argument against inoculation carried over into the nineteenth century, as leading vaccination opponents drew on previous arguments to support their cause. Religious objection to vaccination was continuous throughout the anti-vaccination movement due to its roots in earlier protests to inoculation.

During the course of the nineteenth century anti-vaccination movement, initial religious arguments focused on morality, linking with other existing arguments about blood mixing and transmission of immoral diseases like syphilis. Religious objections initially focused on blood purity, which aligned nicely with the objections already being put forth by anti-vaccinators. When compulsory vaccination was introduced in 1853, religious anti-vaccinators changed tactics. Now, agitators focused on the disparity between the laws of the land and the laws of God, arguing that the laws of God took precedent over any earthly decrees.

⁶⁴ Edmund Massey, “A Sermon against the Dangerous and Sinful Practice of Inoculation,” Sermon, St. Andrew’s Holborn, 1722. 10.

⁶⁵ *Ibid.*, 9.

Concurrently, the working class was beginning to focus on the role of the parent in vaccination and religious men followed suit. The clergy began to reference God as the parent of mankind, who was in charge of deciding the fate of His children. Anti-vaccinationists were tactical in their arguments. They recognized that the uneducated public had little to no working knowledge of the mechanisms of vaccination. It was pointless to try and gain support based on medical assertions, even if the evidence did indeed favor vaccination. Religion, however, was a realm untouched by the medical profession. It was impossible for medicine to effectively argue against the word of God, put forth on earth by His anti-vaccinationist disciples.

Nineteenth century vaccination opponents called upon the will of God to directly challenge the medical profession, which was certainly a hard argument to refute. The first argument against vaccination focused on the punishment of sins. Smallpox, according to preachers like Archdeacon Colley, was “punishment being loosed on man’s perversity: the whip being in the wickedness: the smart being in the sin.”⁶⁶ Statements like this, proclaimed by learned men of God, were circulated amongst the masses in propaganda pamphlets. This backing of the anti-vaccinationists by men of God gave the movement a certain air of authority and legitimacy in the eyes of the religious population.

Another argument put forth by anti-vaccinationists was that it was morally wrong to tamper with the body created by God. This argument touched on other ideas previously discussed regarding blood purity. Humans were created by God in

⁶⁶ Colley, *Vaccination a Moral Evil*, 4.

a state of purity. Corrupting this purity was inherently immoral. Some anti-vaccinators argued, “I do not think that man should play with the human system in any such manner... it is altogether wrong to abuse [human] blood.”⁶⁷ The body, especially that of an infant, was created by the Maker in a pure state. Therefore, it was “unnatural and irreligious to tamper with the body... that was perfectly constructed.”⁶⁸ Clergymen argued that it was preposterous to assume that an infant, “fresh from its Maker,” would need tampering with in any form, like vaccination.⁶⁹

To modify the body was itself a questioning of God’s ability, an assumption that His work was flawed. Religious men argued “what insolence to suggest that the Almighty cannot perfect His own work in the gift to us of a tender infant, without medical intervention and the sacrilegious alteration of the composition of the blood.”⁷⁰ This rhetoric used by anti-vaccinators was a brilliant maneuver. It effectively singled out vaccination supporters as irreligious and amoral individuals.

Another area of contention was the disagreement anti-vaccinators saw between the laws of the land and the laws of God. The best example of this is found in a pamphlet published by Mary Hume-Rothery, a passionate anti-vaccinator. This pamphlet took testimonies from various citizens and compiled them into a work titled *150 Reasons for Disobeying the Vaccination Law, by Persons Prosecuted Under It*. This piece is essentially one long list of quotes against vaccination, but really touches on the issues the working class had with the compulsory vaccination law.

⁶⁷ Hume-Rothery, *150 Reasons for Disobeying the Vaccination Law*, 13.

⁶⁸ Durbach, *Bodily Matters*, 119.

⁶⁹ Colley, *Vaccination a Moral Evil*, 4.

⁷⁰ *Ibid.*, 8.

Anti-vaccinationists argued that “laws of the creature were in direct opposition to the laws of the Creator” and it was the duty of the Christian citizen to “yield obedience to the commands of the King of Kings rather than to the fallacious dictates of earthly Kings or Parliaments.”⁷¹ It is unclear whether the English Civil War or the Glorious Revolution is being referenced here. However, both instances represented an occasion when citizens rose up against what they viewed to be unjust rule by the government.

When the law of the land was in conflict with the law of God, citizens called upon their Christian duty to justify opposing vaccination laws. Religious men were saddened to be placed in opposition to the law of the land, but had “had no alternative but to disobey it in preference to breaking the higher law, whatever the consequences might be.”⁷² It was justified in the minds of anti-vaccinationists to suffer the fines and punishments for failing to vaccinate. It was far preferable to suffer the penalties of the earthly world than to suffer in the afterlife for going against the perceived will of God. In addition, parents felt that they had no right to inflict vaccination upon children “given him by God and not by the Legislature.”⁷³ It was the duty of good Christian people to put their trust in God, not in medicine, and allow nature to either take or heal their child.

Anti-vaccinationists argued that their interpretation of God’s will required them to ignore vaccination laws. This included defending children who could not defend themselves from the reach of the state. Children had parents for the reason

⁷¹ Hume-Rothery, *150 Reasons for Disobeying the Vaccination Law*, 5.

⁷² *Ibid.*, 15.

