

A New intervention for an Old Scourge in China and India:
The Introduction of Smallpox Vaccination
in Nineteenth century Canton and Madras

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Historically, one of the greatest threats to mankind has come from the tiniest of creatures – disease-causing microorganisms. Epidemics of infectious diseases have not only caused human morbidity and mortality on a horrific scale but have also profoundly shaped politics, commerce and culture, changing, at various points in time, the history of the world itself¹. Pathogens, both as triggers of long-standing diseases including TB, and new infectious diseases, such as Ebola, H1N1, SARS and also increasingly as potential weapons of bioterrorism continue to pose a grave global risk even today. Since the start of the nineteenth century, the administration of vaccines as prophylactics has been seen as the most effective way to counter the threat of infection. Today, there is a race to find a vaccine for Ebola, and AIDS among other looming menaces. Each year millions of dollars are invested in the discovery of vaccines. And yet in this inevitable excitement about the possibility of new biomedical breakthroughs, it is easy to lose sight of the challenge, which is that the challenge is less technical and more mobilizational. The main public health predicament today, in terms of countering the threat posed by diseases, either ‘naturally’ occurring or deployed as weapons of terror, is not so much the existence of a technological solution as the effective delivery and adoption of a biomedical intervention. This is brought out most clearly by the continuing threat posed by diseases for which we have long had effective vaccines. In 2014, the outbreaks in Asia, Africa and the Middle East, of polio, a disease for which an effective vaccine has existed for the past sixty years led to what the WHO termed a “health emergency”. Measles, a disease for which a safe and highly cost-effective vaccine has been in existence since the late 1960s, remains one of the leading causes of death among young children with about 400 deaths every day or 16 deaths every hour. As of 2015, the US is in fact experiencing a large multi-state outbreak of measles.

The question that then arises is - How do you ensure the effective provision of a public health intervention? One might in turn think about the effective provision of a public health intervention in terms of three basic stages – there needs to be a decision to initiate the public health intervention; it needs to be delivered, and finally, it needs to be adopted. I argue that to a large extent, it is this final, arguably least emphasized stage – how do you convince people to receive an intervention into what is after all, the most intimate of all domains, their own body or the body of their (often very young) child? – that defines the contemporary frontiers of public health and has also been at the heart of historic attempts to control disease. I seek to shed light on this question through a juxtaposition of the attempts to control smallpox in nineteenth century China and India.

Smallpox has recently attracted global attention because of fears of its use as a bioterrorism agent but the specter of smallpox has existed almost since the beginning of mankind itself. Smallpox is one of the oldest and most violent infectious diseases to afflict mankind. Along with other great diseases such as the plague, malaria, cholera and syphilis, smallpox is

¹ The plague in 160 CE, for example, contributed to the collapse of the Han empire and six years later the Roman empire. Infectious diseases have also determined the fate of some of the world’s most famous military expeditions – Alexander likely died of Malaria at the very climax of his epic march from Macedon, through Egypt, Persia and into western India, while a key event in the fall of Napoleon’s empire, the defeat in Russia is traced to an outbreak of typhus, which destroyed the great general’s invading army in 1812.

referred to as a “slate-wiper”, as an evocation of the way that it traveled back and forth over populations, wiping out great swaths of humanity like so many words wiped off a chalkboard with an eraser. In fact medical historians attribute to smallpox the infamous distinction of being the disease that has claimed the most number of lives in human history (Finer 2004). Smallpox is also a landmark disease from the point of view of public health. It is the only infectious disease in the world to be eradicated. This was achieved through the global dissemination of the cowpox vaccine, which gave rise to the term ‘vaccination’ itself.

China and India are the so-called ‘cradles of smallpox’. While there is some debate as to the precise timing, most histories of the disease point to China and India as some of the earliest originators, characterized through history by endemicity and regular, and often severe epidemics of variola major that took large tolls of death and disability. Both countries were characterized by well-established traditions of worship of ‘smallpox goddesses’. They had also, each in turn, most likely independently, developed fairly effective indigenous prophylactic practices of variolation. At the start of the nineteenth century, the newly discovered Jennerian cowpox vaccine made its way, in both cases via a Western imperial channel, to the shores of the two countries, which continued at this time to confront a grave and ever-present threat of smallpox.

In this paper I focus on the Southern coastal provinces of Canton and Madras Presidency, which both saw relative to other provinces in China and India respectively, the early and successful introduction of Jennerian vaccination. Canton, however, was far more successful than Madras. Based on a comparative historical analysis of these two provinces from the beginning and through to the middle of the nineteenth century, I show that the key difference lay less in how Jennerian vaccination was initiated or delivered and more in the way and the extent to which it was adopted by the people of Canton and Madras. The new European technology met with a far more enthusiastic popular reception in Canton – people not only appeared willing to accept vaccination but also pay (often not insubstantial sums of money) for it. In Madras, on the other hand, the response was far more lukewarm – while cases of active resistance were few, almost all accounts note the recalcitrant attitude of the people towards vaccination even when it was provided free of cost. Why was this the case?

I show here that the success of Jennerian vaccination in Canton, as compared to Madras, is best understood in the way in which it was embedded within, rather than seen as a rupture with, or repudiation of the existing cultural belief systems and ritual practices of worship and therapeutics around smallpox. Vaccination in Canton was very much a foreign technology but presented and received as a modification within the established understandings of traditional Chinese medicine in which the prevalent practice of variolation was also firmly ensconced; for many, variolation and vaccination were in fact essentially the same. In Madras, on the other hand, vaccination was seen as a break with, even rejection of the established modes of knowledge and traditional rituals of which, like in Canton, variolation was very much a part. Unlike in Canton, however, vaccination was presented as distinct from, incompatible with, and even in opposition to variolation and the broader regimens of worship and therapeutics around smallpox. In contrast to explanations that would explain the relative aversion to vaccination in India, including Madras, in terms of the painfulness

and ineffectiveness of the technology (Harrison 1998; Bhattacharya 1998), or following the influential subaltern studies school, as resistance to a foreign technology introduced by a colonial power into native bodies (Arnold 1993), I seek to demonstrate instead how the primary source of antipathy lay in this perception of vaccination as a rupture with, and repudiation of the deep-rooted traditional treatment regimen.

This chapter is structured as follows. I begin by specifying the rationale for focusing, within the available panoply of diseases and associated public health interventions, on smallpox, and on Jennerian vaccination. I discuss why in light, in particular of their broadly shared histories of the emergence, incidence, and severity of, as also responses to the disease, it is analytically gainful to focus on China and India. I then move to an analysis of the introduction of smallpox vaccination in China and India, delineating in turn, from the early to mid/late nineteenth century, the three broad stages of the initiation, delivery and adoption of the Jennerian vaccination in the regions of Canton and Madras respectively. I conclude with the broader theoretical and empirical implications of this work.

I. Why Smallpox?

Fewer diseases have tormented humankind for longer than smallpox. Its origins are usually dated to when humans became organized into large settled communities and domesticated animals, though the first credible evidence of the disease is to be found from 3000 years ago, in Egyptian mummies, including the mummified head of Ramses V. Smallpox is not only one of the oldest but also the deadliest scourge to afflict humankind. It claimed one in three lives, and often left survivors disabled, either partially or completely blind, and almost certainly disfigured, their faces rendered a pitted, pockmarked landscape. One of the reasons for smallpox's high mortality was that it was also a highly virulent, contagious disease. As the patients themselves were tormented by high fever, headache, backache, nausea; in agony because of the pus-filled boils that covered their bodies and mouths and throats; they were also spreading the disease – through saliva, mucus, urine, pus, and if they died, through their corpses – to on average 3-6 other people.

In addition to being a primary cause of human suffering over the ages, smallpox has also been a politically important disease, changing, at different points in time, the course of human history. Thucydides' account of the Peloponnesian war shows that the defeat of Athens was as much a product of the ravages of smallpox - both in terms of the mortality and also the accompanying breakdown of law and order and respect for social norms, the so-called "collapse of Athenian morality" (Fine 1983: 464) - as to do with the military might of the Spartans (Hays 2005). A key factor contributing to the retreat of Alexander the Great is believed to be the outbreak of smallpox among his forces during his campaign in India in the fourth century BC. The death of the Roman emperor Marcus Aurelius due to smallpox in 180 A.D. has been pointed to as an important factor in hastening the decline of the Roman empire.

Perhaps the single most dramatic and tragic impact of smallpox was on the fortunes of the New World whose populations, because of their geographic isolation, were highly vulnerable

to the disease. The arrival of variola with the Europeans in the late fifteenth and early sixteenth centuries was a decisive factor in the political, economic and demographic fate of the then thriving pre-Columbian America. The Spanish colonists' importation of slaves from smallpox endemic West Africa triggered an epidemic in the beginning of the 16th century in Hispaniola (present-day Dominican Republic and Haiti), which killed up to half the native population. Legend goes that when the Spanish conquistador Hernan Cortez's vastly-outnumbered army was forced to quit its mission to conquer Mexico in 1519, the invaders unwittingly left behind a nasty surprise for the Aztecs; the corpse of a soldier in the Spanish force, by some accounts a West African, who happened to be infected with smallpox. In an entire population with no immunity, the disease spread like wildfire such that when the Spanish troops returned to Tenochtitlan in two years, the streets of the flourishing Aztec capital were strewn with piles of unburied dead. Cortez's biographer, Bernal Diaz wrote "the stench was so bad that no one could endure it...and even Cortez was ill from the odors which assailed his nostrils" (Tucker 2002: 10).

