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The Scope and Limits of Legal Intervention in Controversies Involving Biomedicine: A Legal History of Vaccination and English Law (1813–1853)

Ubaka Ogbogu

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The Scope and Limits of Legal Intervention in Controversies Involving Biomedicine: A Legal History of Vaccination and English Law (1813–1853)

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The Scope and Limits of Legal Intervention in Controversies Involving Biomedicine: A Legal History of Vaccination and English Law (1813–1853)

Ubaka Ogbogu

Abstract

This paper examines the historical role of law and politics in the adoption of smallpox vaccination in Britain, focusing primarily on the early Victorian period, when legislation was passed to enforce compulsory infantile vaccination. The primary thesis of the study is that law, and the processes through which it is created and maintained, provide a distinct "envelope of social order" (Jasanoff 2008, 764) within which competing and duelling interests and opinions about scientific innovation find origin, expression, and debate. Consequently, the manner in which law responds to science and its impact on society is neither static nor self-evident, but subject to mutable circumstances that are historically, politically, and socially situated. The paper is divided into two main parts. The first provides a brief history of vaccination and the second focuses on events surrounding the introduction of compulsory vaccination laws in England and Wales.

Ubaka Ogbogu is a third year doctoral student in the Faculty of Law, University of Toronto. His research examines the role of law in the context of vaccination controversies in 19th and early 20th century Canada, and in particular how that role compares to legal developments in the UK and US during the same period. Ubaka's other research interests include the ethical, legal and social implications of emerging biotechnologies, health law, and the legal history of science.

INTRODUCTION

Science historians have consistently demonstrated that historical knowledge can help us construct meanings about the provenance of social norms, practices, and institutions relevant to contemporary science (Pandora and Rader 2008; Cooter and Pumfrey 1994; Gooday et al. 2008).[1] Law, as a set of primary social norms, rules, and institutions that affect science, can benefit from historical knowledge, especially as regards its cardinal role in mediating and regulating relations between science and the larger culture. However, legal historians have not taken up the challenge suggested by these propositions, in part because in law schools the study of the relationship between law and science is in its infancy, but also because the legal history of science is often embedded in contexts that include more traditional subjects of historical scholarship such as politics and sociology. This leaves us with general histories of science, which unfortunately do not cover its legal aspects in detail or with any specificity.

This paper, as part of a broader study excited by the need for specific legal histories of the confrontation between law, science, and society, investigates the role played by law in the adoption of vaccination as a scientific and medical practice, and in the resolution or closure of social controversies provoked by its adoption. The paper focuses primarily on the history of vaccination policy in early Victorian era England, when legislation was passed to enforce compulsory vaccination.

Before proceeding further, it is important to comment briefly on the aims of the broader study. In addition to documenting the legal history of specific confrontations between law, science, and society, this study also aims at exploring the significance of legal norms and institutions applicable to science in a societal context. This involves, among other things, an examination of how legal doctrines and institutions (of relevance to the study) evolve, operate, change, and adapt to different societal contexts. In particular, the study seeks to

determine the ways in which legal norms and institutions function in response to social controversies provoked by scientific innovation.

The broader study defends one thesis and illuminates another. Regarding the latter, the study serves to illustrate how legal history can improve our understanding of the nature of the confrontation between law and science. The primary thesis of the study is that law, and the processes through which it is created and maintained, provide a distinct and often interactive "envelope of social order" (Jasanoff 2008, 764) within which competing and duelling interests and opinions about scientific innovation find origin, expression, and debate. Consequently, the manner in which law responds to science and its impact on society is neither static nor self-evident, but subject to mutable circumstances that are historically, politically, and socially situated.[2] This thesis therefore challenges any inordinate reliance on law as a tool for dealing with issues associated with the social role of science, particularly as regards expectations that law and legal institutions can offer *definitive* solutions to the questions of justice, morality, and right posed by the impact of science on society.[3] These claims, which are evaluated in this paper through the lens of historical social conflicts surrounding vaccination laws, are purposefully ambitious and provocative, as they are meant to generate scholarly excitement and debate about a nascent field of inquiry.

The paper is divided into two main parts. The first provides a brief history of vaccination and the second focuses on events surrounding the introduction of compulsory vaccination laws in England and Wales.

PART A

2. A SHORT HISTORY OF VACCINATION

Sometime around the year 1770, a British doctor and naturalist named Edward Jenner became interested in a country legend which held that cowpox – a mild bovine disease that caused a mild infection in humans – produced immunity against smallpox. The legend was borne out by the experience of milkmaids, who were prone to cowpox but never contracted smallpox, despite not being inoculated. Inoculation (or variolation as it was sometimes called) was the orthodox method of preventing smallpox at the time, and it was accomplished by purposefully introducing unattenuated smallpox matter into a person in order to induce a mild case of smallpox that protected the infected person from a severe future attack. By contrast, vaccination – as first "scientifically" demonstrated by Jenner based on the cowpox legend – refers to the process of introducing cowpox lymph (which is non-virulent in humans) into a person's body to produce immunity to smallpox.