⁷³ *Ibid.*, 5.

of protection, and anti-vaccinationist parents were adamant in their right to protect their innocent child. This was a right given by God. One parent argued that “I would sooner that my child died from small-pox because I should feel it was the will of God, than that they should be killed by blood-poisoning (from vaccination).”⁷⁴

Furthermore, parents argued that the lack of scripture concerning vaccination was a sign of God’s disapproval. It seems ridiculous to argue that simply because there is no mention of vaccination in the Bible that it is not permissible by God. The same argument could be used to reason that spectacles to improve vision are not allowed since there is not mention of it in the Bible. This argument based on omission was certainly the weakest of those regarding the will of God, yet still employed by many anti-vaccinationists. A slightly stronger scripture based argument concerned the wounding of the skin. The adage from Leviticus 19: 28, “Ye shall not make any cutting in your flesh ... nor print any marks upon you,” was interpreted to include the practice of vaccination, which took the form of marking lesions on the skin.⁷⁵ However, anti-vaccinationists would often leave out the fact that this verse referred to not making cuttings on the flesh out of respect for the dead. It was a comment on funeral rituals, not just simply referring to marking the flesh.

Religious arguments filled the pamphlets and rang out from the pulpits from the initial introduction of inoculation in England, and continued throughout the course of anti-vaccination movements in the nineteenth century. One of the most

⁷⁴ *Ibid.*, 10.

⁷⁵ Interestingly, this same verse has been used to argue why Christians should not get tattoos.

popular and most persuasive anti-vaccinators was Archdeacon Colley, who used his position as a “bully pulpit” to inspire parental resistance. His language, laced with loaded words and emotional connotations, touched the hearts of parents across England. Additionally, his archdeaconship served to supply him with credibility in interpreting the word of God and guiding the morality of his parish. Archdeacon Colley argued in 1882 that the most sinful aspect of vaccination was blood mixing. The introduction of “pus-pollution” into the blood stream of “poor little sufferers” caused the child to bear “not only the sins of its own ancestry, but the evils and sins of hundreds of other families with whom it is brought into forcible alliance.”⁷⁶ This mixing of blood was contrary to the order of God, termed the “All-Parent,” because He willed that families remain separate and distinct by the laws of consanguinity. In the mixing of blood in an “adulterous union” the “proportions therein of good and evil are destroyed” as the forces of evil triumph in the blood.

Archdeacon Colley illustrated his argument using an image of an archangel receiving vaccination. He argued:

“The heavenly ichor that pours through his [the archangel] veins would feel that the fires of hell were raging through his system, and that the cupidities, and carnalities, and sensualities of the human race, with the added passions of a beast, mischievously had been incorporated in his now less archangelic nature.”⁷⁷

This is one of the best religious images created to oppose vaccination. A great deal of the oppositions to vaccination are compiled into one example highlighting the perceived pains and dangers of vaccination: the beastly nature, the possible transmission of sexual diseases, the pain, the mixing of blood, the changing of the

⁷⁶ Colley, *Vaccination a Moral Evil*, 6.

⁷⁷ *Ibid.*, 6.

body given by God. This illustrates the power anti-vaccinationists had over language. The manipulation of religious imagery and a focus on the immeasurable harms aided the cause. It was impossible to argue statistics against morality. The two are not comparable.

An additional argument against vaccination concentrated on the human soul and sin. Opponents of vaccination argued that it introduced “demons and ghouls into the glorious tabernacle of the body, the inside of which they should never see.”⁷⁸ Vaccination brought “its hideous brood to inject them into the state-apartments of the soul; dethroning reason, corrupting virtue, outraging nature, defiling and profaning, and depraving all the sanctities of life.”⁷⁹ The relationship between physical and spiritual purity was extremely important when discussing vaccination, particularly when considering the life of a child.

By the nineteenth century, the Romantic notion of the child as an innocent being, diverging from the Calvinist conception of the child as tainted by original sin, had come to be the main understanding of the infant soul. Many of the rhetorical strategies focused on the sin of vaccination. Parents believed it must be a sin in the sight of God to “force a disease upon a healthy child.”⁸⁰ In this, not only would the child suffer from potential disease, but also the parent would be violating God’s will and committing sin. Two individuals were at risk both physically and morally. As Archdeacon Colley preached, “a serpent’s fang and mad dog’s tooth, however, are

⁷⁸ Durbach, *Bodily Matters*, 118.

⁷⁹ Colley, *Vaccination a Moral Evil*, 5.

⁸⁰ Hume-Rothery, *150 Reasons for Disobeying the Vaccination Law*, 10.

less felt and fatal, lacking moral contamination, than is a vaccinator's lancet, so right with it."⁸¹

The religious arguments concerning vaccination are by far some of the most interesting in their use of language. The nature of the argument itself made it difficult for supporters of vaccination to provide a counterargument. When arguing over the fate of the soul there was no possibility of scientific fact changing the minds of opponents. This same phenomenon is occurring today with vaccination arguments. Thousands of scientific publications exist outlining the benefits, safety, and necessity of vaccination. There is not a practicing doctor who does not believe in the power of vaccination. It is a scientific procedure proven to be effective. Yet, there are parents who oppose it solely on their individual beliefs. Show them a scientific article and they will argue that it is biased or that the government funds it. Ask them why they do not vaccinate their child and they say, "I just don't believe in it." It is impossible to fight parental instinct (no matter how wrong it may be) with scientific fact. Nothing will change the mind of the parent already set in their system of belief.

PAPA MEDICINE AND THE MEDDLING STATE MOTHER

The British Vaccination Act of 1840 marked an important change in the policies of the government regarding health. It was the first direct intrusion of the state into traditional civil liberties in the name of public health. While a few middle class agitators, clergymen, and doctors spurred the beginning of the anti-vaccination movement, the 1840 law did not directly affect them since it provided free

⁸¹ Colley, *Vaccination a Moral Evil*, 8.

vaccinations to the poor. Mass resistance fueled by the middle class did not flourish until the passing of the 1853 Compulsory Vaccination Law, when middle class anti-vaccinators faced the possibility of being prosecuted for not complying. In regards to the state, middle class anti-vaccinators were concerned with the expanding government power due to the creation of unjust laws that resulted in an infringement on personal liberty.