For the next two centuries, the disease decimated native populations across the New World. It was carried over land through inter-tribal contact to Guatemala, and then further southward wreaking havoc in the Inca empire, such that Cuzco had all but already collapsed by the time Francisco Pizarro arrived in 1532. Or it was delivered by sea as in the case of Brazil, where smallpox arrived via Portuguese colonizers in 1563 and wiped out entire indigenous tribes. Importations of smallpox into North America were delayed until the 17th Century and then devastated the people, especially the indigenous people, who did not have the acquired immunity of American settlers and British forces, over a much longer period, greatly facilitating the European colonization of the continent. The use of the smallpox virus as a weapon was, however, not always unintended. In what is surely the earliest documented instance of bioterrorism, British colonial forces attempted to spread smallpox among Native Americans through blankets and handkerchiefs used by smallpox patients (Eyler 2003). Eventually, as many as 80 to 90 percent of all native inhabitants of the Americas would die from the disease, leading to one of the greatest demographic declines in history (Chakrabarti 2013). In so far as smallpox was a "democratic scourge" (Tucker 2002: 12) afflicting royals as much as commoners it continued to disrupt dynasties, including those across Europe, where by the 17th century it had replaced bubonic plague as the most feared pestilence (Eyler 2003). At the turn of the 18th century England was, for example, thrown into a constitutional crisis as both Queen Mary and her son and only heir fell victim to smallpox.

The importance of smallpox as one of history's greatest killers is rivaled by its significance as the subject of the "world's most triumphant achievements in medicine and public health" (Fenner et al 1988). Smallpox is, to date, the only disease to be eradicated from the globe. This was the product of a momentous worldwide effort that involved almost every national government in the world as well as the WHO. At the heart of this effort was the smallpox vaccine, whose discovery was in itself a biomedical landmark as the first vaccine to be invented for an infectious disease. A product of contributions in the field of inoculation over many centuries across the world, notably India and China, as well as of people such as Reverend Cotton Mather, and Benjamin Jesty who first transmitted cowpox matter as a prophylactic to his family, but attributed most prominently to Edward Jenner in 1798, the

smallpox vaccine was the quintessential vaccine that gave rise to the very term itself and became the prototype for immunization against other infectious diseases for which vaccines were gradually developed.²

Since the terrorist attacks of September 11, 2001, and the anthrax exposures in the following weeks, however, smallpox has reemerged as a threat, in the form of a possible bioterrorist agent. Ironically, it is the very success of the control of smallpox – its vaccinations ended in the US in 1972 - that makes it so potentially dangerous as a bioterrorism agent in a global population as now has almost no immunity against it. These fears were intense enough to prompt the public health departments and the U.S. military to vaccinate soldiers and civilian first-responders in 2002, and the then-President George Bush also received the vaccination.³

There has been striking growth in smallpox research in recent years with modern molecular techniques and new animal models, as well as with smallpox laboratory diagnostics, vaccines, and antiviral medications. The WHO and several nations are developing stockpiles of smallpox vaccine for use in the event that the disease is reintroduced. In so far as the vast majority of physicians have had no experience in clinically diagnosing smallpox, national and international public-health agencies have also drawn up algorithms to facilitate the recognition of the clinical features of smallpox and to distinguish it from other illnesses characterized by rashes (Moore et al 2006).

The definitive account of the eradication of smallpox published by the WHO stated “For posterity, Smallpox and its Eradication will serve, above all, as an inspiring reminder of the knowledge and efforts that transformed smallpox from a universally dreaded disease to one the world could safely forget” (Fenner et al 1988). Yet, it is clear that smallpox has been anything but forgotten, looming large, as it has since pretty much the beginning of civilization, in the public imagination.⁴

Moreover, in addition to its clear empirical importance, its status as an epidemiologically ‘classic’ infectious disease and the site for the to-date most successful public health campaign means that a study of the control of smallpox provides a very useful analytical window for the examination of, and promises to generate theoretical insights for the study of responses to the challenges posed by infectious diseases more generally.

II. Why study smallpox in China and India?

² The word vaccine is derived from *Variolae Vaccinae* (i.e. smallpox of the cow), the term devised by Jenner to denote cowpox and used in the long title of his *An enquiry into the causes and effects of Variolae Vaccinae*, known by the name of cow pox.

³ Bush announced, “As commander-in-chief, I do not believe I can ask others to accept this risk unless I am willing to do the same. Therefore, I will receive the vaccine along with our military.” He also went on to say that, “Given the current level of threat and the inherent risks of the vaccine, we have decided not to initiate a broader vaccine program for all Americans at this time. Neither my family nor my staff will be receiving the vaccine, because we do not believe the vaccine is necessary for the general public.” This did not, however, stop a public outcry over the possibility of the public requirement of smallpox vaccination (Roos, 2002).

⁴ How smallpox is savage but is a disease of civilization referring to settled agriculture

It is especially useful to study of the control of smallpox through a focus on China and India in terms of their broadly shared histories of the emergence, incidence, and severity of, as also responses to the disease.

History of smallpox in China and India

The emergence of smallpox has been traced to the geographic region that now corresponds to these two countries (Tucker 2001) and because through much of history, both because of their demographic size and the virulence of the variola strain prevalent there, the two Asian behemoths together have constituted a majority of smallpox victims across the world.⁵

The origins of smallpox are traced in China to the arrival of the Huns in about 250 B.C. (Hirsch 1983; Macgowan 1884; Hopkins 2002) and in India to the invasion by Alexander's army in 327 B.C. The disease is believed to have been endemic in the densely populated river valleys of China and India from 1st - 2nd century A.D. and 1st millennium B.C respectively. The first authoritative account of smallpox in China is believed to be by Ko Hung in the 4th century AD and in India by Vagabhata in the 7th century AD. In addition to having long historical roots, the type of smallpox that was endemic in China and India was associated with the much more virulent strain of variola, variola major, which led to major epidemics with high mortality meaning that through history smallpox was one of the leading, and at times *the* deadliest killer, of these countries' populations. In contrast, in many parts of Europe, especially in the twentieth century, smallpox was a result of variola minor, which led to much milder cases that were rarely fatal.

Moreover, the juxtaposition of the experience of China and India is facilitated by the fact that beyond their similarity with regard to the timing of the origin and nature of the historical threat posed by smallpox, these countries also share broadly analogous treatment regimens for the disease. In particular, China and India were both characterized by well-established and widespread ritual traditions of worship and therapeutics associated with smallpox goddesses, as well as indigenous prophylactic practices of variolation.

Ritual traditions of Smallpox Goddesses

A very common feature of responses to smallpox across different cultures was its association with specific divine figures. These 'disease deities' included St. Nicaise during the Middle Ages in Europe; Tametomo in Japan, Sopona or Omulu among the Yorubas and

⁵ China and India have variously been described as the 'cradles of smallpox' and while the antiquity of the disease in these two countries is not debated, it is important to keep in mind the Western notions of Asian lack of modernity and backwardness that went into such descriptions. China was, for example, also known as "the original home of the plague" and cholera known as "the pestilence of the East" (cited in Heinrich 2008). Heinrich points out that the legacy of this same discourse can be found in narratives about the origins of SARS in China as also Dengue fever in India.

neighbouring tribal groups in South-western Africa ; and the goddesses Shitala mata and T'ou Shen Niang-Niang in India and China respectively.

References to Shitala are said to have emerged over three thousand years ago but she became prominent around the same time as her counterpart, T'ou Shen Nian-Niang emerged in China in the eleventh century. By the eighteenth century it was clear that in both countries, the smallpox goddesses were among the most venerated and popular deities, worshipped across class and ethnic lines. The ritual festival for Shitala was a rare village-wide event in which the untouchable castes were included, and there is also evidence for the worship of Shitala by Muslims. Similarly, Doolittle argues that in China religious affiliations were ignored as Buddhist, Taoist and Confucian adherents all paid tribute to “the Dame who controls smallpox” (cited in Hopkins 2002: 136).

Shitala is usually represented by a woman riding an ass, with a broom in one hand (to sweep the disease along or to sweep away nonbelievers) and, associated with the literal translation of her name as ‘the cooling one’, a water pot in her other arm (to hold the germs or to soothe feverish victims). The Chinese goddess is variously represented; in fact according to Hopkins, depictions of her riding astride a horse, in the National Museum of History at Taipei in Taiwan are “strikingly reminiscent” of Shitala (Hopkins 2002: 137). In both China and India, smallpox goddesses had the power to protect from, and cure as well as to inflict smallpox and claim victims, and thus, had a benevolent and also a terrible aspect, though for the most part, they were more feared than they were loved. In both China and India, cases of smallpox, whether naturally contracted or as a result of inoculation, especially in children, were accompanied by very similar propitiations of the goddess that involved visits to the local shrine of the goddess by the afflicted themselves or family members; rituals and alimentary offerings, as also the use of the color red.⁶

It is also interesting to note the parallels drawn, because of their visual similarity to the visible manifestations of the disease -the pustules- between smallpox and the bean or lentil⁷, as also the idea that these were “gifts” from the goddesses - “pearls” or “flowers in China, and the “kiss” of the goddess in India, in addition to the presence of a number of other

⁶ Shitala was associated with the color red - she was, for example, almost always depicted as wearing a red sari. In China the cotton swabs used by physicians were soaked in red pigamon; a red cloth was tied to the body of smallpox victims and their rooms were decorated with a host of red artifacts. This was a practice common across Indo-China. Interestingly, faith in the ‘red treatment’ was prevalent in the Western world as well. It is apparently first encountered in the twelfth-century writings of Averroes, and most strongly reflected in the practice of erythrotherapy (red light treatment) for smallpox patients associated with Nobel-prize winning physician Finsen and experimented with across Europe, Russia and the US until as late as the first quarter of the twentieth century (Hopkins 2002: 300).