Jenner's harrowing personal experience with inoculation inspired him to investigate the cowpox folklore. As recounted by F. J. Fosbroke, young Jenner, along with many others, was sent to a barn at age eight to be variolated. For a period of six weeks,

> he was bled to ascertain whether the blood was fine; he was purged repeatedly, till he became emaciated and feeble; was kept on a very low diet…and dosed with a diet drink to sweeten the blood. After this barbarism of human veterinary practice, he was removed to one of the usual inoculation stables and haltered up with others in a terrible state of disease (MacNalty 1968, 5).

As a medical student under the pupilage of John Hunter, a leading surgeon with whom Jenner shared an interest in natural history, Jenner received training in empiricism and experimental research. Before he turned his attention to the cowpox lore, he completed several observational studies of the natural history of the cuckoo and of bird migration, and in 1789, he was elected Fellow of the Royal Society of London in "formal recognition of his scientific ability" (MacNalty 1968, 7). On 14 May 1796, he applied his empirical research knowledge and skill to the cowpox legend by performing the first vaccination on an eight-year-old boy named James Phipps.[4] Having obtained lymph from the hand of Sarah Nelmes, a milkmaid infected with cowpox, Jenner cut two small slits on Phipps's arm and dabbed the wounds with the lymph. After a few days, he inoculated the boy with smallpox and waited another week to see if he would contract the disease. The inoculation produced no effect as the cowpox "vaccine"[5] had protected Phipps from the much-dreaded smallpox.

Having confirmed his initial hypothesis, Jenner conducted more vaccination experiments, including on members of his family. The vaccinations produced the desired immunity, and in 1798, he published the first

edition of his treatise on vaccination titled *An Inquiry into the Causes and Effects of the Variolae Vaccinae*, which provided details of twenty-three case histories as evidence of the efficacy of vaccination. Other publications followed in the next two years, each one outlining successful vaccination experiments. By the turn of the century, Jenner's discovery and experiments were replicated and applied in many parts of the world, and he became a worldwide celebrity. He received, among other things, an honorary LL.D. from Harvard University and monetary rewards from Parliament. According to a popular anecdote, Napoleon, whose troops were protected by the vaccine, granted Jenner's request for the release of two of his friends imprisoned in France, saying: "Ah Jenner! We can refuse nothing to that man."

Vaccination quickly replaced inoculation as the smallpox prophylactic of choice among doctors, scientists, and the social elite. Jenner's discovery coincided with growing opposition to inoculation; the once acclaimed procedure was now considered a threat because it "kept smallpox alive" and "filled the country with contagion" by encouraging the spread of infection to unprotected persons (MacNalty 1968, 5). Some applications of the procedure were "expensive, drastic and exhausting" (ibid.) as the young Jenner's experience attests, and often led to mortality. Among the clergy, inoculation was deemed an "unnatural and impious" (ibid.) attempt to subvert God's providence. However, the practice remained popular among the poor and working classes, mainly because it was familiar and accessible. In due course, the juxtaposed responses to both practices contributed to legal intervention in preventive medicine and infectious disease management.

PART B

3. ABANDONING "OLD ENGLISH VOLUNTARY PRINCIPLE": THE EMERGENCE OF COMPULSORY VACCINATION

(a) Existing Historical Discourse on Compulsory Vaccination

The 1853 Vaccination Act,[6] which introduced compulsory infantile vaccination in England and Wales, is widely regarded as a pivotal event in the history of biomedicine, public health, and infectious disease control (Brunton 2008; Porter and Porter 1988). While it was not the earliest attempt at regulating vaccination,[7] historians view it as a crucial and emphatic milestone in interventionist state regulation of science and public health, and more generally, in the socio-political and ideological reforms of the Victorian era state. As Nadja Durbach notes, "vaccination, a technology of orthodox medicine, was the first medical intervention to be enforced by British law" and the Act "was thus crucial to the development of the field of state medicine, and…to the rise of medical authority" (2005, 132).

Given that this intervention was instituted by means of legislation, it is surprising that there have been very few historical studies of the legislative debates and the role played by the British Parliament and other legal institutions in the events surrounding the enactment and implementation of the Act. With the exception of Deborah Brunton's excellent book on vaccination policy and practice in England, Wales, Ireland, and Scotland between 1800 and 1874 (2008), all that exists in the literature are mere outlines of the legal history of vaccination. The legislative and judicial activity surrounding the enactment, implementation and enforcement of the Act remain an unexplored resource. While Brunton's work takes a fairly detailed look at the legal context, her main focus was to provide a comprehensive look at neglected aspects of the history of vaccination policy and practice in the U.K., including an examination of the period prior to the legal regulation of vaccination, and the development of vaccination policy and practice in Ireland and Scotland. Her examination of the legal context is thus limited to the role of legislation within that historical framework. Other works have focused mainly on the anti-vaccination movement, particularly in the period following the enactment of the Act (Durbach 2005; Fichman and Keelan 2007; Beck 1960).

Apart from a general interest in uncovering the historical legal context, there are several reasons why this missing perspective is relevant to understanding the role of law in the context of controversies around infectious disease biomedicine and control/regulation. Firstly, it serves to illuminate the presentation, evaluation, and reception of the social rationales for the Act in the legislative and legal activity surrounding the enactment and implementation of the Act. This, in turn, would aid understanding of how these social values – scientific, normative, ideological, political or otherwise – compete for and gain legal recognition,

and conversely, the ways in which legal recognition is accorded to competing policy proposals embodying these values.