A shift in the nature of the secular debate over vaccination would come in the 1880s, when working class agitators entered the discussion. The working class was more concerned about being treated like subpar citizens, like slaves, and lumped into groups with criminals and paupers. Middle class anti-vaccinationist got the initial political opposition to compulsory vaccination started, but they were mainly concerned with more abstract principles like individualism and liberty. However, the middle class and working class rhetoric would converge when anti-vaccinators started to focus on state infringement on parental rights. Both classes were concerned that a new governmental family, created by a marriage between “Papa Medicine” and a “meddling foster-mother” state, was replacing their own domestic structure.⁸²

Middle class agitators viewed the 1853 law as marking a shift in the nature and responsibilities of the national government. Slowly, a more modern and intrusive state was forming. As this started, anti-vaccinators felt a great disdain towards the growing power of the government. They felt that England was creating and enforcing unjust laws that should not exist, over exerting its power to coerce its

⁸² Durbach, *Bodily Matters*, 72.

citizens into unwanted medical practices. However, while some middle class agitators opposed the 1853 law, few were directly affected by it unless they were known anti-vaccinators.

The introduction of the Compulsory Vaccination Act of 1853 provided a stepping-stone to larger debates regarding state authority, professional control, and meanings of medical liberty. Anti-vaccinationists appealed to the constitutionalism of the people, maintaining that the right to have control over self and property were historically rooted in the English constitution.⁸³ Compulsory vaccination laws interfered with “liberty of conscience – are a gross infringement of the liberty of the subject – is contrary to sound reason and every physiological law.”⁸⁴ Compulsory vaccination was a source of contention for many citizens and seen as an infringement upon individual rights and an over reach of state power. The laws were “in the same list with the damnable deeds of the Papal Inquisition and the Plague of Priests in the Dark Ages.”⁸⁵ The anti-vaccination movement was situated in a period filled with wide spread public debates over the extent of government intervention. The politics of vaccination emerged when the motivations of the government were already being questioned. With the role of the modern state becoming a debated issue, vaccination provided another means to oppose state authority, as it united agitators against what was interpreted as coercive politics of an increasingly interventionist state.⁸⁶

⁸³ *Ibid.*, 77.

⁸⁴ Abdiel, *Vaccination and Smallpox*, 6.

⁸⁵ *Ibid.*, 5.

⁸⁶ Durbach, *Bodily Matters*, 69.

Even pro-vaccinationists concurred that Englishmen “resent any interference with his own personal liberty for any cause whatever” and so compulsion was not the best course of action to encourage vaccination.⁸⁷ Regardless of the effectiveness of vaccination, the practice was not favored by the public and forcing it upon the unwilling was an invitation for mass resistance. Anti-vaccinators claimed that the body was a “fortress” needing to be protected from invasion and “no government had any right under any pretense to violate the bodies of its subjects.”⁸⁸ This protection of the body, also used as a religious argument against vaccination, highlighted the right of autonomy. What sort of autonomy does a person possess if the state is forcing medical procedures upon its citizen’s bodies? The resentment towards the state was often seen in mass demonstrations to vaccination, as best exhibited in the town of Leicester.

The Leicester Demonstrations marked a change in the composition of the anti-vaccinator rhetoric. No longer were middle class anti-vaccinators the only ones rallying against the government, but the working class had become more prominent. The Leicester Demonstrations in March of 1885 represent the most notorious anti-vaccinationist exhibition in history. There were between 80,00 to 100,000 anti-vaccinators protesting, complete with multiple banners, a child’s coffin, and an effigy of Edward Jenner. The demonstration received widespread publicity and press. All of the following account was published in *The Vaccination Inquirer* and further reported on by J.T. Biggs in his 1912 book *Leicester: Sanitation versus Vaccination*. At the demonstration the origin of cowpox in horse grease was illustrated by a

⁸⁷ Brown, *The Case for Vaccination*, 2.

⁸⁸ Durbach, *Bodily Matters*, 120.

“mangy horse with bandaged heels and a heifer on a dray,” which was paraded around the town. The varieties of viruses used for inoculation were represented in six labeled jars with the original Jennerian grease being inscribed as “tis grease, but living grease no more.” Banners were displayed around the city. One showed an image of a babe in a cradle and a doctor with a donkey’s head vaccinating it. An additional banner said, “better a felon’s cell than a poisoned babe,” referring to the imprisonment of parents for not vaccinating their child. The most well known image depicted a skeleton vaccinating an infant in its mother lap, while a policeman grips the mother’s uplifted hand. The mother’s face is full of agony and the baby is unconscious. The skeleton and the officer are grinning with evil expressions. This image reached even larger audiences outside Leicester. It was printed on postal envelopes and spread throughout England.



Anti-vaccination postcard, 1879. Image via Creative Commons.

Yet, the protest was not all conducted in seriousness. It exuded a carnival-like atmosphere. Trollies and carts were selling trinkets such as diseased cow and

horse toys. Other trollies contained furniture seized for payment of fines, showing that vaccination defaulters were sleeping without a bed or having dinner without tables and chairs. All of this so their child did not have to be vaccinated. The demonstration was viewed as a massive success since there was not a single policeman in the ranks to keep order, yet at the end of the day not even a rumor of a child being knocked down was heard.⁸⁹

Many Victorians believed that health was based on the proper circulation of blood and preventing the introduction of foreign material into the body.⁹⁰ Therefore, the enforcement of vaccination unashamedly undermined these principles. This was unacceptable. Widespread popular beliefs about how the body functioned, as well as ideas about the role of the state, ended up overriding any authority the medical expertise presented.⁹¹ Regardless of statistical evidence about the effectiveness of vaccination, the iron hand of the state prompted people to rebel in defiance, not only because they genuinely believed vaccination was harmful, but because they wanted to make a statement about state intervention.