⁷ In some dialects in China, the name for the bean is identical in sound with the common name for the smallpox, and beans are used in the rituals of worship of the smallpox goddess. In the Indian state of Orissa, the tribal smallpox goddess goes by Rugaboi, which is derived from ‘rogon’, the local term for red gram.

common symbols, prominently the winnowing fan⁸. It is not uncommon even today to find shrines to Shitala across rural India; representations of T'ou Shen Niang-Niang are much harder to find in China, in large part a result of the tradition of the reverential burning of her effigy after a patient's recovery from a bout of smallpox (Hopkins 2002: 138).

Indigenous practices of Variolation

The ritual treatment regimes described above, co-existed in both China and India with indigenous prophylactic treatments against smallpox in the form of variolation. This technique, which emerged from the knowledge that a case of smallpox granted lifelong immunity, involved the intentional infection of a previously uninfected person with material from the pustules or scabs of smallpox patients under conditions conceived to produce a mild but protective infection.⁹ Variolation was, until the discovery of the cowpox vaccine at the end of the eighteenth century, the most effective known protection against the disease and widely practiced across many parts of the world.

As a result, presumably to at least some extent, of the length and intensity of their experience with smallpox, China and India are believed to be some of the oldest sites for the practice of variolation. Some accounts trace the practice of variolation to China in the 11th century - but it is more likely that it emerged in the first half of the sixteenth century, which is also the time of the first documented evidence of the practice in India from the Europeans who began to settle there. The practice was introduced to Europe from Constantinople by Lady Mary Montagu in 1721¹⁰ and was widely practiced across Europe, notably Britain, Switzerland, the Netherlands and North America by the middle of the eighteenth century. In 1777 George Washington ordered the compulsory variolation of all new recruits to his armies, and the immunity of the American forces to smallpox is believed to be a “factor of considerable importance in the eventual outcomes of the War of Independence” (Thurfield 1940; cited in Fenner et al 1988: 240). In China, inoculation occurred through the nasal route - the insufflation of dried pulverised scabs or the insertion of scabs soaked in water; while in India it was done through incisions of dried matter into the arm.¹¹

In both China and India, variolation was an activity that was primarily carried out in the societal realm, with relatively little involvement of the national, in both cases, essentially

⁸ A winnowing fan is one of the accessories carried by Shitala (to sift smallpox germs); and also used in the propitiation of T'ou Shen Niang-Niang. According to Doolittle's account (cited in Hopkins 2002) - on the fourteenth day, when most surviving patients would have been out of danger, the child sat on a large winnowing fan before the figure of the goddess.

⁹ These conditions included importantly the use of dried scabs (fresh matter was seen to be capable of producing a more serious infection) taken deliberately from an individual who had survived a milder case of the disease.

¹⁰ Short details of this.

¹¹ The Golden Mirror of the Medical Tradition (1742), discussed shortly, notes four distinct methods of variolation - water variolation; dry variolation; variolation through clothing and wet variolation (Leung 2011). Some of the most notable accounts of variolation in India include those by Holwell (1767) and Ainslie (1829).

foreign governments - the Manchu Qing dynasty in China and from the mid-eighteenth century, the British colonial government in India. In China, variolation is described as a “popular innovation” (Hinrichs and Barnes 2013: 159) that was carried out by healers, both women and men, who maintained traditions orally, as compared with the more classically trained scholar-physicians. Variolators in India came from a diverse caste background. Holwell (1767) understood the variolators in Bengal to be a “particular tribe of Brahmins”; but Deb (cited in Arnold 1993: 129) reports that they included men from several castes including artisanal, trading, and agricultural castes. In both China and India, for most variolators, inoculation was not an exclusive occupation. The traditional healers in China practiced acupuncture, moxibustion and massage; and many women were also midwives; others were part-time farmers who became variolators in the spring and autumn (Andrews 2014: 42). According to David Arnold, variolation in India provided employment during the post harvest months when agricultural work was light. Variolators in both countries tended to be itinerant. Chang (2000) notes how in China, variolators, often working in teams of several practitioners, traveled to towns and villages and stayed there for about a month inoculating and then visiting their young patients daily until they had recovered, which usually took between twelve to thirty days. In a strikingly similar account, Arnold (1993: 131) reports that in Eastern India, “dozens of tikadars worked in each district...during the inoculating season, moving from house to house, village to village, inoculating several members of a household at a time and returning to drain pustules and see each patient through the various stages of fever and recovery”. In both China and India, variolation was a financially remunerable activity with villagers appearing very willing to pay for the inoculator’s services. Andrews’ (2014: 42) accounts of variolation in the mountains of rural China in fact notes how variolators competed with each other by advertising their survival rates. Both in India and China, variolation often became a hereditary profession, with some families of variolators enjoying a reputation of special skill and associatedly, respect.

It is interesting to note here that smallpox was a source of “enormous anxiety” for the Qing rulers; the Manchus lived in “constant fear” of smallpox. Unlike the Mexicans, for whom smallpox was an entirely new disease, Chang (1996) points out that the Manchus knew of the dangers posed by smallpox, and of their own susceptibility, because of their distant, sparsely populated geographic location and consequent lack of immunity to it. Protection from smallpox was therefore a key concern for the Qing and led them to zealously adopt a range of policies - the establishment of a smallpox investigation agency; the establishment of bidousuo (smallpox avoidance shelters) for non-immune members of the royal family to escape to in case of any smallpox alert; and the forcing of smallpox families to move 40 li (about 22 kms) outside the capital city, which caused great hardship and “life-altering decisions” including abandoning children on the side of the road or even the killing of children by those loathe to leave their house (Hanson 2012). With Emperor Kangxi smallpox policy in the Qing court shifted from isolation to prevention with his decision, in the late seventeenth century, to variolate the imperial family and other members of the royal retinue. Variolation was also later extended to Manchu bannermen serving in border areas but not more broadly. There was never, as Leung points out, a national policy to apply variolation against smallpox. The extent of state support for variolation was the sponsorship of the publication of an imperial medical anthology in 1739, *The Golden Mirror of Medical*

Orthodoxy', which included a section on smallpox diagnosis and inoculation, which likely served to "legitimize" the therapy and encourage Chinese physicians to learn and practice it.

Similarly, the British colonial government in India did not have any sort of systematic policy of variolation. When undertaken, it was mostly confined to urban areas and to the soldiers, servants, and native dependents of the East Indian Company.¹²

The extent of the practice of variolation varied, unsurprisingly, across the vast landmasses of China and India, with some regions in both countries – such as the Jiangnan area and Eastern India (Bengal, Assam, Bihar and Orissa) – being characterized by much higher rates of variolation as compared to other regions.

It is important to note, following the work of scholars such as Arnold, Greenough among others in India, and Razzell (1977) in Europe, that variolation, far from being a "hopelessly primitive prophylaxis" (Greenough 1980), was in fact quite effective.¹³ However, there are two important disadvantages associated with variolation. Firstly, although the intention of variolation was to induce a mild case of smallpox and indeed it appears that the average variolated case was milder than the average case of smallpox contracted naturally, this was not a certainty and there were occasional cases of death and disfigurement.¹⁴ Further, and more dangerously, variolated cases were contagious, and could lead to the spread of the disease.¹⁵ It was thus that the development of the cowpox vaccine, attributed to Edward Jenner in the late eighteenth century, was seen as an important advance.

III. Jennerian vaccination in China and India

Jenner published his famous tract 'An inquiry into the causes and effects of the 'Variolae Vaccinae' in which he posited the link between inoculation with the cowpox virus, hereafter called vaccination, and immunity to smallpox in England in 1798. Almost immediately thereafter, attempts to send the "lifesaving" cowpox lymph far and wide across the world were set in motion. In 1799, Jenner had sent copies of his book with a quantity of lymph on the ship 'Queen' bound for India, but the ship was burnt on the coast of South America in

¹² Greenough (1980) notes, for example, that there were only three "inoculation hospitals" in Bengal Presidency in 1790. Brimnes (2004) describes variolation efforts by the British in Madras presidency centred around the military headquarters in Trichinopoly when a surgeon of the East India Company, Nicol Mein inoculated twenty European soldiers, that then led to the recommendation of inoculation of all soldiers who had not previously contracted smallpox. Incidentally, as will be discussed in the next section, Madras appears to be the only region where a campaign of variolation not limited to East India Company troops but explicitly directed towards the native civilian population was launched (Brimnes 2004).

¹³ Razzell (1977) demonstrates numerically how widespread adoption of variolation resulted in significant declines in smallpox mortality in the mid-eighteenth century Europe.

¹⁴ Mortality from variolation was estimated to be 2-3% as compared to a mortality of as high as 30% from a naturally contracted case.

¹⁵ British accounts attributed smallpox epidemics in nineteenth century Bengal to variolation, though it is important to read this in the context of ongoing efforts to discredit variolation and promote vaccination.

1800 and never made it to its destination. Following the realization that the lymph would not have retained its properties for the duration of the long sea voyage, another attempt was made to send the lymph to India via a chain of human carriers, who would be vaccinated in succession one after another for the duration of the journey, but this attempt also seems to have failed. The cowpox vaccine is supposed to have finally made its way to India overland by way of Vienna, Constantinople, and Baghdad to the port of Basra from where the lymph was kept in circulation until it was sent on board the ship 'Recovery' to Bombay and produced the first successful vaccination in 1802 (Wujastyk 2001: 139). The first attempt to send the lymph to China, or more specifically to Macau, on the initiative of the Governor General of the East India Company, which had been trading there since the early eighteenth century, also failed. The cowpox lymph is believed to have made it to the hands of Dr. Alexander Pearson, then senior surgeon, to the company in Macau in 1805. Pearson notes that the lymph came via a "Mr Hewit", a Portuguese subject and a merchant of Macao who brought the lymph in his vessel via a chain of human subjects from Manila. The lymph had arrived in Manila by way of the famous Balmis-Salvany maritime expedition initiated by King Carlos IV of Spain, to carry the smallpox vaccine by way of a sequential arm-to-arm vaccination of susceptible orphans to Spanish settlements in South America and then onward to the Philippines (Hopkins 2002: 225).