Secondly, analysis of the legal sources will help clarify and revise analytical claims and counterclaims about the two key sources of controversy associated with Victorian era vaccination policy, namely the introduction of compulsion and the birth of the anti-vaccination movement. Brunton has shown, for example, that the characterization of compulsory vaccination as a radical, ideologically driven, scientifically informed policy is neither supported by historical evidence nor in particular, by legal sources (2008, 39-53). The Act was neither the product of any coherent state policy nor political ideology, but rather a "damp squib" (Brunton 2008, 39), which neither altered the existing regulatory framework nor increased the overall levels of vaccination. Along the same vein, revisionist historians have argued that depictions of the opposition to smallpox vaccination as a reactive response to the 1853 Vaccination Act informed by rumour, hearsay, conspiracy theories, and an unscientific mindset are largely inaccurate, and do not reflect the complex socio-political and cultural contexts, values, and beliefs that informed such opposition. Durbach contends that a precise history of anti-vaccinationism "suggests that it is the success of vaccination itself – as a medical and social practice – that requires further explanation" (2005, 4). Similarly, Fichman and Keelan argue that Victorian era antivaccinationism – particularly the brand employed by scientists such as Alfred Russel Wallace (1901), Charles Creighton (1889), and Edgar March Crookshank (1889) – was "part of a parallel scientific discourse" and that "to be an anti-vaccinationist was not necessarily to be anti-science" (2007, 586). These claims and counterclaims, which are explored in detail subsequently in this chapter, rely in part on legal sources for confirmation and therefore, require a dedicated analysis of the legal history of vaccination policies.

Thirdly, exploring the legal history and context provides a useful comparative lens for examining similar social and legal developments in other jurisdictions within the Anglo-American legal system. Although the first mandatory vaccination law in North America was enacted by the State of Massachusetts in 1809,[8] (Hodge and Gostin 2001), state regulation of vaccination did not begin in earnest until the decades following the British compulsory vaccination laws (Allen 2007, 60-61). Social opposition to vaccination in Canada and the US also trailed the British anti-vaccination movement by almost half a century, occurring only at the time when "Britain made peace with the antivaccinators by essentially surrendering to them" (Allen 2007, 69). Given the timing of these developments on both sides of the Atlantic, the vaccination context in Canada and the US was likely influenced by Britain's struggle with compulsory vaccination laws and social opposition to the practice. Detailed examination of the UK legal context is therefore likely to capture the wider significance of vaccination policies as a measure of interventionist state medicine, as well as the migration and survival of legal, political, and social movements across different national contexts.

(b) The Enactment Context

The bill[9] that became the 1853 Vaccination Act was written and presented to the House of Lords by Lord George Lyttelton on February 15, 1853. Lyttelton was a private MP, and as such, did not have the authority or support of the ruling Peelite government in bringing the bill. Due to the lack of government involvement in its design, the bill did not follow the usual course for most public bills; no Royal Commission was established to investigate its social, political or legal significance,[10] there were no public consultations or impact assessments, and nothing to indicate that it was an issue of any significant interest to the government. During the debate on the bill, Lyttelton stated that because he was a private member, he could not change the administrative aspects of existing vaccination legislation. His aim therefore was "without disturbing the present system, simply to add the principle of compulsion to it."[11]

Lyttelton may have also been acting alone in proposing changes to the existing governance framework. Although smallpox control was an issue of concern to the public at that time – an outbreak in 1851 kept the issue alive in the minds of the public – there were no calls from the public or the medical establishment for legislative or regulatory change (Brunton 2008, 41-2). Instead, government actions following the 1851 epidemic focused on the implementation of educational measures. Brunton points out that Lyttelton's motives for introducing the bill were obscure. He had no particular interest in or experience with public health matters, and there was no mention of what inspired the bill throughout the entire parliamentary debates (2008, 42).

Despite the overall lack of government involvement in initiating the changes, the bill received government support as it made its way through both houses of Parliament. A couple of government MPs expressed support for the bill, and there was no formal opposition from government. However, government involvement was frugal at best, and the resulting legislation was not the product of coherent state action.

Generally speaking, the 1853 Vaccination Act emerged in the context of normative shifts in conceptions of science, medical practice, and authority, and the role of the state in advancing public welfare. These shifts and the surrounding social and political context have been exhaustively examined in recent historical works (Brunton 2008; Durbach 2005; Porter 1999; Wohl 1983), and only warrant brief mention here.

Several such shifts occurred within the medical establishment, chiefly motivated by medical practitioners seeking to gain exclusive medical authority and professional control over the provision of medical care, and to exclude lay care providers (including itinerating quacks, druggists, and alternative medicine practitioners) from the medical business. To achieve these ends, the medical establishment relied on two main strategies: a shift toward more science-driven practice, and closer ties with "an expanding and increasingly bureaucratic state" (Durbach 2005, 15). Science-based medical procedures such as vaccination provided opportunities to pursue both strategies, and medical practitioners eagerly adopted and promoted such procedures in a bid to assert their claim to exclusive medical access and authority.