It further angered parents that the state was invasively tampering with healthy infant bodies that posed no immediate risk to the health of society. It was the hypocrisy of the state to enforce the “puncturing” of babies but then claim no responsibility for the outcome.⁹² Anti-vaccinators argued that if the state could not guarantee the success of vaccination, assuring that no disease would be transferred

⁸⁹ Biggs, *Sanitation versus Vaccination*, 109-114.

⁹⁰ Durbach, *Bodily Matters*, 4.

⁹¹ *Ibid.*, 10-11.

⁹² *Ibid.*, 73.

and no harm would come to the child, then parents should not be compelled to take the risk nor punished if they did not comply.

However, pro-vaccinators argued that there was a connection between a decrease in smallpox and the different laws passed by Parliament, due to the resulting increase in the number of vaccinations.⁹³ Furthermore, with vaccination supporters adamantly believing that statistics supported vaccination, they argued that the state had a duty to enforce vaccination, because most people were too uneducated to understand the science and statistics, having neither “the necessary knowledge nor the ability to decide.”⁹⁴ Vaccination supporters saw it as a shame that the state was being criticized for trying to instituted public health measures for the benefit of its citizens.

Further commentary on unjust laws was expressed in relation to oppression, especially as the Leicester Demonstrations showcased the anti-vaccinators conflation of compulsory vaccination with slavery. This connection had emerged as early as 1854 when anti-vaccinators argued, “they might as well brand us,” evoking images of the marketing of cattle, slaves, and criminals.⁹⁵ At the Kettering Anti-Vaccination League in 1884, Jessie Craigen maintained that the people had become the “doctor’s cattle” and the vaccination mark “his brand.”⁹⁶ Agitators increasingly noted the parallels between poor classes forced to undergo compulsory vaccination in England and slaves from Africa. They employed the discourse of anti-slavery and

⁹³ *A Report on Vaccination*, 46-47.

⁹⁴ Brown, *The Case for Vaccination*, 1.

⁹⁵ Nadja Durbach, “They Might as Well Brand Us: Working Class Resistance to Compulsory Vaccination in Victorian England,” *The Society for the Social History of Medicine* 13 (2000): 58.

⁹⁶ Durbach, *Bodily Matters*, 110-111.

compared themselves to colonized people, not because they were overly concerned with the treatment of Africans, but to highlight the irony that those most affected and maltreated by compulsory vaccination were white English citizens and not black African slaves.⁹⁷

Prior to Leicester, anti-vaccinator William Tebb argued that the role of the vaccination officer, who would find and fine noncompliers, was analogous to the hunting of slaves in the United States.⁹⁸ In Leicester, blackface was used to make a very clear comparison between slavery and vaccination. After Leicester the comparison continued. Joseph Collinson went even further, arguing that the Vaccination Law “has but one equivalent in history, that of the Fugitive Slave Law of America.”⁹⁹ Anti-vaccinators brilliantly played on the issues having just occurred in America, the Civil War from 1861 to 1865 and the emancipation of slaves in 1863. They used it to their advantage, taking another highly contested social issue and linking their argument to it. The ideas even spread to the religious men, who would argue “these compulsory laws are making us degraded slaves, instead of human beings, in the sight of God.”¹⁰⁰

The use of blackface was employed during the Leicester Demonstrations to represent the white working class asserting “their biological superiority in an imperial hierarchy even as they were beings socially denigrated within the British

⁹⁷ *Ibid.*, 84.

⁹⁸ William Tebb, *Sanitation, Not Vaccination, The True Protection against Small-Pox* (London: London Society for the Abolition of Compulsory Vaccination, 1881) 12.

⁹⁹ Collinson, *What It Costs to Be Vaccinated*, 40.

¹⁰⁰ Hume-Rothery, *150 Reasons for Disobeying the Vaccination Law*, 3.

class system.”¹⁰¹ The use of blackface by the working class directly linked them to the colonized people. This connection was not new. By the early nineteenth century the poor were being identified with colonized people and racial others by missionary societies. By the late 1870s the racialization of class differences had become a staple metaphor in Victorian journalism. The slums of the poor metropolis were imagined to be a “dark continent penetrated by urban explorers seeking to uncover the habits and dwellings of savage tribes.”¹⁰² The term “white slavery” was created to imply that part of the outrage from the working class was due to the fact that exploited industrial workers were white Anglo-Saxons, and not black Africans. The language of “white slavery” enabled the working class to assert that they were citizens entitled to control over to self, property, and control over dependents.¹⁰³

The use of blackface in the Leicester Demonstrations served an important purpose for the working class. It linked the anti-vaccination movement with the larger tradition of opposing class oppression, which acted to draw in the working class who were already angry at their situation in industrial England.

THE EXPLOSION OF CLASS CONFLICT: HOW VACCINATION HEIGHTENED SOCIAL DIVISIONS

As seen above, working class agitators created more specific oppositions to vaccination than their middle class counterparts, who focused largely on abstract principles. However, the working class joined middle class critiques of government

¹⁰¹ Durbach, “They Might as Well Brand Us,” 58.

¹⁰² Durbach, *Bodily Matters*, 82.

¹⁰³ *Ibid.*, 82.

by focusing on the language of individual rights. For the laboring population, the politics of compulsory vaccination were more specific and transcended debates over Victorian liberalism, bound up in arguments over larger social divisions. Working class anti-vaccinators used their campaign not only to fight against what they perceived to be unjust medical practices, but also what they considered to be the nurturing of unjust social divisions.