In this section I analyze how, once the lymph had made it successfully to their shores, this new public health intervention of cowpox vaccination fared in China and India, with a focus, in particular, on the Southern coastal provinces of Canton and Madras Presidency. Both Canton and Madras saw relative to other provinces in China and India respectively, the early and successful introduction of Jennerian vaccination (Leung 2008, Brimnes 2004). Cowpox vaccination made its way to Canton via officials of the East India Company in 1805, the same year that it arrived in Macau, and similarly, within weeks of the arrival of the cowpox vaccine in Bombay, it had been sent onwards to Madras. Almost all accounts note the enthusiastic and rapid progress of vaccination in Canton; Pearson himself notes at the end of 1805 that "a degree of confidence had been established in its favor...the numbers brought for inoculation were great" (cited in Leung 2008: 30). Similarly the Vaccination Inquirer (1881: 116) noted, based on a letter by Jenner himself in 1808, that "in Madras, vaccination was practiced with much energy". Canton was an "exceptional case" of the early success of vaccination as compared to other parts of China, including major metropolises in Southern China such as Shanghai, Ningbo, Hangzhou, Fuzhou (Fujian province), and even Hong Kong. (Leung 2008: 31). Vaccination in Madras too was seen to have been more successful as compared to other Indian provinces, for instance, Bombay and Bengal (Brimnes 2004). Juxtaposed with each other, however, vaccination in Canton was infinitely more successful than in Madras presidency. As compared to the "rapid and smooth" progress of vaccination through the tumult of the wars and unrest in China through the nineteenth century (Leung 2008), vaccination in Madras stalled and limped along in seemingly perpetual 'crisis' (Brimnes 2004). Leung notes that by 1878 it appeared that "at least 95% of the children of the city" of Canton had been vaccinated. In contrast, the Report of Sanitary Commissioner of Madras in 1876 shows that vaccination rates, while rising, remained below 0.5%. What were the reasons behind this differential success of the same public health intervention in these two regions? Here, I seek to understand this question by focusing in turn on the three

stages delineated at the beginning of the chapter, through which one might examine a public health intervention, namely, the initiation, delivery and adoption, of Jennerian vaccination in Canton and Madras.

A. Initiation of Smallpox vaccination

It goes without saying that the first and necessary step for the success of a public health intervention is that it be initiated in the first place. This likely entails a deliberate decision on the part of a set of actors. In Canton, vaccination was taken up by natives usually associated or employed by the East India company, many of whom practiced in dispensaries run by *hong* merchant guilds and/ or had private vaccination businesses. In Madras, vaccination was introduced by the colonial government. In neither place was the decision to introduce vaccination an altruistic one. In India, despite its framing as a superior technology and an act of benevolence, it was clearly a decision by a colonial government keen to bring ‘superior’ European knowledge to ‘ignorant’ natives, and quickly after to condemn and eventually outlaw, variolation as backward and dangerous (Harrison 1998, Brimnes 2004). In China, the decision to take up vaccination was a primarily pecuniary decision by merchants and their associations, keen to capitalize on a new intervention “as an opportunity for acquiring wealth and fame” (Leung 2008: 11).

It is useful to begin by analyzing the role that these very distinct processes of initiation - what appears to be a much more ‘bottom-up’ process characterized by the agency of societal actors in Canton, as compared to a more ‘top-down’ process initiated by the colonial state in Madras - might have played in the differential success of smallpox vaccination in these two places.¹⁶

For a start, it is important, following the rich scholarship on this topic, to problematize the medical organizations in Canton and the Lower Yangzi region more broadly, as societal initiatives that were entirely autonomous from the state. On the one hand, these clinics and dispensaries, which were institutions primarily in the cities where a certain number of doctors served in rotation, financed and supervised by members of the local elite (Leung 2008), can be seen as instances of “private (i.e. non bureaucratic) initiative” (Rowe 1992) or “new gentry activism” (Rankin 1986) in the provision of welfare and the management of urban public affairs more generally; an instance of action by civil society in the public sphere

¹⁶ It is interesting here how this would appear to run counter to Hegel’s classic insight, reproduced implicitly since, that China had too much state, and too little society and India too much society and too little state. The most explicit development of this insight is found in Fukuyama who writes that “Social actors in China have always been much weaker than their Indian counterparts and much less able to resist the state” (2012: 187). According to him, “the strong precociously developed Chinese state has always been able to carry out tasks that India could not, from building a Great Wall to keep out nomadic invaders, to mounting huge hydroelectric projects in the twenty-first century”. Chinese achievements, Fukuyama believes, “have come at the expense of ordinary Chinese who were (and are) largely powerless to resist the state and its plans to draft them into its service”. And yet, not only did ‘society,’ in the form of local associations, play a key role in cowpox vaccination, much like other public health interventions in the Qing, and even the Ming, but this Chinese achievement was very clearly for the benefit, rather than at the cost of ordinary Chinese.

(Rowe 1992, Rankin 1986, Strand 1993). On the other hand, it is important to keep in mind that this medical work was conducted as much by local associations of gentry scholars as, for example, the wealthy salt merchants described in Rowe's account of Hankou. Even the merchants who conducted these activities did so as a means for the pursuit of elite gentry status, manifested, for example, through recognition in a local official gazette (Andrews 2014, Leung 2008).¹⁷ Moreover, they did so at the behest of the Qing government, which explicitly exhorted the mercantile elites to take on welfare activities,¹⁸ and often subsidized their associations. Scholars such as Kuhn assert that official patronage of merchant guilds and native place associations was considered "a normal and necessary protection of their activities" (cited in Wakeman 1997). This state delegation of responsibility for the welfare of the poor to local mercantile elites was part of what Susan Mann, following Max Weber, terms informal "liturgical" structures of local governance.¹⁹ Mann notes that according to Weber, merchant guilds become the key "liturgical constituency" to which the Qing appealed "in their search for both leadership and material resources to meet state and kingly needs" (Mann 1986: 12).

So while it is too simplistic to describe vaccination in Canton in the early nineteenth century as a strictly societal initiative, the rise of civic associations such as the ones through which the smallpox vaccine was provided, were, however, contemporaneous with and indeed emerged explicitly to compensate for the overall deterioration in capacity of the imperial Chinese state (Andrews 2014: 91). As Mann puts it, the "overextended, underpaid, administrative bureaucracy, was compelled to rely increasingly on liturgical governance in late imperial times".²⁰

In so far as one might think of a public health intervention as likely to be facilitated by the backing of state resources, infrastructure, and institutions of the kind that had existed in China under previous dynasties such as the Song, but were clearly lacking in the late imperial period, smallpox vaccination in Madras, initiated as it was by a Medical Board (in the 1860s, Madras was to become the site for one of three Sanitary Commissions in British India to produce vaccines) with the backing of a public health bureaucracy might have been expected to be more successful. The critical caveat to this, of course, is that Madras was a colonial state. There is a large scholarship on, and indeed, little doubt that this was an important

¹⁷ Wakeman (1977) notes, for instance, that he finds Rankin's account of what she frames as autonomous gentry action "hard to distinguish" from "traditional habits of gentry philanthropy".

¹⁸ Most famously in a 1731 edict, the Yongzheng emperor stated: "I exhort every wealthy household to be constantly vigilant, even in peacetime in dispensing relief and aid to the poor" (cited in Andrews 2012: 91).

¹⁹ Mann notes that Weber borrowed the term "liturgy" from the Greek word, *leitourgia*, meaning public service; "like the citizens of ancient Athens, members of the Qing dynasty's local elites were called upon to perform important public services in the state's behalf at their own expense" (Mann 1986:12)

²⁰ Leung (1987) talks less about the bureaucratic capacity of the state, though this does appear to be assumed, and more about how this system of privately organized medical charities financed and supervised by local elites constituted an important break from a much more activist role for the state in public health and welfare more broadly under the Yuan and especially the Song, which had begun to atrophy under the Ming dynasty and had reached its nadir by the late Qing.

impeding factor in the spread of vaccination. Yet, it is important to break down why exactly vaccination via a colonial state might be expected to be less successful than by local associations. The literature on India converges broadly on problems with delivery and adoption of vaccination, which will be discussed in the sections below.