Many working class consumers of medical care did not welcome these developments. For the poor and working class citizens, medical interventions were not just a means of fighting disease and ill health, but practices infused with their cultural understandings of disease, medical liberty, access and decision-making, health care, and a sense of community. Although vaccination was now the standard practice among medical practitioners, the poor and working class viewed the practice with suspicion because of its "elitist" origins, preferring the outmoded practice of inoculation, which was still administered by lay healers (Durbach 2005, 21). Inoculation matter was easier to obtain, and its mode of action was familiar to many. Also, during this time, the provision of medical services was open to anyone looking to profit from the business – from snake oil salesmen to trained medical men – and persons seeking medical care did not generally discriminate among practitioners. Durbach observes that beginning from the Georgian era up to the mid-19th century,

> medicine favored and encouraged pluralism in the medical marketplace, permitting customers to purchase the services of a variety of practitioners. In search of remedies, the sick often moved freely from one type of practitioner to another, employing among others, surgeons, bonesetters, and patent-medicine vendors. This meant both that treatments were often negotiated between patient and practitioner and that the sick could be active in orchestrating their cure…Divisions within medicine…were as much social markets as descriptors of actual practice (2005, 26).

In general, the poor and working class masses were more likely to patronize quacks and alternative practitioners, as their services were more accessible and affordable than those offered by trained medical men. Thus, from their point of view, the medical establishment's push for scientific and professional medicine translated to inaccessible, unfamiliar procedures, and the enforcement of those procedures through legislation was viewed as an interference with each person's freedom to make their own individual medical decisions. Consequently, public health measures and medical legislation became "flash point[s] for contests over state authority, professional control, and the meanings of medical liberty" (Durbach 2005, 26). This controversy-laced environment seemed hardly the right one in which to impose compulsory medical procedures administered by medical practitioners.

The Epidemiological Society, a specialists' association formed in 1850 by an elite group of medical practitioners interested in issues of disease, epidemics, and public health, embodied this shifting ethos in medical practice. The Society's objects were to investigate and conduct research on the causes, propagation, mitigation, and prevention of epidemic diseases, and "to communicate with government and legislature on matters connected with the prevention of epidemic diseases" (Epidemiological Society 1855, 1). Its members pursued this mission by publishing original papers and reports, issuing queries and statistical tables, and collecting literature on epidemic diseases, all of which was fitting for projecting a public image of professionalism. The Society was particularly interested in the application of statistics to the study of

epidemic diseases, and issued many reports and papers with a weighty focus on statistical comparisons (Lilienfeld 1978, 520-27).

The smallpox epidemic fell naturally within this mission, and on March 26, 1853, the Society issued a report prepared by its Small Pox and Vaccination Committee on the state of smallpox and vaccination measures in Britain and other countries.[12] The report was comprised mainly of statistical comparisons of smallpox mortality rates, vaccination practices and rates, and vaccination laws in Britain and foreign countries. The statistics demonstrated that there had been a gradual decline in smallpox mortality since the introduction of vaccination, and that mortality was least in countries where vaccination was compulsory. Despite the appearance of objectivity implied by the use of statistics, the report was heavily biased in favour of the practice and regulation of vaccination (Fichman and Keelan 2007, 588-91). The report portrayed vaccination as a "perfectly safe and efficient prophylactic"[13] against smallpox unanimously endorsed by medical men, and concluded that "no measure which does not render vaccination compulsory, in some form or other, will be sufficient to ensure the efficient protection of the population of this country from the ravages of small-pox."[14]

In an early example of the use of expert evidence in the process of enacting specialist legislation, MPs drew heavily on the report during the debates on the 1853 compulsory vaccination bill. Although the vaccination bill was introduced to Parliament before the report was released, Lyttelton and Sir John Pakington (who moved the bill in the House of Commons) adopted the Society's statistical evidence as proof of the necessity of compulsory measures. The wholesale adoption of the report coupled with the Epidemiological Society's efforts to influence the legislative process signalled a new stage in the relationship between the state and medicine, one in which medical practitioners actively sought and acquired professional exclusivity, autonomy, and authority from the state.

The bureaucratization of medicine preceded activities surrounding the enactment of the 1853 Vaccination Act. Commencing from the late Georgian and early William regnal era, Parliament enacted measures that "bolstered the relationship between medicine and the state at the expense of the destitute" (Durbach 2005, 15). One such legislation was the 1832 Anatomy Act,[15] which sought to advance the "study and practice of anatomy" by granting surgeons, professors of medicine, and other lawfully qualified medical practitioners exclusive access to anatomical examination of donated or unclaimed deceased bodies. Since the destitute were more likely to end up deceased and unclaimed, the poor viewed the legislation as an attempt to render "the destitute dead body property of the state (ibid.)" The increased role of medicine in state affairs was also accompanied by changes in state approach to social welfare. The provision of relief to the poor became less humanitarian, and legislation was enacted to deny poverty relief to physically fit paupers living outside the workhouse system. As Durbach points out, the late Georgian and early Victorian state privileged "utilitarian economics over charitable impulses" (2005, 15-16) in addressing social issues affecting the poor and working class. These developments provoked considerable anxiety among the poor, who saw the relationship between medicine and the state as one of several interventionist measures aimed at controlling their lives and bodies. To the poor, state medicine "was born and nurtured…within a context already invested with contentious meanings" (16) and "was by definition pauperizing… [in that it] shamed and punished precisely those whom it was intended to serve" (16). Again, this was hardly the right context for legislation that compelled the poor to submit their children to an unfamiliar and elitist procedure.