The language of class was repeatedly used in anti-vaccinationist literature to help reorganize class identities around the site of the vulnerable and violated body, which incorporated many individuals into one broader class with a shared experience. This encouraged the strengthening of the working class, but also acted to disaggregate this specific class from sections of the lower class. The working class wanted to be distinguished from paupers, criminals, and negligent parents. Such individuals were undeserving of the rights of a respectable parent.¹⁰⁴

The anti-vaccination movement represented an important political instance when working class people expressed a shared experience of the body and clearly voiced their objections using politicized language of class conflict. As a result, the anti-vaccination movement can be situated within a broader history of the making and re-making of the British working class, contributing to a better understanding of the importance of the body in the creation of an identity based on class.¹⁰⁵

Anti-vaccinationists used class specific language to target certain audiences to gain support. As a result, vaccination became viewed as a government policy

¹⁰⁴ Durbach, "They Might as Well Brand Us," 61.

¹⁰⁵ *Ibid.*, 46-47.

focused on the regulation of specifically working-class bodies.¹⁰⁶ The working class activists “consistently affirmed their bodies as the political object at stake in the dispute over compulsory vaccination.”¹⁰⁷ With the enactment of various vaccination laws, the working class felt targeted. They were the class being compelled to vaccinate their children. They were being tracked down and fined by the vaccination officers.

Working class anti-vaccinators objected to the fact that middle class defaulters were rarely prosecuted for not vaccinating their child unless they were confirmed anti-vaccinationists or propagandists. While not all middle class defaulters escaped prosecution, it was apparent that authorities focused on tracking down working class defaulters more because they were viewed as the conduits of disease. With the introduction of free public vaccination stations in 1840 those individuals who considered themselves to be members of a respectable class felt threatened because they were placed in direct physical contact with paupers. Even while the government insisted that vaccination was to be non-pauperizing, those who could not afford the fees of a regular doctor were nevertheless stigmatized.¹⁰⁸

The Vaccination Act of 1867 introduced cumulative penalties for failing to comply with compulsory vaccination. Parents would be consistently fined and eventually prosecuted for refusing to vaccinate their child. As a tactic, anti-vaccinators would intentionally accumulate fines with the aim of demonstrating the folly of the law, which tried to induce vaccination through the threat of penalty.

¹⁰⁶ *Ibid.*, 45.

¹⁰⁷ Durbach, *Bodily Matters*, 92.

¹⁰⁸ Durbach, “They Might as Well Brand Us,” 53.

After not paying fines, anti-vaccinators forced the state to imprison them, creating a controversy over the classification of criminals.¹⁰⁹ Were parents trying to protect their children really criminals? Anti-vaccinationists argued that “the people are fined and imprisoned for refusing to be poisoned ... the practitioners should be fined and imprisoned for poisoning the people.”¹¹⁰ Many working class agitators insisted that imprisonment was the best response to vaccination laws, since paying fines simply funded government oversight.

In dealing with penalties, working class anti-vaccinators constantly portrayed themselves as tracked, scrutinized, and policed by the state. The Vaccination Act of 1867 was “the only English law that encourages spies and informers to hunt down respectable working men.”¹¹¹ The working class felt targeted since middle class anti-vaccinationists rarely experienced such indignities. The word “compulsory” became viewed as misleading, since only those who could not afford to pay fines were compelled to vaccinate. Vaccination laws were simply a further extension of class laws. A rich man easily paid repeated fines for not vaccinating. However, thousands of the poor “have never a pound to spare.”¹¹² The law, as many believed, “falls with crushing severity upon the poor, a monstrous travesty of justice.”¹¹³

This discussion over compulsion quickly entered the realm of the role of parental rights. Anti-vaccinators argued that the “poor woman’s child is as dear to

¹⁰⁹ *Ibid.*, 60.

¹¹⁰ Abdiel, *Vaccination and Smallpox*, 13.

¹¹¹ Durbach, “They Might as Well Brand Us,” 55.

¹¹² Hume-Rothery, *Vaccination and the Vaccination Laws*, 16.

¹¹³ Collinson, *What It Costs to Be Vaccinated*, 7.

her as the child of a prince is to its parents” and the poor mother has “no right to be put in a harder position for its protection than those who are wealthy.”¹¹⁴

Both the middle and working class saw compulsory vaccination as political infringement over the domestic right to control both family and home. The anti-vaccination movement represented a complicated, yet complementary, system of the roles for mother and father. Both parents participated actively in the culture of anti-vaccinationism, yet each took on a different role. Fathers promoted themselves as “archetypes of virile masculinity, crusading against tyranny and defending their families.”¹¹⁵ Yet, they also went to great lengths to portray themselves as loving fathers, concerned with their child’s welfare. Male anti-vaccinators opposed compulsory vaccination based on the definition of fatherhood and criticized the government for undermining their masculinity by removing the sovereignty the father had over the family. Compulsion came to represent a new form of fatherhood, the unwanted fatherhood forced by the state, imposing on traditional family values and disrupting family life.

Compulsory vaccination laws also stripped women of their rights as mothers to protect both themselves and their children. Women were viewed as the true guardians of protecting their child’s welfare. Their rights were biological and not political. They had the right, created by nature, to protect their child and make decisions regarding healthcare. Compulsory vaccination was seen as a “gross outrage on maternal rights.”¹¹⁶ Working class women understood motherhood as a

¹¹⁴ Hadwen, *The Case against Vaccination*, 23.

¹¹⁵ Durbach, *Bodily Matters*, 68.

¹¹⁶ *Ibid.*, 61.

duty that involved working for their children. This included representing the family in courts when being prosecuted for noncompliance, especially since their schedule was more flexible than that of their male counterparts.¹¹⁷ This represented a shift in gender roles, as mothers began to take on a more politicized role in the courts and actively fought for their children in a legal setting.

By legislating for children the state was usurping the role of the parent. Both working and middle class anti-vaccinators objected to governmental interference into the privacy of the home. It was the designated right and role of the parent to care for their child and make decisions about its health. Opposition to compulsory vaccination heightened as middle and working class joined together and the government finally conceded to demands and legislated a conscientious objection clause in 1898 that allowed parents to apply for vaccination exemptions.