B. Delivery of Smallpox vaccination

As a next step towards understanding the success of a public health intervention, one might move away from an examination of how it is initiated to the ways in which it is delivered. One might in turn analyze the delivery of a public health intervention in terms of a dual focus on technology and agency.

i. Technology

Through much of the nineteenth century, both Canton and Madras, as China and India, more broadly, faced the same technological challenge of the availability of good, safe lymph. Cowpox was a rare disease even in Western Europe and virtually unheard of in these Asian countries. The National Vaccine Establishment in London and the Royal Dispensary in Edinburgh did send lymph to India but these supplies were sporadic and often of questionable quality because of the long journey involved. As a result, across both China and India, as also in Europe, because of the difficulty of locating cows with lesions at the right stage for extraction for direct vaccination of humans, until about the end of the nineteenth century, the main technique followed was the use of humanized lymph through arm-to-arm vaccination in which the lymph is transferred directly by contact from the pox of a recently vaccinated person to fresh lesions on the arm of a new patient. In theory this system had one great advantage, which was that fresh supplies of lymph would always be readily available from recently vaccinated subjects but in reality a similar set of problems plagued both Canton and Madras. In both these places, potential patients were choosy about vaccinifiers - in India, this often took the form of objections on the grounds of caste and religion, while in Canton, the most commonly voiced fear was to do with the spread of diseases, such as the dreaded ailment of leprosy. In addition, in both Canton and Madras parents also actively resisted attempts to use their children as vaccinifiers. The Indian Medical Service received numerous reports of parents not allowing lymph to be collected from their recently vaccinated children (Bhattacharya 1998: 29). In Canton as across China, Leung describes the widely held idea that the opening of the vaccine vesicle to extract the lymph would take away energy from the child and weaken her constitution. As a consequence of this similar resistance of parents to the collection of fresh lymph from their children, both Canton and Madras faced equivalently severe shortages of human lymph. A problem that was compounded by the warm climates of both regions, which led to difficulties in the preservation of the lymph that was collected. In India, the colonial administration worked hard to regularize the local production of human lymph vaccine through the establishment of small district depots created specifically for this purpose and also experimented with various methods of storage including the search for a preservative for the lymph that might allow it to retain its potency while being transferred from one place

to another (Bhattacharya 1998: 29).²¹ In Canton, the merchant guilds sought to overcome the shortage of lymph through the gratuitous vaccination of poor children, who were often also paid to have their lymph extracted. Some private vaccinators “who put on the air of philanthropists” and charitable clinics that provided free vaccination were thus “in fact shrewd businessmen making profits out of vaccination and lymph production” (Leung 2008).

ii. Agency

Vaccinators in both Canton and Madras were natives trained by the British - the Surgeons of the East India company, and later the Protestant missions, in Canton and the doctors in the Medical department in Madras Presidency. In Canton, the vaccinators were either employed by merchant associations and/or worked privately for what were often considered quite substantial fees. In Madras, the vaccinators were employees of and on the pay of the colonial government.

Leung draws on local gazetteers in Canton from the early to mid-nineteenth century, to provide a nice illustration of these first vaccinators. Liang Hui, for instance, is described in the gazetteer as “a wealthy and charitable merchant”; “he heard about vaccination brought by Westerners, and spent a huge sum of money to learn it. The lymph was transmitted from the Western ocean and very expensive. [He] spared no money and every year he practiced and did not ask for a cent [in return]”. Leung notes that at some point Liang left the Canton charitable dispensary established by *bong* merchants and returned to Whampoa, his hometown, “probably to continue vaccinating” (Leung 2008: 10). Another, and by far the most prominent vaccinator not only in Canton, but also across all of China, was Qiu Xi, the author of the first and most influential Chinese book on vaccination, *Yindou lue* (A brief account of inducing pox), which will be discussed in more detail later in the paper. Qiu Xi is described as a 32 year-old Canton native working as a purveyor to the East India company in Macao when he heard about cowpox vaccination and as he had never had smallpox before, “the foreign doctor” vaccinated him. Qiu writes that he “experimented with it on my family and friends and found it effective. The charitable gentlemen of the *Co-bong* entrusted me with the task [of administering vaccination] in their Public Hall. For more than ten years, those who came [to be vaccinated] were in the hundreds, if not thousands. . . .” (cited in Leung 2008: 11). In addition to his service in the charitable dispensaries, Leung notes, that Qiu amassed a small fortune servicing the political elites and also trained members of his own extended family, as well as a range of disciples, in what would become a nationally influential Qiu “family business” (Leung 2008: 11).

Vaccination in Madras Presidency had begun with an assumption of “self-interested indigenous entrepreneurs” (Brimnes 2004) who would work in a way not dissimilar to the way that vaccination was carried out in Canton. Akin to the way in which Cantonese vaccinators were employed by the merchant guilds, but largely autonomous actors, also often

²¹ Madras was at the forefront of this experimentation through the efforts of Dr. W.G. King and was, in light of the difficulties in finding reliable modes of transmission of humanized lymph, to be the first site of the successful production (in 1880) of and vaccination (in 1881) using animal lymph (Bhattacharya 1998: 30).

traveling to practice privately, the first indigenous vaccinators in Madras were trained, certified, and employed by the colonial government, but were autonomous itinerant agents practicing their craft and drawing a reward in proportion to the vaccinations they performed. Like in Canton, there are examples of successful native vaccinators who came to be highly praised by colonial authorities including Sawmy Naik, who became Chief Native vaccinator with a salary equivalent to that of British surgeons serving at civil stations; and Moresevary Pillai, who was paid twice as much as other vaccinators (Brimnes 2004: 224). They were, however, exceptions in so far as a major problem in the smallpox vaccination campaign in Madras appeared to be ensuring the “obedience”, “zeal”, “honesty” and “activity” of the native vaccinators (cited in Brimnes 2004). In late 1804, for example, after a highly charged debate, native vaccinators were brought under a much tighter purview of the colonial government, drawing a fixed monthly salary - so that they may see themselves “more in the light of Company Servants” and “would feel obliged to perform their duties properly” (cited in Brimnes 2004: 224). This did not turn out to be the solution that the main proponent of the new salary plan, Mackenzie, had hoped, in so far as through much of the nineteenth century, the question of how to ensure the effective functioning of the native vaccinators remained an abiding concern of the Madras government, with the general sense that it was only the strictest of monitoring and vigilant controls that would prevent them from “dishonesty”, “carelessness”, and “erroneous practice” (cited in Brimnes 2004: 227).²² First off, there is little doubt that these representations of indigenous agents by British officers reflected colonial views of inferior, ignorant natives who needed European education and control.²³ And yet, in so far as it is clear that there was at least some problem of inadequate motivation of native vaccinators, and that this might be relevant for explaining Madras’s relatively low vaccination rates compared to Canton, what might have been the causes for this? Here, one might begin by returning to the nature of the Madras government as a colonial state, and to interpret the lack of “zeal”, “procrastinations and slowness”, and the “failure to adequately fulfill their responsibilities” among native vaccinators through this lens. Yet, it is interesting to note how the post independence Indian state faced almost exactly the same problem of inadequate motivation and inefficient functioning of vaccinators during its smallpox eradication campaign in the late 1950s and through the 1960s. Reports of the Government of India and the WHO from the Smallpox eradication program in the late 1950s and 1960s consistently mention problems associated with the shirking of duties on the part of vaccinators including the falsification of records²⁴ and the repeated vaccination of readily available groups especially school children. Fenner and Arita (1987) write that “there was the belief that if the health personnel were really properly organized and motivated the objective of 100% vaccination could be achieved”.

²² Brimnes (2004) described a number of different plans for the payment and structure of functioning of indigenous vaccinators suggested during this period.

²³ Indeed in his debate with the Madras Medical Board over the move from a reward to a salary system for native vaccinators, Mackenzie claimed that the native vaccinators were mainly from “inferior classes”, a charge that the Medical board went to great lengths to refute by furnishing lists of 66 certified Indian vaccinators who were “very properly of the highest and of all castes” (cited in Brimnes 2004: 225).

²⁴ Long dead people were reported as recently revaccinated.

Further, just a few years prior to the vaccination campaign, the Madras government had initiated a variolation campaign in the Northern districts, through a very similar set of, and in fact in some cases though the very same personnel, which had been much more successful.²⁵ Another complicating factor to thinking about the reluctance of native vaccinators in terms of foot dragging (a la Scott ‘weapons of the weak’) against colonial masters is that there were a host of native agents employed in the colonial government of Madras, and British India more generally, and these principal-agent problems did not seem to apply, or at least not equally intensely, across these different agents.²⁶ So was there then something peculiar to the act of vaccination that made vaccinators, both as autonomous agents earning premiums per vaccination and also salaried civil servants in the colonial bureaucracy (as also, though this is beyond the scope of this paper, later as grassroots functionaries in the postcolonial Indian state’s administration), particularly predisposed to the dereliction of duty?

In some ways this question takes us naturally towards the next, essential step in the success of a public health intervention, which is the adoption of vaccination by the people themselves. A plausible route through which one might examine the lack of enthusiasm on the part of what were certainly reasonable (dare we say, even rational) Indians in Madras in charge of vaccination was the resistance that they faced from the people into whose bodies they would administer this vaccine. The concepts of liturgical governance, and relatedly norms of Confucian philanthropy, prompted merchant associations in late imperial Canton to initiate vaccination, but these were “not all innocent philanthropists”; they sponsored private clinics “*zhongdou guan*” (vaccination clinics) that were often family businesses continuing to function in the early twentieth century (Leung 2008). Vaccination very quickly became a business, and that too a very profitable one, in late imperial Canton. A key reason why scores of indigenous Cantonese took up vaccination was that people were willing to accept and, if they could afford it, pay for this.²⁷

C. Adoption of Smallpox vaccination

At the end of the day, a public health intervention is an intrusion into the most intimate of domains - one’s own body and/ or the body of one’s, usually very young, child. An

²⁵ It is important to note there that unlike other parts of India, such as Eastern India, and especially Bengal, Madras did not have an established tradition of variolation, so for all practical purposes this was a ‘new’ technology and not one that was presented in any way as indigenous; in fact if anything, Brimnes notes that there was an attempt to “domesticate” variolation and present it with an emphasis on European ‘improvements’ to the technique.

²⁶ Brimnes (2204) cites French missionary and long time superintendent of vaccination in the native state of Mysore, which bordered Madras presidency, Dubois has, for example, much more trust in the native revenue officers than the native vaccinators.