(c) The Act and Legislative Debates

The 1853 Vaccination Act contained eleven clauses that, but for a few differences, essentially replicated the vaccination framework established by the 1840 Act. Similar to the 1840 version, the Act directed Poor Law guardians and overseers to establish vaccination districts and locations within each district for the purpose of providing vaccination services to residents through contractual agreements with medical practitioners. Vaccinators were to be paid in accordance with the existing system of remuneration at rates determined by the Poor Law authorities, and on the basis of number of persons successfully vaccinated.

The latter provision drew strong opposition from medical practitioners, who wished to receive additional remuneration for their services, especially since the Act imposed additional duties on them relating to the

implementation of compulsory vaccination measures. The practitioners were also displeased with the fact that the legislation subjected them to the authority and supervision of the Poor Law authorities. An amendment introduced in Committee (and which passed with the legislation)[16] sought to address these issues by specifying minimum amounts payable under the vaccination contracts: a shilling and sixpence for successful vaccinations carried out within two miles of the vaccinator's residence, and two shillings and sixpence for successful vaccinations outside the two-mile limit. The amendment did not satisfy the doctors, and they complained that the legislation now required them to perform additional work under threat of prosecution, for inadequate pay.

The 1853 Act differed from the preceding legislation in two main respects. Firstly, it required parents and guardians to submit their children and wards for vaccination within three and four months of birth respectively, and to return to the place of vaccination eight days after the procedure for inspection by the vaccinating official. If a child was not in a fit state for vaccination, the procedure was to be postponed for two months at a time, until the child was considered fit. A child who, in the opinion of a medical practitioner, was insusceptible to smallpox either by reason of having survived a smallpox attack or by any other means, would be exempted from the procedure. The medical practitioner in charge of vaccination was required to issue certificates of successful vaccination, postponement, or exemption (depending on the circumstances) and the certificates were considered sufficient proof of compliance with the law in the event of a prosecution. The Act also required the Registrar of Births and Deaths in every vaccination sub-district to send written notification to parents or guardians within seven days of the registration of the birth of any child, requiring that they present their child or ward at an appointed time and place to be vaccinated in accordance with the Act.

Secondly, the Act required vaccinators to transmit a duplicate of the certificate issued for successful vaccination to the Registrar of Births and Deaths, who was charged with keeping a searchable register of persons who had been successfully vaccinated. This provision was received with indignation from the medical establishment, mainly because members could potentially be prosecuted for failing to comply with the requirement. Bookkeeping was not standard practice among medical practitioners at that time, and as noted above, they complained that the compensation received for vaccination was not enough to justify the additional work. The provision would prove fatal to the success of the Act, as the "sheer novelty of paperwork" (Brunton 2008, 49) led to underreporting of successful vaccinations, which in turn contributed to the failure of implementation efforts.

A few provisions in Lyttelton's original bill did not make it into the Act. For instance, a provision that would have forced doctors – under threat of possible penalties for breach of contract – to harvest vaccine lymph from healthy or successfully vaccinated children for the purpose of vaccinating others was deleted in Committee. Two of the three MPs who made comments on the bill during the House of Lords debate supported the provision as a means of eliminating reliance on animal lymph.[17] In the House of Commons, Mr. John Brady, MP for Leitrim County, objected to the measure on the ground that parents who witnessed the operation might become opposed to vaccination. The provision was later re-introduced in the 1867 Vaccination Act, and became a major source of controversy between vaccination supporters and anti-vaccinationists.

While the reason for the deletion of the latter provision is not stated in the record of the debates, it is doubtful that MPs were persuaded to exclude it out of consideration for children who would be affected by it or because parents might object to the brazen interference with personal liberties. In promoting compulsory vaccination, MPs involved in the debate favoured other coercive measures, such as requiring that unvaccinated children be denied admission into any school and withholding poor relief from adults refusing to be vaccinated.[18] A more plausible reason might be that MPs sought to avoid potential objections from medical practitioners who may have to forcibly perform a medical procedure on children in the presence of protesting parents.

Another provision that did not make it into the Act relates to the penalty for repeat offenders. Lyttelton's bill proposed a fine not exceeding one pound upon successful prosecution for noncompliance with the provisions of the Act, and discretionary amounts up to a limit of five pounds for repeated prosecutions. In

the Victorian era, this fine would have undoubtedly caused some hardship to the poor and working class offender. Also, since prosecution under the Act was to be initiated following failure to comply with the Registrar's notice to vaccinate, the only defence available to an offender was to show a certificate of postponement or exemption. A House of Commons committee subsequently deleted the penalty for repeat offences. Much like the lymph collection clause, the rationale for the deletion is not clear. Other than one MP who raised doubts as to the feasibility of successfully collecting on the fine from the poor,[19] there is no mention of the issue in the parliamentary debates. The Act was therefore silent on how to deal with repeat offenders, and remained so until the 1867 amendments introduced a provision dealing with the issue.