The term “conscientious objection” was used by anti-vaccinators in a secular context, proposing that the “rights of conscience are not confined simply to theological questions.”¹¹⁸ The objection was not required to be scientifically correct. It simply had to be sincere and based on the belief that the vaccination was injurious to the child. The certificate granted gave the working class a way to avoid the expensive fines demanded for failing to submit to compulsory vaccination. In 1898 around 203,000 certificates of conscientious objection were issued.¹¹⁹ However, there were problems with this clause regarding bureaucratic proceedings and often the decision to grant a certificate was based on the whim of the ordering judge, who

¹¹⁷ *Ibid.*, 64.

¹¹⁸ *Ibid.*, 173.

¹¹⁹ *Ibid.*, 171.

had no governing guidelines for making decisions and could rule against someone simply for personal reasons. But, for those lucky enough to obtain a certificate substantial financial relief was provided.

SANITATION VERSUS VACCINATION: A CALL FOR CLEANLINESS

In addition to debates over class, the other final push in the nineteenth century anti-vaccination movement was the argument of sanitation versus vaccination. The 1853 policy of universal compulsory vaccination marked an important transition away from historically rooted sanitary approaches to disease and towards a future of preventative medicine. Even though anti-vaccinators adamantly opposed vaccination, they still recognized that smallpox was a problem in England. If they were to contest the main measure put forth by the state to prevent the disease, they needed to present an alternative course of action. As a result, they called for an increase in sanitation. This argument was particularly appealing because it touched on the variety of “causes” of disease. As Joseph Collinson stated “society can only escape from disease by removing the causes; these are drunkenness, impurity, slums, dirt.”¹²⁰ The sanitation argument was the perfect tactic to merge scientific arguments with religion, claiming that dirt mixed with impurity of the soul was a cause of disease. Many anti-vaccinators argue that sanitation was not only the remedy for smallpox, but also for a variety of other disease. According to renowned scientist Lyon Playfair, “no epidemic can resist thorough cleanliness.”¹²¹

¹²⁰ Collinson, *What It Costs to Be Vaccinated*, 10.

¹²¹ Tebb, *Sanitation, Not Vaccination*, 11.

Anti-vaccinators maintained “it is irrational and unscientific to multiply real or artificial disease as a means of promoting public health instead of removing the sources and hot beds of disease by sanitary measures.”¹²² These arguments proved to be very effective among the working class, the people actually living in the filthy conditions. Dirt was a tangible cause of disease, not a microorganism invisible to the naked eye. Even if the “seeds of contagious disease” were viewed as living things, anti-vaccinators claimed “it would be difficult to destroy either them or their progeny without involving their living habitat in the same destruction.”¹²³ Therefore, it was understood that cleanliness was the best technique for eradicating disease. Anti-vaccinators harped on this, arguing that many diseases throughout history disappeared not because of medical intervention, but as a result of improved sanitation. The “only perfectly clear and intelligible course is to teach that zymotic disease ... are alone preventable by cleanliness.”¹²⁴ This argument was supported by the work John Snow with the Broad Street Pump cholera outbreak in 1854. He demonstrated that cleanliness was the best preventative of cholera. His success added extra support to the anti-vaccination campaign, clearly indicating that sanitation was an effective measure.

In addition to history demonstrating the effectiveness of sanitary measures, anti-vaccinators argued that cleanliness was more easy for the state to adopt. Vaccination carried with it a stigma, a possibility for disease and even death. There was fear surrounding its use and state enforcement of the practice was in no way

¹²² Abdiel, *Vaccination and Smallpox*, 23.

¹²³ John Tyndall, “Dust and Disease,” *The British Medical Journal* 1, no. 547 (1871): 662.

¹²⁴ Collinson, *What It Costs to Be Vaccinated*, 44.

effective. However, enforcing sanitation measures would not cause such outright opposition among the people. There would be certainty that sanitation “is attended with none of the dreaded evils inseparable from the compulsory injection of lymph of doubtful origin and unknown virulence and power.”¹²⁵

Vaccination and sanitation were stark opposites in the eyes of anti-vaccinators. Vaccines were physical filth and contaminated material. Therefore, agitators argued that one cannot “combat dirt with dirt,” as vaccination attempted to do.¹²⁶ Anti-vaccinators drew upon arguments put forth by well-respected scientists, like Joseph Lister, to support sanitation. In the 1860s, Lister completed experiments studying the result of sanitation on mortality during surgery. He published his findings in *The Lancet* in 1867 to promote a new technique called antiseptic surgery, which focused on cleanliness in the operating room. He commented on the effect of the introduction of dirt into the blood of wounds, claiming that the blood would putrefy and become fetid, infested with the germs which were derived from the air.¹²⁷ If Joseph Lister, the father of antiseptic surgery, argued that improved sanitation was the means to achieve better health, then surely it was a more desirable method than vaccination.

While the anti-vaccinators made a case for increased sanitation measures and a complete removal of vaccination, pro-vaccinators countered this argument at every step by arguing that sanitation alone was not effective in preventing or eradicating disease. Vaccination supporters argued that there was no distinct

¹²⁵ Tebb, *Sanitation, Not Vaccination*, 16.

¹²⁶ Durbach, *Bodily Matters*, 154-55.

¹²⁷ Tyndall, “Dust and Disease,” 661.

difference between the sanitary measures of the last quarter of the eighteenth century and the first quarter of the nineteenth century. Yet, smallpox mortality markedly declined during this period. If sanitation practices were not changed, yet smallpox diminished with the introduction of the vaccination, then clearly vaccination was the cause of this decline.¹²⁸ The report published by the Royal Commission in 1896 argued adamantly against the idea of sanitation over vaccination. They acknowledged that sanitary improvements certainly had an effect on smallpox mortality. However, the effect was miniscule in comparison to the effect of vaccination. They support this claim by stating if improved sanitary conditions were the cause of the decrease in smallpox mortality, then “we should expect to see that they had exercised a similar influence over almost all other diseases.”¹²⁹ However, anti-vaccinators would not budge. They repeatedly argued that sanitation was the sole way to combat disease. Often, anti-vaccinators turned to successful sanitation practices in England to support their cause.