²⁷ So popular and profitable was vaccination that it attracted quacks. Leung (2008) notes that the problem of quacks was widely reported in vaccination books and newspaper accounts through the nineteenth century not only in Canton but across China, including Taiwan. She describes how the situation had become so bad in Canton by the turn of the century that the famous Cantonese historian Chen Yuan (1880–1971) called for regulations to license vaccinators (Leung 2008: 15).

intervention, such as a vaccination program, can be initiated, and effectively delivered but its moment of truth is when it is in fact adopted. Throughout history, and even today, as is brought out starkly by the outbreaks of measles in the US as also polio across parts of Africa and South Asia, popular acceptance remains a critical challenge for a vaccination campaign. There were, as we have seen from the section above, differences in the way in which smallpox vaccination was initiated and delivered in Canton and Madras but none of these were as decisive as the contrast in popular acceptance. While vaccination in Canton elicited a “definite pattern of reception” (Leung 2008), reports from the vaccination campaign in Madras were replete with accounts of reluctance and avoidance.

This is more surprising in so far as vaccination was provided free of cost in the Madras presidency, but was quite costly in Canton. Leung notes that accounts of native doctors from this time suggest that private vaccination at home cost an average of 50 cents to \$1, which given the context of \$20 as the monthly salary for a senior native medical assistant, was quite expensive. Though vaccination in the charitable institutions was free, even “poor people” paid substantial fees (10-25 cents). Why then, despite not having to incur the pecuniary costs of their counterparts in Canton, did the residents of Madras adopt vaccination far more reluctantly?

There is a tendency within the scholarship on this topic in India to suggest that it was “quite natural that any group of people would hesitate to accept the implementation of unknown practices directly on the body and largely performed by outsiders to the local community” (Brimnes 2004: 215). And yet placing the Indian case in comparative perspective with Canton reveals that in so far as vaccination, there too was a new, unknown practice and often carried out by native but itinerant vaccinators,²⁸ such reluctance should also have been expected there.

Within the official vaccination reports of the British government, as well as the accounts and letters of colonial officials and in newspaper reports, in Madras presidency, as also in other parts of India, the most commonly cited reason for resistance to vaccination, reported with the greatest frequency and discussed at most length, is native “prejudice”. Brimnes notes that this almost became a “standard phrase” that formed part of the “vocabulary” of colonial vaccination campaigns in Madras (Brimnes 2004: 217). While keeping in mind that like with the complaints about the native vaccinators, such descriptions were penned in a larger context of colonial views of Indians as ‘backward’, ‘barbarous’, and in need of edification and civilization, it is useful to break down and further analyze the nature of this prejudice.

A number of scholars trace antipathy towards vaccination to the fact that at the time, technology was relatively inefficient, and it was often a painful procedure. Because of the problems with the preservation of lymph noted earlier, vaccination often did not ‘take’ and cases of people who had been vaccinated and then subsequently contracted the disease were not uncommon. And yet, in light of the similarity of the technical problems, it would have been reasonable to expect this disinclination to also characterize popular responses to

²⁸ Leung (2008: 24) notes that through the nineteenth century vaccinators who gathered a reputation travelled across the length and breadth of China to vaccinate in private or in bureaus.

vaccination in Canton, in fact, perhaps even more so in so far as, to a greater extent than in Madras, there was the option of an alternative, well-known, and usually effective prophylactic procedure of variolation.

Another, more common way in which Indian ‘prejudice’ towards vaccination has been interpreted, and which is obviously, as noted earlier, a factor that is peculiar to Madras, is as resistance to a colonial intervention (Arnold 1993). This can in turn be thought of in two main ways – first, resistance to an alien power, and second, resistance to an alien technology.

In terms of the first, at one end is the view associated most clearly with Apffel-Marglin, who suggests that resistance to, or what is more accurately described as non-acceptance of, vaccination should be seen as a sign of political protest against a foreign power. While this is considered by most scholars as an extreme view, it appears to be the case that in at least some instances, vaccination was suspected and feared as a colonial intervention conducted with a larger, more nefarious intention of marking the body for taxation or conscription or something far more sinister, such as collecting the blood of Indian babies (Bhatnagar 1952). Hopkins (1983) notes a rumour that was circulated by priests at Benares that the British would be expelled through the leadership of a black child with white blood, and vaccination was how the English intended to find and kill that child (Ibid.:147). And yet it is interesting how accounts of attempts to eradicate smallpox in India in the post-colonial period are also replete with very similar descriptions of resistance to vaccination because of concern about the (ill) intentions of the government (Brimnes 2004, Bhattacharya 1998). Moreover, even though the British were not a colonial power in Canton in the same way as they were in Madras, it is the case that their intentions in introducing vaccination were, at least initially, suspected. The medical report for Canton published by the Imperial Maritime Customs for 1877, for instance, speak of the “suspicion with which vaccination was formerly regarded as a subtle device of the wily foreigner” (1877: 90).

In terms of thinking about resistance to vaccination in Madras, and also India more broadly, as prejudice against a foreign technology, this has in turn been attributed on the one hand, to inherent native conservatism to all things foreign, and on the other hand, to resistance that arises from the specifically British/ Western origins of the technology. In 1805, for example, at the top of the list of factors that impeded the spread of vaccination drawn up by Dr. Schoolbred, Superintendent General of Vaccination in the Bengal presidency was the “dislike of the people in general to innovation of any kind” (cited in Bhatnagar 1952: 186). But this attitude of disdain towards any foreign technology is equally attributed to the Cantonese by the British.. In a letter to Edward Jenner, who was a very enthusiastic and proactive proponent, and followed closely the dispensation of his invention across the world, Sir John Barrow describing the success of vaccination in Canton, for instance, wrote of “the more extraordinary facility with which this people, *always strenuous in opposing every innovation*, has submitted to receive the new practice of vaccination” (Letter from Sir John Barrow to Dr. Jenner. June, 1806; cited in Inspector General of Customs 1875: 1877-78 14). Similarly, Pearson wrote that vaccination in Canton had spread “with fewer obstacles from prejudice than could be anticipated, especially in a Chinese community” (cited in Leung 2008: 30).

The attribution of the resistance to vaccination in Madras, and India more broadly, because it was a foreign technology of British/ Western/ colonial origin also runs into the problem that other new technologies of a clearly European origin were enthusiastically accepted, notably, the introduction of English education or new communication technologies such as the telegraph and railways. Mark Harrison (1998) notes that the growing number of Indians through the nineteenth century who attended hospitals and dispensaries, indicates that a substantial number of Indians did accept and value Western medicine. Further, Gyan Prakash (2000) discusses the paradox that in order to communicate the hegemonic discourse of science, colonial officials ended up undercutting their own hegemonic ideology. It also appears to be the case that vaccination was hampered at least in some ways because it was a technology that originated in Europe, which up until then was predominantly associated with “the poison of opium”. Leung (2008) describes how the premier Cantonese vaccinator, Qiu Xi, discussed earlier, requested respected, high-ranking bureaucrats such as Ruan Yuan (1764–1849), governor-general of Guangdong and Guangxi (1817–26) to endorse and thus legitimize vaccination despite its “barbaric” origins.

The most common source of ‘native prejudice’ to vaccination in Madras, and India, more generally, however, arose from a resistance to disrupt pre-existing treatment regimens. In Madras, where as noted earlier, the spread of variolation was far more limited than in other parts of India, this took the form most strikingly of resistance to the disruption of ritual and therapeutic traditions anchored around the goddess of smallpox, what came to be termed by the colonial government as “religious prejudice” and “religious superstitions” (Brimnes 2004). Government reports are replete with accounts of how the people of Madras presidency resisted vaccination because it disrupted the worship of the goddess, Mariyamman. A local superintendent of vaccination, cited in the Report on Vaccination throughout the Presidency and Provinces of Madras for the Year 1856, for example, reported people as stating “we have no faith in vaccination, and we would rather [let] our children take the smallpox, and leave the rest with our Maareetha [Mariyamman] to dispose of as she thinks proper.” Another superintendent reported the “superstition” that “an idol supposed to preside over smallpox” existed and by submitting to vaccination, the “idol” would be offended. The Report on Vaccination throughout the Presidency and Provinces of Madras for the Year 1858 included “superstitious reverence” of the goddess as one of the reasons that “retard the diffusion of blessings” of vaccination (cited in Srinivasan 2014). Reports of superintendent generals of vaccination across India note that the “principal objection was that it was done without puja or any kind of sacrificial offering” (cited in Samanta 2012: 232). Even where variolation was well established, like in Eastern India, non-acceptance of vaccination was repeatedly reported as being linked to a resistance to disruption of the worship of Shitala. And yet, this raises the following related questions - why when variolation, which was after all also a new, and in many ways, radical technique of an incision of human matter into the body, introduced in India, in some places such as Northern Madras, as recently as only a few decades earlier, did it not provoke opposition on the same grounds of resistance as a disruption of existing religious traditions? Why even in regions where variolation was well established and popular by the early nineteenth century,

was resistance to vaccination being framed less in terms of resistance to the disruption of variolation and more as resistance to the disruption to the worship of Shitala?