Prior to 1867, the issue came up for interpretation in the 1864 case of *Pilcher v. Stafford*,[20] the first case concerning the 1853 Vaccination Act. In *Pilcher*, the defendant, William George Stafford, a shoemaker in the seaside town of Margate in the Thanet district of East Kent, was charged with continuous neglect to vaccinate his son in accordance with the 1853 Vaccination Act and an 1861 amendment that empowered certain state officials to bring judicial proceedings "at any time" to enforce the provisions of the Act. Having been convicted previously for the same act of noncompliance with the vaccination statute, Stafford contended that he could not be punished twice for the same offence. In reply, Charles Raynor Pilcher, the Registrar for Births and Deaths, who brought the information against Stafford, argued that since it was the "manifest intention of the Legislature…to make vaccination compulsory,"[21] the proper construction of the vaccination statutes was that a person in default could be repeatedly convicted until he complied with the Act.

At the court of first instance, the justices sided with Stafford, on the basis that in the absence of express legislation to the contrary, a second conviction would offend the common law plea of *autrefois convict*. On appeal, the Court of Queen's Bench (CQB) agreed with the outcome, noting that while continuous omission was within the mischief that the legislature intended to remedy by the 1853 Vaccination Act, it did not expressly touch on the subject and as such, "nothing [would] meet [the issue] but fresh legislation."[22]

The challenge issued by the *Pilcher* court was taken up by Parliament in an amendment contained in s. 31 of the 1867 Vaccination Act. The section created a summary offence punishable by a maximum fine of twenty shillings for noncompliance with an enforcement order issued by a Justice of the Peace. In 1870, the Court of Queen's Bench ruled in *Allen v. Worthy*[23] that the section could be applied to secure repeat convictions for failure to vaccinate a child as required by law, provided that the offender refused each time to comply with a fresh enforcement order. This interpretation effectively nullified the *autrefois convict* plea in the context of the vaccination statutes (the court distinguished *Allen* from *Pilcher* on the grounds that the issue in *Allen* related to disobedience of a judicial order rather than failure to vaccinate as required by law). Nonetheless, *Pilcher* and *Allen* are important signifiers of public attitude towards compulsory measures, as noncompliant parents, in keeping with popular resentment of compulsion following the enactment of the 1853 Act, were inclined to challenge rather than obey the vaccination statutes.[24] Interestingly, Parliament did not take the hint, and rather than address the reasons for disobedience to the law, took steps in the 1867 amendment to fill the enforcement lacuna identified in *Pilcher*.

The legislative debate on the 1853 Act further highlights Parliament's selective logic in its pursuit and rationalization of legal measures to combat the scourge of smallpox. Throughout the debates, there was hardly any mention of or debate on how the legislation would impact the poor, its primary target population. When the matter was raised, the discussion merely focused on ensuring effective implementation rather than on securing the interests of the poor. For example, Lyttelton questioned whether the poor would associate gratuitous vaccination with poor relief – an issue settled by the 1841 amendment to the 1840 Vaccination Act – and would have preferred to vest authority for implementing the Act on an institution separate from the poor law system. Another MP questioned whether the fine imposed by the Act could be successfully enforced against the poor, but he received no response from his peers and did not press the matter further.[25]

Proponents of the bill, perhaps cognizant of the strong opposition to interference with individual liberties in earlier legislative debates regarding vaccination policy, argued that such interference was justified in the interest of protecting one person from transmitting the infection to another. Lyttelton argued that similar remedies already existed in law, including common law rules that made "it illegal and punishable either to

inoculate children, or to expose them so as to be infectious."[26] Other MPs invoked utilitarian justifications for the compulsory measures. The Earl of Shaftesbury argued forcefully that the "safety and comfort of the population"[27] demanded the speedy establishment of a compulsory system of vaccination, and that interference with individual liberty "was requisite to protect the public, and prevent an infected locality becoming a nidus of disease which might extend through the whole community."[28] Similarly, Sir John Pakington, who moved the bill in the House of Commons, declared that the measure "was imperatively required for the public welfare."[29]

These arguments were most likely inspired by a forceful articulation of utilitarian reasoning in the Epidemiological Society's report on vaccination. According to the report:

> Every case of it [smallpox] is a centre of contagion, and every unvaccinated or imperfectly vaccinated population is a nidus for the disease to settle in and propagate itself. To the latter two propositions, which do not admit of being controverted, we call your special attention, for it is on them we conceive must be based any enactment for rendering vaccination compulsory. If it admit of doubt, how far it is justifiable in this free country to compel a person to take care of his own life and that of his offspring, it can scarcely be disputed that no one has a right to put in jeopardy the lives of his fellow-subjects. The principle of so using one's own, so as not to injure another's, is one which has always been acted upon in our legislation as regards property and personal nuisances, and we submit that it is but an extension of this principle to apply it to the questions of life and health.30