The most effective sanitation intervention against disease was carried out in Leicester. This implementation of sanitary measures became known as the Leicester Method and gained widespread fame amongst anti-vaccinators due to the city’s ability to resist the national enforcement of vaccination practices. Political leaders and medical professionals in Leicester believed that the statistics regarding smallpox mortality were grossly exaggerated. Smallpox, they believed, caused a very small proportion of deaths due to zymotic diseases. Therefore, more attention should naturally be paid to zymotic diseases instead, including measles, scarlet

¹²⁸ Brown, *The Case for Vaccination*, 11.

¹²⁹ *A Report on Vaccination*, 89.

fever, diphtheria, whooping cough, simple fevers, and diarrhea. Additionally, anti-vaccinators argued that zymotic diseases were proven to be preventable by sanitary measures. It made sense that smallpox could also be prevented by such means.¹³⁰

The Leicester Method, developed in the 1870s and achieving national fame among anti-vaccinators in the 1890s, referred to the practice of compulsory quarantine and isolation in cases where an outbreak of smallpox was suspected. This method was devised due to the reluctance of parents to vaccinate their children and a belief that sanitation was indeed an effective alternative for preventing the spread of smallpox.¹³¹ Leicester was the only town in England to openly substitute quarantine in place of infant vaccination. Quarantine was even made compulsory in Leicester by a local law passed in 1879.¹³² It is interesting that anti-vaccinators readily accepted compulsory quarantine when they were in the process of fighting compulsory vaccination. Arguments were put forth against the intervention of the state regarding vaccination, but Leicester also represented local government interference. It is uncertain why anti-vaccinators accepted the practice of compulsory quarantine, but it can be speculated that it was due to the nature of the compulsion. Vaccination involved a direct invasion of the body. Quarantine was not an invasive practice. Perhaps anti-vaccinators opposed state intervention with the body directly, but legislating where a sick individual was to be isolated was acceptable.

¹³⁰ Biggs, *Sanitation versus Vaccination*, 212.

¹³¹ Dale Ross, "Leicester and the Anti-Vaccination Movement 1853-1889," *Transactions of the Leicestershire Archaeological and Historical Society* 43 (68 1967): 37.

¹³² *Ibid.*, 37.

Anti-vaccinators argued that Leicester provided by “both precept and example, irrefutable proof of the capability and influence of sanitation, not only in combating and controlling, but also in practically vanishing infectious diseases from its midst.”¹³³ Furthermore, the fact that medical professionals supplemented vaccination with sanitary practice was seen as proof that cleanliness was indeed the most powerful of the preventative measures. Leicester Method supporters agreed that “personal and municipal cleanliness secure enhanced if not perfect health” and therefore, “wash and be clean” should be the motto for fighting disease.¹³⁴ Anti-vaccinators believed that the sanitation method resulted in far less morbidity and mortality from smallpox than vaccination.

VAMPIRES AND VIVISECTORS: POPULAR CULTURE AND VACCINATION

Towards the end of the nineteenth century, anti-vaccinators began to relate their position to popular culture. When Bram Stoker published *Dracula* in 1897 anti-vaccinators quickly began to draw parallels between vaccination, vampires, and vivisectors. In her book *Bodily Matters*, Nadja Durbach terms the fascination with vampirism and vivisection the Victorian “gothic body,” which concentrated on the problems of blood purity and bodily integrity by linking vaccination concerns with broader culture. The “gothic body” revealed widespread anxieties over the breaking of boundaries that compromised an anti-vaccinator’s spiritual and physical health, morality and sexuality, racial identity, and humanity.¹³⁵

¹³³ Biggs, *Sanitation versus Vaccination*, 72.

¹³⁴ *Ibid.*, 716.

¹³⁵ Durbach, *Bodily Matters*, 113.

Anti-vaccinators were able to link vaccination to vampirism in every way possible. They claimed that germ theory reflected the vampiric nature of bacteria. This theory asserts that disease is the product of living organic beings and the life of this organism, like the vampire, thrives on human illness.¹³⁶ Anti-vaccinator's favorite vampiric piece to draw upon was *Dracula* due to its immense popularity. While there is no evidence suggesting *Dracula* was written as an anti-vaccination publication, it served to explicitly eroticize bodily violation (in the form of vampire feedings) in a way that anti-vaccinators could only hint at in their propaganda. Vaccination was seen as an unwilling invasion of bodily rights. Vampires also fed on unwilling victims and tainted their blood, much like the lymph from vaccination. Durbach argues that the popular success of *Dracula* was actually due in part to the preexisting "shared cultural symbolism already articulated by anti-vaccination propaganda."¹³⁷ Bram Stoker owes the initial success of his book to the work done by anti-vaccinators in the prior years.

In examining popular culture, the state was most often associated with the term "vampire." Compulsory vaccination was viewed as the "bloodhound of the childbearing woman."¹³⁸ The bloodhound was an image linked to the public officials who would hunt noncompliers. The state "tracked anti-vaccinators, pursuing them like criminals through the use of a creature that, like the vampire, was specifically trained to track the smell of blood."¹³⁹ Anti-vaccinators further argued that the state

¹³⁶ Martin Willis, "'The Invisible Giant,' 'Dracula,' and Disease," *Studies in the Novel* 39, no. 3 (2007): 312.

¹³⁷ Durbach, *Bodily Matters*, 143.

¹³⁸ *Ibid.*, 138.