Accounts of the ritualized way in which variolation was carried out as an integral part of and subservient to existing religious and therapeutic regimens helps us make sense of these questions. For a start, variolation was conducted by variolators vested with a customary and religious authority who only conducted the operation on designated days usually the 7th, 8th and 9th of the waxing moon (cited by Ferrari 2012: 133). Variolators, even when they were from non-Brahman castes, were designated pujaris or propitiators of the goddess and variolation itself was seen as a puja (worship) of the goddess, in which she was “awakened, invited and worshipped as an immanent presence in the village” (Ferrari 2012).²⁹ Through the operation, the variolators recited hymns in praise of the goddess, and insisted that the patients incant with them; water from the Ganges, which the variolator carried with himself was applied to the incision wound. Before the procedure, patients were required to “prepare” themselves through a month-long abstinence diet that usually excluded certain food items such as fish, milk, “ghee”. After the variolation, the ritualistic and therapeutic regimen centered around viewing the patient as being visited (or even equated with) the goddess that accompanied cases of natural contraction of smallpox was maintained including dietary prescriptions³⁰ and ritual bathing until the fever came on. Through their usually successful recovery, variolators played a key role in the care of their innoculees (Naraindas 2003). In the event that the case contracted was serious, the inoculators tended to the patients, ‘with amazing patience and solicitude’ (Holwell 1767: 212; cited by Walker 1790). Colonial documents regularly bemoaned how variolation was carried out “with many superstitions and unnecessary ceremonies” (cited in Brimnes 2004). Such was the association of variolation with tradition and custom, that the British government thought that Hindus practiced variolation as a religious duty and solicited the views of Hindu pundits, who were equivocal in their responses, most noting that law books did not specifically enjoin variolation but included it as a part of religious ceremonies recommended for those struck by smallpox (Prakash 2000). The key point was that the rituals and therapeutics associated with the worship of the smallpox goddess and the practice of variolation were seen as conjoined. As Apfel-Marglin (1987) puts it, “what needs to be emphasized is that since at least the 12th century, a naturalistic dietetic-cum-humoral understanding of the disease was associated with the worship of a goddess of smallpox and that in the 18th century another naturalistic understanding of smallpox had created the practice of variolation which was also associated with the worship of the same goddess”. Variolation did not prevent or displace

²⁹ Writing about North-Central India where vaccination practiced by a class of Brahmins, Whitelaw Ainslie (1829: 67) wrote that “they assume an exclusive right to it, and from the circumstance of their being priests and physicians combined, they can not only exercise their healing skill but by their pretended immediate intercourse with the goddess who presides over the disease, can either petition for a mild affection or in cases of danger, supplicate for the safety of the patient; seldom failing, on such occasions to carry the little sufferer to the image of the goddess, before which it is bathed with the same water that had been offered at the shrine”.

³⁰ Ainslie notes “With the exception of a little unrefined sugar (jagari) nothing in the way of medicine is given; and this is administered rather as it makes also a part of the offering to the goddess, than from any notion of its virtues.”

the established rituals and therapeutic regimens associated with Shitala and Mariamma; if anything, it reinforced them.

Vaccination, on the other hand, as it was introduced in Madras presidency as other parts of India, was constituted as a clear rupture from and repudiation of these existing traditions. As Ferrari puts it, while variolation was a way to celebrate the goddess, vaccination was instead a way to reject her. Brimnes notes that while “the basic operation remained virtually the same”, the most “important” and “visible” difference between variolation and vaccination “lay in the broader cultural context in which the practice was embedded”; the “ritual aspects of the operation were played down in vaccination: not only was the invocation of deities absent but elaborate preparation and subsequent therapeutic interventions were also lacking” (Brimnes 2004: 209-210). While they vary on the degree of emphasis they put on this, almost all medical historians of this period point to this contrast, framed most prominently by David Arnold, between the ritualised practice of indigenous variolation and the “raw secularity” of vaccination as playing a very important role in the resistance to vaccination across India in the nineteenth century (Naraindas 2003, Arnold 1993, Brimnes 2004, Apffel-Marglin 1987, Samanta 2012, Bhattacharya 1998, Worboys 2005).³¹ The reports of superintendent generals of vaccination put this most starkly when they write that the principal objection was that it was done without puja or any kind of sacrificial offering.

In Canton, on the other hand, it is clear that a critical reason for the relative success of vaccination was that it was presented and seen as a continuation and improvement of existing treatment regimens. While it was clear, like in Madras, that vaccination was a European invention, in Canton, the gentry elites associated with the introduction of vaccination in the early nineteenth century, made a number of calculated, deliberate and eventually successful attempts to embed the new technique in long-established traditions of Chinese medicine. The decision and efforts to cloak a foreign intervention in the more familiar language, theories and techniques of traditional Chinese medicine appears to have been entirely instrumental. The success of the “business of vaccination” in late imperial Canton rested entirely on people’s willingness to adopt and pay for it, and this, the *Co-hong* merchants correctly calculated was more likely to be the case if the new technique was ensconced in existing rituals, therapeutics and modes of knowledge. Key to the relative success of vaccination in Canton was that it was “sold” as being a new intervention rooted within the established knowledge and practice of traditional Chinese medicine.

Published vaccination books played a central role in this “sinification” of vaccination. The vaccination book that introduced the practice of vaccination into Canton - George Stanton’s translation of Dr. Pearson’s treatise on cowpox – was published in Canton in 1805 under the sponsorship of a well-known *Co-hong* merchant whose name was prominently displayed on the cover of the book. The Vaccination Inquirer and Health Review of 1882 notes that the name of the translator and the foreign origin of the practice were “suppressed”. (1882: 117).

³¹ Even Mark Harrison (1998) who is usually seen as subscribing to more ‘secular’ reasons for resistance to vaccination notes that the fact that variolation was “combined with religious ritual meant that it was more easily assimilated than the secular practice of vaccination.”

The book that was, however, the “model” of the indigenization of vaccination, was Qiu Xi’s *Yindou Lue* (A brief account of inducing pox), the single most influential and widely disseminated vaccination book in China, which was to be re-published many times throughout the nineteenth and the early twentieth centuries (Leung 2008: 10).³²

It is clear that Qiu, as noted earlier, Canton’s preeminent vaccinator, had understood and learned vaccination from Dr. Alexander Pearson in Macau as a foreign technology. The *Yindou Lue* in fact begins with Qiu noting that he was working as a purveyor with the British East Indian Company in Macao when he encountered the “foreign technique”; he was, as he had never contracted smallpox before, vaccinated by the “foreign doctor” (Dr. Pearson). The technique itself, as Qiu described it in the *Yindou Lue* was very much in line with the way in which it had been taught to him and propagated and practiced by the British in India, as well as in Europe at this time. Qiu’s major intervention, however, was to frame this operation in terms of established systems of Chinese medical knowledge and practice.

Technically, in so far it involved an abandonment of the method of nasal insufflation, employed in variolation, in favor of incisions into the arm, the shift from variolation to vaccination was *more* of a rupture with the existing technique in China as compared to India, where, as noted earlier, variolation too had been traditionally conducted via incisions into the arm. And yet, “graced with engraved drawings of children with meridian points indicated on their arms”, the *Yindou Lue* “impeccably disguised” this new technique within traditional principles of acupuncture. Leung describes how the two spots on each arm where the vaccine was to be injected were controlling the “five viscera and six bowels” (*wuzang liufu*). The manifestation of pustules and the understanding of the disease itself was explained in terms of the classic notion of foetal toxin (*taidu*) to which, tellingly, the practice of variolation too had been accommodated a century or so prior (Leung 2008, Chang 2000).³³ Insertion of the vaccine into the “correct” meridian points was key in so far as it “would most effectively liberate *taidu* deep inside the body” (Leung 2011: 10). Further Leung notes that the *Yindou Lue* maintained for vaccination the traditional ritual of boys being operated on their left arm first and girls on the right. Like in variolation, vaccination was only to be conducted in certain seasons and was accompanied by almost identical postoperative therapies including the taking and application of medicine for the release of “remaining toxin”. Rather than marking a break from, vaccination therefore reinforced the Chinese etiology of smallpox. Jennerian vaccination “was conceived as an improved version of variolation, perfectly understandable in Chinese medical terms...The sinicized vocabulary of

³² Leung (2008: 15) notes that according to *Quanguo zhongyi tushu lianbe mulu* (Union catalogue of medical books in China), at least 62 different editions of this text were published in China, not including reprints of the book with other texts on vaccination.

³³ Leung (2011: 10) describes the concept of *taidu* as follows - “toxic matters from the father and the mother – a result of physical desire, emotional instability, or unbalanced nutritional habits – were inevitably passed onto the fetus the moment it was conceived. The toxin would express itself at one moment or another during the lifetime of the child. Smallpox, measles, chickenpox, all sorts of skin eruptions, boils or ulcerations, were different manifestations of *taidu*. Vaccination, like variolation, was a way of controlled release and elimination of the *taidu* before any occurrence of smallpox epidemic.

vaccination, the familiar explanation of the way it worked, made it easier for Chinese social elites and the general public to accept the western technique” (Leung 2011: 9).

It is relevant to note here explicitly, what has already been hinted at, that a key reason why variolation, which was in China like in India, also a new technology that was introduced some decades earlier, was accepted was that it too was embedded in the existing ritual and therapeutic treatment regimen. I have already mentioned how vaccination continued the understanding of variolation in terms of the TCM vocabulary of the release of the fetal toxin (taidu).³⁴ Like in India, the practice of variolation was linked to the worship of smallpox goddess, with the goddess herself being presented as a form of eleventh century Buddhist nun who is also credited with introducing inoculation into China” (Hopkins 2002: 136). The operation was ritualized with the use of silver instruments and of an elaborate therapeutic regimen that incidentally like in India, involved keeping to a “cooling” diet. Interestingly like in India, variolators played an important role supervising the family’s prayer and diet regimen; visiting their (usually young) clients every day and performing rituals invoking the blessing and protection of the smallpox goddess; in rare cases prescribing medicine to those who developed severe cases. (Hinrichs and Barnes 2013). Thus in both India and China, variolation maintained existing ritual and therapeutic treatment regimens. The key difference was that while in China vaccination too was embedded in the same traditional mode of knowledge and practice, in India, the shift to vaccination marked an important rupture from the way in which the treatment of smallpox had until then been experienced and thought of.