These views were neither challenged nor contradicted during the debates. Two members of the House of Commons, Mr. John Brady and Sir George Strickland, then MP for Preston County, raised the only objections to the compulsory measures. Brady warned that compulsory measures would not "meet the sympathies of the people."[31] Instead, the proper measure was one "which the people would assist in carrying out."[32] In expressing his opposition to the bill, Strickland criticized the unequal application of the law to the rich and poor ("There could not be one law for the rich, and another for the poor. The mother must be compelled to vaccinate; but in a rich man's house that was impossible"[33]), and urged the house to abide by the "old English" voluntary principle by leaving the people to follow their "own good sense" in deciding whether or not to get vaccinated. In his opinion, a voluntary system of vaccination combined with the "advance of education" would suffice to eradicate smallpox.

What arguments were offered in support of compulsion? In presenting the bill to his peers, Lyttelton relied primarily on statistical evidence regarding smallpox mortality rates in England and other countries, which he obtained from the Epidemiological Society. Admitting that he had no "scientific knowledge of the subject,"[34] he urged his peers to accept the mortality statistics as the best means of assessing the value of vaccination. Following the Epidemiological Society's report, Lyttelton compared smallpox mortality rates in places where vaccination was compulsory (Ahmadabad, Hanover, Bavaria, Sweden) and where it was not (England, France) in a bid to prove that mortality was significantly lower in jurisdictions with compulsory vaccination regimes. He then concluded that the evidence was sufficient reason to introduce compulsory vaccination laws in England. His analysis had one obvious flaw; he failed to consider whether any factors other than vaccination could have contributed to a decline in mortality rates.

Lyttelton also attacked the existing system of voluntary vaccination, noting that it did not allow for uniform practice throughout the country. He expressed doubts about statistics showing that the voluntary system had produced "progressive improvements" in vaccination rates. According to him, the voluntary system also encouraged some undesirable trends, such as an increase in vaccination rates during smallpox breakouts, and vaccination of infants beyond "the age when the operation ought to be performed."[35] This contention was supported by the Epidemiological Society's report, which claimed that medical consensus placed the appropriate vaccination age at four months of birth, and that smallpox mortality increased drastically beyond four months of birth. Lyttelton interpreted this to mean that age was directly correlated with increased odds of smallpox mortality, and argued that even when an infant survived a smallpox attack, the disease left "the constitution very much impaired."[36] Consequently, compulsory measures were needed to ensure optimal protection from the scourge of smallpox for the most vulnerable members of society.

MPs in both houses of Parliament agreed, and echoed these arguments in their comments. The bill moved quickly through both houses, and was passed into law on 20th August 1853, approximately six months following its introduction to Parliament.

4. CONCLUSION

The history of vaccination policy and practice in England in the first half of the 19th century reveals that law played a central role in the development of the notions of public health and state medicine. Faced with the terrifying smallpox epidemic, the state turned to law to fashion responses that were both authoritative and scientifically informed. However, the application of law to the problem of infectious disease was neither calculated nor coherent. Legal intervention was made possible through the efforts of a few individuals and/or groups with parochial agendas rather than through concerted state action, and the form of intervention ranged from adoptive to coercive policies. More strikingly, legal intervention was initiated and implemented without deep consideration of its social significance or consequences, or of other policy options for combating smallpox, such as education. This regulatory approach set the stage for social opposition to vaccination measures and state medicine, and operationalized the inordinate and often controversial focus on law as a tool of public health governance that is still evident to this day.

Furthermore, support for the application of law to the smallpox dilemma was largely based on statistical evidence of the effectiveness of vaccination. There was hardly any reliance on scientific facts about vaccine safety and efficacy in the legislative debates. Pro-vaccination MPs simply substituted generalized statistical comparisons of pre- and post-vaccination mortality rates for core scientific evidence about vaccine safety and efficacy. This approach is hardly surprising given the context of the times; vaccination as popularized by Jenner was an empirical remedy, and proof of its efficacy was established by successful case studies rather than through rigorous scientific examination of the modality of vaccination.

Finally, law did not play an "outsider" role in relation to the social controversies provoked by the ban on inoculation or by the adoption of vaccination. As cases such as *Pilcher* and *Allen* make clear, many of the disputes associated with vaccination in 19th century England were provoked by legal intervention. Rather, the machinery of law provided a distinct social setting within which various competing interests found expression and in some cases, recognition. Indeed, the anti-vaccination movement was as much a response to the authority of law as it was to the "scientific" and social implications of vaccination.

Endnotes

1. The reference to "historical knowledge" includes internal or intellectual history and external or social history. For the distinction between both, see Lakatos 1970; Kuhn 1970.