¹³⁹ *Ibid.*, 138.

vampire fed off its citizens, thirsting for their blood. The unvaccinated fell victim to the “devouring monster” of the state and became “loathsome creatures themselves.”¹⁴⁰

Vampirism was also linked to the corruption of the medical community. Medicine was considered to be an aristocratic profession and, like the vampire, linked with corruption. The vampire, according to Durbach, evolved out of a gothic genre that was the product of controversy in Britain due to the French Revolution. The vampire served as a symbol of the ancient regime that still lingered. The aristocracy’s power in the nineteenth century was derived from its “being both dead and in fact not dead,” much like the vampire.¹⁴¹ It was not at its full power, yet it still survived. The vampire’s lust for blood has been viewed as the aristocratic desire to continue hereditary bloodlines. The aristocratic doctor was often symbolized as bloodthirsty, due to his climb for power, but additionally because of the tradition of bloodletting. This was readily associated with vampirism. In the most popular vampiric anti-vaccination handbill, “The Vaccination Vampire” by James Wilkinson, state agents literally and symbolically bled people dry. By using the vampire as a metaphor for vaccination, critiques of old and new forms of corruption of state medicine were generated.¹⁴²

Much like vampirism, vivisection also reflected anxieties about bodily violation and human experimentation. Vivisection, the dissection and

¹⁴⁰ *Ibid.*, 115.

¹⁴¹ *Ibid.*, 140.

¹⁴² Sadly, a copy of this pamphlet could not be obtained; otherwise it would have been discussed in more detail. However, it deserves to be mentioned since it was so immensely popular.

experimentation on living animals, was greatly opposed by anti-vaccinators and animal rights activists. Vivisectors represented a type of “mad doctor,” an archetype that had long circulate in Victorian culture, as seen in *Frankenstein* and *The Strange Case of Dr. Jekyll and Mr. Hyde*. Anti-vaccinators built upon the anti-vivisector argument, underscoring that vaccination victims were “helpless human children” and not “dumb animals.”¹⁴³ Doctors studying vaccination relied on British working class orphans as their subjects for experimentation. While these orphans no doubt benefited from the protection provided from vaccination, they were nevertheless experimented on without regard for their safety or autonomy.¹⁴⁴

Anti-vaccination literature also linked vivisection and therefore vaccination to the emerging cultural figure of the mass murderer, like Jack the Ripper. Literature employed rhetoric to call vaccinators “baby-slashers” committing “butchery and torture.”¹⁴⁵ Not only did the vivisector violate and mutilate the body physically, there was also the possibility of sexual violation. Anti-vaccinators were brilliant in drawing connections between the vaccination of children and vivisection of animals. They capitalized on an already popular movement focused on scientifically inflicted cruelty.

¹⁴³ Durbach, *Bodily Matters*, 148.

¹⁴⁴ Lydia Murdoch, “Carrying the Pox: The Use of Children and Ideals of Childhood in Early British and Imperial Campaigns against Smallpox,” *Journal of Social History*, 2015, 2.

In this article Murdoch makes an interesting case regarding smallpox experimentation. Since only the orphans were experimented on, Murdoch maintains that class hierarchies were reinforced as it became clear that some children’s lives were more valuable than others. Those lucky enough to be born into the upper class benefited from ideals of childhood, which saw child life as precious. However, the medical profession blatantly ignored this idea by experimenting on poor children.

¹⁴⁵ Durbach, *Bodily Matters*, 145.

CONCLUSION: THE CONTINUATION OF THE ANTI-VACCINATION MOVEMENT

From the examination of the anti-vaccination movement in nineteenth century England, it is clear that anti-vaccinators did not start from scratch. They capitalized on preexisting movements that had already permeated Victorian society, ranging from class division debates to popular culture. The anti-vaccination movement did not start from the ground up. Rather, it began with middle class doctors and clergymen who capitalized on earlier arguments opposing inoculation. They effectively attacked Jenner's credibility in the eyes of those less educated and harped on the dangers of what was perceived to be a very new practice. In reality, vaccination hardly differed from inoculation, but anti-vaccinators made it seem like an entirely new medical procedure, which was terrifying to the uneducated parent.

Linking their movement to issues like class division, slavery, and autonomy was a brilliant move. The rhetoric was already established, the agitators simply had to add a little twist to it. Yet, they went a step further and took on issues of popular culture as well. Placing vaccination within the context of vampirism and vivisection provided the working class with a reference point. Even though they likely had not read recent literature about these topics they were familiar with the myths and legends. Working class agitators did not relate to medical arguments and some did not even relate to sanitation arguments. However, almost all responded to issues of autonomy, parental rights, and the relationship of vaccination to myths.

This anti-vaccination movement provided the outline for the numerous anti-vaccination movements that followed it. None have been quite on the same scale, but contemporary anti-vaccinators have learned from their predecessors.

Contemporary arguments focus on parental fear, safety, and medical myths. While nineteenth century anti-vaccinators believed their child would develop cow-like tendencies from vaccination, current anti-vaccinators believe their child will develop autism from vaccination. For historians and sociologists, the method of analyzing anti-vaccinators has changed. We analyze nineteenth century England by thinking of the “how.” How did anti-vaccinators get their message across? Now, we focus on the “why.” Why are twenty-first century parents opposing vaccination? What motivates them personally and how do they engage in risk perception? The method contemporary anti-vaccinators use to spread their message is much like that of their historical counterparts. Nineteenth century agitators spread their message via pamphlets and handbills. Current anti-vaccinators spread their message via the Internet. The mode of transmission has changed but the argument has not: vaccination is harmful to children. In looking at the historical context of the anti-vaccination movement it strikes me that a certain adage is true. We really must understand our past so we do not repeat ourselves in the future. Analyzing historical anti-vaccination movements gives great insight into how such movements work and may even provide insight into the best way to confront the contemporary anti-vaccination movement as it continues to grow.

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