So far, I have presented evidence in support of the general argument that a public health intervention is more likely to be acceptable when it is embedded within traditional modes of knowledge and ritual practices from the successful transition to variolation in both China and India, the much more successful initiation of vaccination in Canton where the Jennerian invention was couched in the language and understandings of traditional Chinese Medicine, and seen as a continuation of variolation; and the relative failure of the initiation of vaccination in Madras, where it was seen as a break with variolation and the traditional modes of knowledge and ritual practices. Interestingly, one also finds further evidence for this argument in the attempts of the British to promote vaccination in Madras. The British administrators in charge of vaccination clearly seem to have been aware of the central insight that I advance in this chapter, that one of the main reasons for the non-acceptance of vaccination was that it was seen as a break from and rejection of indigenous belief systems and practices. In order to increase popular acceptance of the new technique they thus attempted to creatively cloak it, much like the earliest Cantonese vaccinators had, in familiar cultural understandings and practices. It is difficult to estimate how successful these attempts

³⁴ Leung (2011) notes that “the main reason for inhalation as the dominant variolation method was the belief that through the respiratory system, the effect of variolation could, starting with the *fei* (pulmonic orb), successively reach the five viscera (*zang*) and circulate within them. The affected five *zang*, considered to be impregnated with innate toxic matters would, in about 7 days, release a “toxin” and produce external signs (fever, pox, thirst, etc.). The signs would gradually diminish as the poison was duly liberated by the variolated matter, in about 20 days. The elimination of such poison, it was believed, would prevent the person from getting smallpox again in his life”.

were. However, the relative success of vaccination in Madras³⁵ appears, to a not insignificant extent, to have been a product of the creative ways in which the British administrators attempted to embed vaccination in shared cultural understandings and practices.

One of the most creative of these was the attempt to disseminate the idea that vaccination was in fact rooted in ancient Indian medical knowledge and customs. On Tuesday January 12th, 1819, in the midst of the ongoing vaccination campaign in the region, the Madras Courier, one of the province's leading dailies carried a letter by one 'Calvi Virumbon' who wrote that his "examination of the Vaidya Sastras" had led him to conclude that "the Inoculation for the Cow- Pox was known of old time to the Hindu Medical writers". He wrote further that "to substantiate this statement, it is necessary only to refer to the *Sact'eya Grantham*, attributed to Dhanwantari, and, therefore, undoubtedly an ancient composition" from which he quoted an extract followed by a lengthy English translation of the Sanskrit verses. Wujastyk notes that "Within months, Virumbon's letter was reported in the *Asiatic Journal*, a London publication, under the heading "Traces of vaccination in Hindoo medical writers" (2001: 125) and within two years after that, the report was cited as authoritative in the *Dictionnaire des sciences m'edicales*, a major survey of the state of medical knowledge in France at that time, and from there found its way into a number of subsequent influential encyclopedias³⁶. The circulation of this claim was such that the medical historian John Baron who was writing a biography of Jenner (published in 1824), found it necessary to investigate the origins of this claim, which was seen as undermining Jenner's achievement. Wujastyk notes that Baron went to great lengths to investigate the matter consulting a foremost Orientalist of his day, Sir John Malcolm from whom he learned the following facts:

"On the introduction of vaccine inoculation into India it was found that the practice was much opposed by the natives. In order to overcome their prejudices the late Mr. Ellis, of Madras, who was well versed in Sanskrit literature actually composed a short poem in that language on the subject of vaccination. This poem was inscribed on old paper, and said to have been *found*, that the impression of its antiquity might assist the effect intended to be produced in the minds of the Brahmins while tracing the preventive to their sacred cow. The late Dr. Anderson, of Madras, adopted the very same expedient in order to deceive the Hindoos into a belief that vaccination was an ancient practice of their own." (cited in Wujastyk 134).

³⁵ Albeit very limited in absolute terms and while clearly a failure when compared to Canton, vaccination did fare better in Madras than other Indian provinces.

³⁶ It was common practice in encyclopedias to replicate material from previous editions so the wide dissemination of these allegedly Indian origins of smallpox could either have been a result of this or a deliberate ploy by the French to challenge the importance of the British Jennerian invention (Wujastyk 2001) into a number of subsequent influential encyclopedias.

Almost all scholars, from Baron to Wusjatyk writing one hundred and seventy seven years later concur that this fraud represented “the well meant devices of those who attempted to propagate Vaccination in India” (Baron 1838). Wusjatyk writes “To understand the motives of these men, in producing the vernacular vaccination tracts, it is necessary to understand the resistance that faced the early vaccinators in India.” (2001: 138). What is notable from the perspective of the argument put forward in this chapter is the commonality in the way in which this “pious hoax”, and the other propaganda consciously initiated by the colonial administrators, such as the emphasizing of the link of the smallpox vaccine to the sacred cow, seeking the endorsement of the smallpox vaccine by learned Brahmins, sought to overcome popular resistance. All these ploys very clearly sought to overcome opposition to vaccination by attempting to link it to traditional modes of knowledge and practice. A very similar logic was at play in the discussion among colonial officers on concessions to permit rituals and therapies that were seen to be harmless to the act of vaccination and how to handle those that were seen as interfering with the success of the operation.³⁷ It was widely believed by colonial administrators in Madras that presenting vaccination as embedded within, rather than distant from, cultural belief systems and practices, would make it more attractive and likely to be adopted by the natives.

Conclusion

In both Canton and Madras, southern provinces in imperial China and colonial India respectively, the beginning of the nineteenth century witnessed the arrival of Jennerian vaccination, a new European technology for an age-old scourge. The new intervention faced a similar set of challenges in both places - the presence of long-established cultural belief systems and practices including the reasonably effective prophylactic practice of variolation; suspicion because of the association of the technology with “barbaric” foreigners (China) and colonial rulers (India), and technical problems with the preservation of the lymph in warm climates. Further in Canton, vaccination was a business with most people paying (not insignificant) sums of money for the procedure, while in Madras vaccination was provided free of cost. Yet, vaccination was adopted far more enthusiastically and rapidly by the people of Canton as compared to their counterparts in Madras. In this paper I have drawn on primary and secondary historical source material to suggest that the difference lay in the way in which Jennerian vaccination in Canton was presented and received as embedded within, while in Madras it was seen as marking a break from, and even a repudiation of, existing cultural beliefs and practices surrounding smallpox.

This argument about the potentially powerful productive use of cultural symbols has been developed here in the specific context of explaining the differential success in the popular adoption of a new biomedical technology in China and India in the nineteenth century. Yet it has broader theoretical implications. In particular, it builds on and seeks to advance, the

³⁷ In his treatise on vaccination, Daniel Robert Thompson, for instance, suggested that the practices of ritual bathing on the third or fifth day and the application of poultice and ashes on the vaccination wound, which had the potential to lead the vaccination to fail should be prevented by patient instructions given to the parents after the operation; for if they are made aware of the consequences before the operation, they will very often object to the performance of it” (Thompson 1864: 21)

rich scholarship on the use of cultural symbols in the legitimation, maintenance, stability and effectiveness of a state system (Edelman 1985). In what is arguably the seminal study on this topic, Clifford Geertz (1981) famously described how the strength, stability and legitimacy of the pre-colonial Balinese state rested more on myths, ceremonies, rituals, and symbols, rather than on force, conquest or effective administration. Similarly, the manipulation and deployment of cultural ideas and symbols is often seen to be at the heart of the emergence of Japan as a modern nation and its attainment of economic and social goals in the post-war period that have eluded other nations (Jansen 2002, Garon 1998, Gluck 1987). Bellah et al. (1967) note the centrality of beliefs, symbols, and rites (what they term, ‘civil religion’) for the legitimacy and functioning of the political system in the United States. Imperial China with its shared literary and moral universe of Confucianism imparted through the education system, institutionalized in the state examinations and upheld by the family, community and the gentry is often seen as a classic case of the use of cultural symbols to undergird political authority (Thornton 1982, Perry 2012). The collapse of the Qing dynasty marked and wrought decisive ideological and institutional changes in China. Yet, Elizabeth Perry shows, how, from its very founding into the contemporary period, the post-revolutionary Chinese state has also relied heavily on tactics of “cultural governance”. The Chinese Communists’ creative deployment of a range of cultural symbols from scholar robes to dragon dances made revolutionary Marxism understandable and attractive to Chinese peasants and workers. This “cultural positioning” was key to the rise of the Chinese Communist Party (CCP); continued “cultural patronage” has been critical to its resilience (Perry 2012). Perry shows how symbolic resources have been a central instrument of political authority and legitimacy for the CCP. Even though the ideology and institutions of the post-revolutionary Chinese states were imported almost entirely from the Soviet Union, from the very beginning this foreign political system has been represented as distinctively “Chinese”; as “part and parcel of a glorious ‘Chinese tradition’” (Perry 2013: 2). This attention to cultural congruence continues to play a central role in the successful rule of the CCP.

The argument proposed in this chapter also has potentially important policy implications for the field of public health. Public health interventions tend to be portrayed in language that emphasizes their novelty - as representing the state-of-the-art research and development, the most cutting-edge technology, as pushing forward the frontiers of biomedicine. If and when cultural beliefs and practices do make it into the policies and reports of public health organizations, they are usually described as posing a barrier to be overcome for the successful spread of the intervention, whether it be the adoption of contraceptives, of a vaccine or medication such as anti-retroviral drugs. The argument presented here, however, pushes against these dominant understandings to show how rather than serving as an impediment, culture might in fact enable the success of a public health intervention. A public health intervention that in as much as it is a product of the latest, most up-to-date technology, when it is also presented as embedded within, rather than a rupture with or rejection of, established cultural understandings and practices is likely to be met with a warmer reception.

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