2. I am grateful to Linda Hogle and Kate Rossiter for help with refining this thesis.

3. This contention draws inspiration from the work of normative legal positivists who variously challenge the view that the operation of law requires a particular, definitive and comprehensive notion of justice and right. See generally Waldron1999; Sandel 1998; Perry 1988. The supposition that law provides a conclusory framework for explaining or resolving social questions raised by biomedical/scientific innovation is evident in current approaches to science regulation (Caulfield, Knowles and Meslin 2004). According to Schwartz (1987), "it is generally presumed that whatever merits or demerits the judicial process may otherwise possess, that process is superior to scientific debate as a process of obtaining closure in that it provides a precise, definite, and final conclusion to any controversy" (355). Critiques of this view exist (Schwartz 1987; Schneider 2000; Caulfield, Knowles and Meslin 2004 ["No law or policy will or should aim to bring closure" (416)]). One of the goals of the broader study is to explore and expose the historical and theoretical foundations of the latter critique.

4. Jenner was not the first person to inoculate cowpox as a preventive against smallpox (see MacNalty [1968, 5-6] for an account of earlier successful cowpox inoculations). He was however the first to "scientifically" demonstrate and study the procedure.

5. The term "vaccine" was coined by Louis Pasteur as a tribute to Jenner for his discovery of *variolae vaccinae*, the Latin phrase for cowpox.

6. *An Act Further to Extend and Make Compulsory the Practice of Vaccination, 1853* (U.K.) 16 & 17. Vict., c. 100.

7. The first vaccination statute was passed on 23rd July 1840. The Act empowered the Poor Law authorities to oversee the provision of free optional vaccination, and included a ban on inoculation.

8. The Massachusetts statute empowered municipal boards of health to require, enforce and provide (free) vaccination where necessary for public health and safety, and to levy five dollars for noncompliance as a result of refusal or neglect. In 1827, the Boston became the first city to require mandatory vaccination of public school children. Following an outbreak of smallpox in 1901, the Cambridge Board of Health adopted a regulation that gave effect to the statute. The regulation was challenged in *Jacobson v. Massachusetts*, (1905) 197 U.S. 11, where the US Supreme Court ruled that the regulation was a reasonable and valid exercise of the state's power to enact necessary laws for the protection of public health and public safety.

9. U.K., H.L., "Bill Further to Extend and Make Compulsory the Practice of Vaccination," Cmnd 64 in *Sessional Papers* (1852-53) 703; U.K., H.C., "A Bill Intituled an Act Further to Extend and Make Compulsory the Practice of Vaccination", Cmnd 447 in *Sessional Papers* (1852-53) 471.

10. Between 1833 and 1854, Royal Commissions were established to investigate or manage such diverse topics as the causes of destitution, local government, employment of minors, the British Museum, and a science and industry exhibition.

11. U.K., H.L., *Parliamentary Debates*, vol. 125, col. 1004 (12 April 1853).

12. U.K., H.C., "Small Pox and Vaccination. Copy of Letter from Dr. Edward Seaton to Viscount Palmerston, with Enclosed Copy of a Report on the State of Small Pox and Vaccination in England and Wales and Other Countries, and on Compulsory Vaccination," Cmnd 434 in *Sessional Papers* (1852-53) 75.

13. Ibid. at 78.

14. Ibid. at 95.

15. *An Act for Regulating the Schools of Anatomy, 1832* (U.K.), 2 & 3 Will. IV, c. 75.

16. U.K., H.C., "A Bill (As Amended in Committee) Intituled an Act Further to Extend and Make Compulsory the Practice of Vaccination", Cmnd 811 in *Sessional Papers* (1852-53) 481, clause VI.

17. U.K., H.L., *Parliamentary Debates*, vol. 125, col. 1010-14 (12 April 1853) (The Earl of Shaftesbury & The Earl of Ellenborough).

18. Ibid. col. 1014 (The Earl of Ellenborough).

19. U.K., H.C., *Parliamentary Debates*, vol. 129, col. 475 (20 July 1853) (Mr. Charles Frewen).

20. (1864) 4 B. & S. 775; 122 ER 651 [cited to ER].

21. Ibid. at 652.

22. Ibid. at 653.

23. [1870], 5 L.R. 163.

24. See also *The King (Vint) v. Justices of Donegal*, [1904] 2 Ir. R. 1; *R v. Justices of Portsmouth*, [1892] 1 Q.B. 491; *Knight v. Halliwell*, [1874] 9 L.R. 412.

25. U.K., H.C., *Parliamentary Debates*, vol. 129, col. 475 (20 July 1853) (Mr. Charles Frewen).

26. U.K., H.L., *Parliamentary Debates*, vol. 125, col. 1009 (12 April 1853).

27. Ibid. col. 1013.

28. Ibid.

29. U.K., H.C., *Parliamentary Debates*, vol. 129, col. 472 (20 July 1853).

30. U.K., H.C., "Small Pox and Vaccination. Copy of Letter from Dr. Edward Seaton to Viscount Palmerston, with Enclosed Copy of a Report on the State of Small Pox and Vaccination in England and Wales and Other Countries, and on Compulsory Vaccination," Cmnd 434 in *Sessional Papers* (1852-53) 4.

31. U.K., H.C., *Parliamentary Debates*, vol. 129, col. 473 (20 July 1853).

32. Ibid.

33. Ibid. col. 474-5.

34. U.K., H.L., *Parliamentary Debates*, vol. 125, col. 1002 (12 April 1853).

35. Ibid. col. 1006.

36. Ibid. col. 1007.

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